Established by legislative act in 1903 as Western State Normal School, the first classes were held in 1904. The first permanent building, completed in 1905, overlooked the city from Prospect Hill. By the 1920s Western had become one of America’s leading teachers’ colleges. Starting in 1934 general degree work was offered. An expansion program on the west campus began in 1944. Increasing enrollment and the addition of new departments and courses during the 1940s and 1950s made Western a multi-purpose institution and led to its designation as a university by an act of the legislature in 1957.
<table>
<thead>
<tr>
<th>Fall Semester, 2006</th>
<th>Fall Semester, 2007</th>
<th>Fall Semester, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>September 1, Friday</strong>  &lt;br&gt; Advising Day</td>
<td><strong>August 31, Friday</strong>  &lt;br&gt; Advising Day</td>
<td><strong>August 29, Friday</strong>  &lt;br&gt; Advising Day</td>
</tr>
<tr>
<td><strong>September 4, Monday</strong>  &lt;br&gt; Labor Day Recess</td>
<td><strong>September 3, Monday</strong>  &lt;br&gt; Labor Day Recess</td>
<td><strong>September 1, Monday</strong>  &lt;br&gt; Labor Day Recess</td>
</tr>
<tr>
<td><strong>September 5, Tuesday</strong>  &lt;br&gt; Classes Begin at 8:00 a.m.</td>
<td><strong>September 4, Tuesday</strong>  &lt;br&gt; Classes Begin at 8:00 a.m.</td>
<td><strong>September 2, Tuesday</strong>  &lt;br&gt; Classes Begin at 8:00 a.m.</td>
</tr>
<tr>
<td><strong>November 22, Wednesday</strong>  &lt;br&gt; Thanksgiving Recess Begins at Noon</td>
<td><strong>November 21, Wednesday</strong>  &lt;br&gt; Thanksgiving Recess Begins at Noon</td>
<td><strong>November 26, Wednesday</strong>  &lt;br&gt; Thanksgiving Recess Begins at Noon</td>
</tr>
<tr>
<td><strong>November 27, Monday</strong>  &lt;br&gt; Classes Resume</td>
<td><strong>November 26, Monday</strong>  &lt;br&gt; Classes Resume</td>
<td><strong>December 1, Monday</strong>  &lt;br&gt; Classes Resume</td>
</tr>
<tr>
<td><strong>December 11-15</strong>  &lt;br&gt; Final Examination Week</td>
<td><strong>December 10-14</strong>  &lt;br&gt; Final Examination Week</td>
<td><strong>December 8-12</strong>  &lt;br&gt; Final Examination Week</td>
</tr>
<tr>
<td><strong>December 16, Saturday</strong>  &lt;br&gt; Semester ends—Commencement</td>
<td><strong>December 15, Saturday</strong>  &lt;br&gt; Semester ends—Commencement</td>
<td><strong>December 13, Saturday</strong>  &lt;br&gt; Semester ends—Commencement</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester, 2007</th>
<th>Spring Semester, 2008</th>
<th>Spring Semester, 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>January 5, Friday</strong>  &lt;br&gt; Advising Day</td>
<td><strong>January 4, Friday</strong>  &lt;br&gt; Advising Day</td>
<td><strong>January 2, Friday</strong>  &lt;br&gt; Advising Day</td>
</tr>
<tr>
<td><strong>January 8, Monday</strong>  &lt;br&gt; Classes Begin at 8 a.m.</td>
<td><strong>January 7, Monday</strong>  &lt;br&gt; Classes Begin at 8 a.m.</td>
<td><strong>January 5, Monday</strong>  &lt;br&gt; Classes Begin at 8 a.m.</td>
</tr>
<tr>
<td><strong>January 15, Monday</strong>  &lt;br&gt; MLK Day Recess, Convocation and Activities</td>
<td><strong>January 21, Monday</strong>  &lt;br&gt; MLK Day Recess, Convocation and Activities</td>
<td><strong>January 19, Monday</strong>  &lt;br&gt; MLK Day Recess, Convocation and Activities</td>
</tr>
<tr>
<td><strong>March 2, Friday</strong>  &lt;br&gt; Spirit Day</td>
<td><strong>February 29, Friday</strong>  &lt;br&gt; Spirit Day</td>
<td><strong>February 27, Friday</strong>  &lt;br&gt; Spirit Day</td>
</tr>
<tr>
<td><strong>March 5, Monday</strong>  &lt;br&gt; Semester Recess</td>
<td><strong>March 3, Monday</strong>  &lt;br&gt; Semester Recess</td>
<td><strong>March 2, Monday</strong>  &lt;br&gt; Semester Recess</td>
</tr>
<tr>
<td><strong>March 12, Monday</strong>  &lt;br&gt; Classes Resume</td>
<td><strong>March 10, Monday</strong>  &lt;br&gt; Classes Resume</td>
<td><strong>March 9, Monday</strong>  &lt;br&gt; Classes Resume</td>
</tr>
<tr>
<td><strong>April 23-27</strong>  &lt;br&gt; Final Examination Week</td>
<td><strong>April 21-25</strong>  &lt;br&gt; Final Examination Week</td>
<td><strong>April 20-24</strong>  &lt;br&gt; Final Examination Week</td>
</tr>
<tr>
<td><strong>April 28, Saturday</strong>  &lt;br&gt; Semester ends—Commencement</td>
<td><strong>April 26, Saturday</strong>  &lt;br&gt; Semester ends—Commencement</td>
<td><strong>April 25, Saturday</strong>  &lt;br&gt; Semester ends—Commencement</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer I, 2007</th>
<th>Summer I, 2008</th>
<th>Summer I, 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>May 7, Monday</strong>  &lt;br&gt; Classes Begin</td>
<td><strong>May 5, Monday</strong>  &lt;br&gt; Classes Begin</td>
<td><strong>May 4, Monday</strong>  &lt;br&gt; Classes Begin</td>
</tr>
<tr>
<td><strong>May 28, Monday</strong>  &lt;br&gt; Memorial Day Recess</td>
<td><strong>May 26, Monday</strong>  &lt;br&gt; Memorial Day Recess</td>
<td><strong>May 25, Monday</strong>  &lt;br&gt; Memorial Day Recess</td>
</tr>
<tr>
<td><strong>June 27, Wednesday</strong>  &lt;br&gt; Session Ends</td>
<td><strong>June 25, Wednesday</strong>  &lt;br&gt; Session Ends</td>
<td><strong>June 24, Wednesday</strong>  &lt;br&gt; Session Ends</td>
</tr>
<tr>
<td><strong>June 30, Saturday</strong>  &lt;br&gt; Commencement</td>
<td><strong>June 28, Saturday</strong>  &lt;br&gt; Commencement</td>
<td><strong>June 27, Saturday</strong>  &lt;br&gt; Commencement</td>
</tr>
</tbody>
</table>
Summer II, 2007

June 28, Thursday
Classes Begin
July 4, Wednesday
Independence Day Recess
August 17, Friday
Session Ends—No
Commencement Exercises

NOTE: This Academic Calendar is Subject to Change Without Notice.

Summer II, 2008

June 26, Thursday
Classes Begin
July 4, Friday
Independence Day Recess
August 15, Friday
Session Ends—No
Commencement Exercises

Summer II, 2009

June 25, Thursday
Classes Begin
July 3, Friday
Independence Day Recess
August 14, Friday
Session Ends—No
Commencement Exercises
Admission Procedure

A person planning to earn a degree or a graduate certificate beyond the baccalaureate needs to be admitted to the University as a degree program student or a graduate certificate program student; a person planning to elect either undergraduate or graduate courses only needs to be admitted to the University as a nondegree student. The admission procedures for U.S. citizens and non-U.S. citizens are different, however, as described immediately below. To avoid delay in the processing of an application, U.S. citizens and permanent residents should obtain information and application materials by mail from the Office of Admissions, Western Michigan University, Kalamazoo, Michigan 49008-5211 or by EMAIL (ask-wmu@wmich.edu) or by completing the degree admission application available on the Western Michigan University web page (http://www.wmich.edu/admissions/gradapp/). Potential applicants on non-immigrant or temporary visas should request information and application materials by mail from the Office of International Services and Student Affairs, A411 Ellsworth Hall, Western Michigan University, Kalamazoo, Michigan 49008-5246 or by FAX (269 387-5899) or by completing the admission application available for download on the Office's web page (http://www.wmich.edu/oiss).

WMU Faculty Applicant: All Western Michigan University faculty and staff are eligible to apply for admission to master's and specialist programs at the University. WMU faculty members holding tenure track appointments and all University staff are eligible to apply for admission to doctoral programs at Western, but only in the academic units where they are not employed. WMU faculty holding explicitly temporary or term appointments may apply for admission to any doctoral program.

Degree Program Applicant, U.S. Citizen or U.S. Permanent Resident

Applicants who are U.S. citizens and those who have an I-551 Permanent Resident card will seek admission to a graduate degree program by following the applicant-managed process described below.

1. Request a Graduate Application (Self-Managed) from the Office of Admissions. NOTE: Since most graduate programs require materials in addition to the University application, and since these departmental materials are not included with the University application, applicants are advised to contact the relevant department office or program advisor for such materials. [Alternatively, access the web pages (http://www.wmich.edu/admissions/gradapp/) of the Office of Admissions and follow the instructions for completing the online version of the admission application.]
2. Follow exactly the instructions for completion of the Graduate Application and submission of additional, departmental materials. The self-managed application process requires the applicant to take responsibility for gathering all required admission materials and submitting those materials to the appropriate offices before the published admission dates, as follows:

   Materials to be submitted to the Office of Admissions in the envelope provided: The one white copy of the application form; the $40 non-refundable application fee, payable to Western Michigan University; one official transcript from every previous undergraduate and graduate institution attended (except WMU). If also required for admission, have official entrance test scores (such as the GRE or GMAT) sent to the Office of Admissions by the testing agency.
Materials to be submitted directly to the graduate department in the envelope provided: The two blue copies of the application form; one official transcript from every previous undergraduate and graduate institution attended (except WMU); the supplemental admission materials as required by department; and any reference forms, if required by department instructions.

Applications for admission from U.S. citizens and permanent residents should be submitted no later than July 1 for the Fall Semester, November 1 for the Spring Semester, March 1 for the Summer I Session, and May 1 for the Summer II Session. Most programs, however, have earlier deadline dates, and not all programs admit students for all semesters or sessions. Applicants are advised, therefore, to read the program's admission requirements section in this catalog or consult the relevant program office or advisor to learn the application deadline date and other germane information for a specific program. Individual program application deadlines take precedence over general University deadlines.

It is advisable, moreover, to apply for admission well before the application deadline, because admission to some programs may close early as openings are filled or because a program's complement of available assistantships and fellowships may be assigned as the earlier application deadlines for these awards pass. Also, some programs require the results of entrance examinations that are scheduled well in advance of the application deadlines, and some require interviews or other means of correspondence that necessitate more time between the receipt of the application and the admission decision.

Degree Program Applicant, Non-immigrant or Temporary Visa

Applicants on non-immigrant or temporary visas who seek admission to a graduate program will follow the steps described below.

1. Request an International Student Application Form from the Office of International Services and Student Affairs. **NOTE:** Since most graduate programs require materials in addition to the International Student Application Form, and since not all departments' additional materials are included with the International Student Application Form, applicants are advised to contact the relevant department office or program advisor for such materials. [Alternatively, access the web pages (http://www.wmich.edu/oiss) of the Office of International Services and Student Affairs to download the application form and instructions for its completion and submission.]

2. Follow exactly the instructions describing the application procedure and submission of all supplemental materials, including the Statement of Finances form and documentation of proficiency in English.

   Statement of Finances: F-1 and J-1 potential or current visa holders must submit a Statement of Finances form and provide proof that they have sufficient financial resources to cover the educational and living expenses incurred by a typical non-resident graduate student.

   Documentation of English Proficiency: When English is not the official language of the country in which the applicant was educated, the applicant is required to demonstrate proficiency in English. The following tests and scores are accepted at Western Michigan University as measures of English language proficiency. Some graduate programs require a higher score.
Test of English as a Foreign Language (TOEFL). A score of 500 (173 CBT) is required for restricted enrollment (part-time English study and part-time academics during the first semester) or 550 (213) for unrestricted enrollment.

Michigan English Language Assessment Battery (MELAB). A score of 75 is required for restricted enrollment or 85 for unrestricted enrollment.

General Certificate of Education Advanced Level Pass in English with grade of A, B, or C, from one of the five British-based examining boards only, is required for unrestricted enrollment.

International English Language Testing System (IELTS) using Modules A, B, or C (not the General Training Module). A score of 6.5 is required for restricted enrollment or 7.0 for unrestricted enrollment.

International Baccalaureate (IB). A grade of 5 in English at the Higher Level is required for unrestricted enrollment.

Certificate of Proficiency in English (CPE). A passing grade is required for unrestricted enrollment.

Certificate in Advanced English (CAE). A passing grade is required for unrestricted enrollment.

The College Board’s English Language Proficiency Test (ELPT). A score of 950 is required for restricted enrollment or 965 for unrestricted enrollment.

Successful completion of the advanced level and instructor recommendations from CELCIS, WMU’s Career English Language Center for International Students.

Materials to be submitted to the Office of International Services and Student Affairs: The International Student Application Form; a $100 non-refundable document and application fee payable to Western Michigan University; the Statement of Finances form and proof of sufficient financial resources; complete and official transcripts of post-secondary studies listing course titles and grades (marks) received for each, as well as copies of diplomas, certificates, or degrees earned, translated into English; proof of English language proficiency (see acceptable proofs listed above). If also required for admission, have official entrance test scores (such as the GRE or GMAT) sent to WMU by the testing agency.

Materials to be submitted directly to the graduate department: If additional, supplemental materials are required by a department, these may also need to be submitted directly to that department. Request the department to provide these materials, and then complete and submit the materials exactly as their instructions require.

Applications for admission from non-U.S. citizens who do not have an Alien Registration Card or I-551 Immigrant Visa should be submitted no later than March 1 for the Fall Semester, August 1 for the Spring Semester, and January 1 for the Summer I or II Sessions. Many programs, however, have earlier deadline dates, and not all programs admit students for all semesters or sessions. Applicants are advised to read the program’s admission requirements section in this catalog or consult the relevant program office or advisor to learn the application deadline date and other information for a specific program.

It is advisable to apply well before the application deadline, because admission to some programs may close early as openings are filled or because a program's complement of available
assistantships and fellowships may be assigned as the earlier application deadlines for these awards pass. Also, some programs require the results of entrance examinations which are scheduled in advance of the application deadlines, and some require interviews or other means of correspondence that necessitate more time between the receipt of the application and the admission decision.

**Graduate Certificate Program Applicant**

An applicant with a bachelor's degree who wishes to gain admission to a graduate certificate program should request a Graduate Application (Self-Managed) from the Office of Admissions. Follow the instructions for completion of the application and submission of additional, departmental materials. The self-managed application process requires the applicant to take responsibility for gathering all required admission materials and submitting those materials to the appropriate offices before the published admission dates, as follows:

Materials to be submitted to the Office of Admissions in the envelope provided: The one white copy of the application form; the $40 non-refundable application fee, payable to Western Michigan University; one official transcript from every previous undergraduate and graduate institution attended (except WMU). If also required for admission, have official entrance test scores (such as the GRE or GMAT) sent to the Office of Admissions by the testing agency.

Materials to be submitted directly to the graduate department in the envelope provided: The two blue copies of the application form; one official transcript from every previous undergraduate and graduate institution attended (except WMU); the supplemental admission materials as required by department; and any reference forms, if required by department instructions.

When an applicant plans to obtain a graduate certificate in conjunction with a graduate degree program, the applicant must meet admission requirements for both the graduate degree program and the graduate certificate program.

**Non-degree Applicant, Guest**

An applicant with a bachelor's degree who wishes to enroll in graduate courses, but does not plan to pursue a degree program or graduate certificate program or is not eligible for admission to a degree program or graduate certificate program, may enroll in certain classes with Guest status. This status also is granted to a visiting student from another university. Guest status does not constitute admission to a degree or certificate program, and the courses taken under this status might not apply to a particular degree or certificate program.

To secure admission with this status, applicants should submit a Graduate Non-degree application to the Office of Admissions, along with a non-refundable application fee of $40. Applicants who did not receive a degree from WMU must send proof of their undergraduate degree when submitting the application. The following credentials (photocopies are permissible) are acceptable as verification of the degree: transcript, diploma, teaching certificate, or letter from the registrar of the undergraduate institution. Applications will not be processed without the accompanying credential.
Admission Requirements

All applicants are expected to meet the same academic standards required for admission consideration. The minimum academic requirements vary, however, by degree level, by discipline, and by admission type. For more specific information on each program, read the admission requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

Master's Program Applicant

In addition to the minimum requirements for admission to a master's program listed below, many academic programs ask applicants to submit supplemental materials such as letters of recommendation, standardized test scores (such as the GRE General Test, GRE Subject Test, GMAT, TWE, or the like), or an essay describing the applicant's academic interests and professional goals; to schedule a personal interview with departmental faculty; to present evidence of having completed specific courses with specific grades or of having specific kinds of work or life experiences; or to hold certain endorsements or certificates (such as a teaching certificate). For more specific information on each program, read the admission requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Bachelor's degree from an accredited institution, indicated on an official transcript.
2. Two official transcripts from each institution attended since high school.
3. An overall grade point average of at least 3.0 in the last two years of undergraduate work.
4. Evidence of having met any additional admission requirements stipulated by the individual degree program.
5. Acceptance by the academic unit offering the master's program and endorsement of the acceptance by the graduate dean.

Additionally, master's students will be reviewed annually for eligibility to continue in the program. Upon the student’s initial enrollment, the department shall provide a document to the graduate student outlining the annual review criteria and procedures. The review will assist the student in measuring timely progress toward completion of the program of study and in providing documentation for awards or assistantships or, if deficiencies are apparent, note them and indicate corrections necessary. Uncorrected deficiencies and/or unsatisfactory progress may result in a student’s dismissal from the program.

Specialist Program Applicant

In addition to the minimum requirements for admission to a specialist program listed below, the University's single Specialist in Education (Ed.S.) program asks applicants to submit three letters of recommendation and an autobiography; to present evidence of having completed specific courses with specific grades or of having specific kinds of work or life experiences; to hold certain endorsements or certificates (such as a teaching certificate); and may require the applicant to schedule a personal interview with departmental faculty. For more specific information on the specialist program in educational leadership, read the admission requirements section of the educational leadership and
research technology program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Bachelor's degree from an accredited institution, indicated on an official transcript.
2. Two official transcripts from each institution attended since high school.
3. An overall grade point average of at least 3.0 in the last two years of undergraduate work, if applying with a bachelor's degree and no graduate work, and an overall grade point average of at least 3.0 for all graduate work undertaken beyond the bachelor's degree.
4. Scores on the GRE General Test.
5. Evidence of having met any additional admission requirements stipulated by the individual specialist degree program.
6. Acceptance by the academic unit offering the specialist program and endorsement of the acceptance by the graduate dean.

Additionally, a specialist student’s academic performance, professional development, research progress, and, where applicable, professional/ethical behavior will be reviewed annually to determine the student’s eligibility to continue in the program. Upon the student’s initial enrollment, the department shall provide a document to the graduate student outlining the annual review criteria and procedures. The review will assist the student in measuring timely progress toward completion of the program of study and in providing documentation for awards or assistantships or, if deficiencies are apparent, note them and indicate corrections necessary. Uncorrected deficiencies and/or unsatisfactory progress, performance, or behavior may result in a student’s dismissal from the program.

**Doctoral Program Applicant**

In addition to the minimum requirements for admission to a doctoral program listed below, many of the University's doctoral programs will ask applicants to submit supplemental materials such as letters of recommendation or an autobiography or an essay describing the applicant's academic interests and professional goals; to present scores on a specific GRE Subject Test; to schedule a personal interview with departmental faculty; to present evidence of having completed specific courses with specific grades or of having specific kinds of work or life experiences; or to hold certain degrees or endorsements or certificates (such as a teaching certificate). For more specific information on each program, read the admission requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Bachelor's degree from an accredited institution, indicated on an official transcript.
2. Two official transcripts from each institution attended since high school.
3. For students who have completed any hours of graduate work, an overall grade point average of at least 3.0 for all graduate work undertaken beyond the bachelor’s degree.
4. Scores on the GRE General Test.
5. Evidence of having met any additional admission requirements stipulated by the individual doctoral degree program.
6. Acceptance by the academic unit offering the doctoral program and endorsement of the acceptance by the graduate dean.
Additionally, a doctoral student’s academic performance, professional development, research progress, and, where applicable, professional/ethical behavior will be reviewed annually to determine the student’s eligibility to continue in the program. Upon the student’s initial enrollment, the department shall provide a document to the graduate student outlining the annual review criteria and procedures. The review will assist the student in measuring timely progress toward completion of the program of study and in providing documentation for awards or assistantships or, if deficiencies are apparent, note them and indicate corrections necessary. Uncorrected deficiencies and/or unsatisfactory progress, performance, or behavior may result in a student’s dismissal from the program.

**Graduate Certificate Program Applicant**

Often an applicant will plan to pursue a graduate certificate program in conjunction with a graduate degree program. In such an instance, the applicant will need to meet the admission requirements for both the graduate degree program and the graduate certificate program. When the graduate certificate program is pursued alone, the applicant will need to meet the following, minimum admission requirements. Some graduate certificate programs may ask applicants to submit supplemental materials or to meet additional requirements. For more specific information on each certificate program, read the admission requirements section of the relevant program's listing in this catalog or contact the program's advisor.

1. Bachelor's degree from an accredited institution, indicated on an official transcript.
2. Two official transcripts from each institution attended since high school.
3. Evidence of having met any additional admission requirements stipulated by the individual graduate certificate program.
4. Acceptance by the academic unit offering the graduate certificate program and endorsement of the acceptance by the graduate dean.

**Admission Types, Degree Status**

**General Admission**

General Admission is granted to the student who meets the admission requirements of the University. All related materials have been received. Enrollment in courses is expected to lead to a degree or to meet state or federal certification requirements associated with WMU programs. Examples are state certification for teacher education or federal certification for aviation.

**Provisional Admission**

Provisional Admission is granted to the student who meets many of the admission requirements to the University and is expected to be formally admissible. Enrollment status is provisional until additional documents or materials for acceptance into the “General Admission” category are provided. Examples of missing documentation could be a final transcript, an undergraduate transcript of work taken at another institution of higher education in the USA or abroad, or a completion record for a specific placement or admission examination. The time period for any “Provisional Admission” may not exceed one year from the time of initial status with ineligibility for further enrollment after that year.
Conditional Admission

Conditional Admission is granted to the student who meets some of the admission requirements of the University. Continued enrollment in courses at WMU is conditional upon the applicant completing academic course work at a performance level specified at the time the “Conditional Admission” status is granted. Examples of specific performance could include: a) Completion of the first twelve hours of graduate work with “B” or better grades in all courses; b) completion of required remedial or prerequisite courses with specified (or better) course grades. The time period for any “Conditional Admission” status may not exceed one year from the time of initial status. After that time period, and if the specified conditions have been met, the applicant is admitted in the “General Admission” category.

Dual Undergraduate/Graduate Enrollment Admission

Dual enrollment admission (that is, admission to a master’s program while yet enrolled in a baccalaureate program) may be granted to any WMU senior who has an acceptable academic record (with a grade point average of 3.0 or better for the two years prior to admission date) and who has no more than 15 credit hours remaining for completion of the bachelor’s degree.

Once granted dual enrollment status, the student may enroll in a maximum of 12 credit hours of graduate course work that has been approved by the appropriate departmental advisor in addition to those undergraduate courses required to complete the bachelor’s degree.

Dual enrollment is permitted for the calendar year only, and no graduate credit earned in this way may be used to meet undergraduate requirements. If the bachelor’s degree is not completed in the period of one calendar year, the student may not continue on dual enrollment.

A student must request dual enrollment status on the application for admission to a master’s degree program; however, official entry is not immediate. Graduate credits earned accumulate, but the official entry date must follow the semesters or sessions of dual enrollment status and the completion of the bachelor’s degree.

Not Admitted

An applicant “Not Admitted” is not eligible for enrollment in courses or academic programs at WMU. Applicants who receive the “Not Admitted” status may reapply after one full calendar year for reconsideration for admission at the University.

Readmitted with Academic Forgiveness

Students who are readmitted into graduate study will not have grades and credit hours count in the computation of their grade point average that were earned more than seven years prior to their new entrance date. In such cases, the transcript will read, “Grades and credit hours earned more than seven years prior to current entrance date were not included in the computation of the grade point average.”
Non-degree Admission Types, Graduate Level

Non-degree Admission

Non-degree Admission is granted to the student who is eligible for enrollment in courses with the understanding that course work taken with this status is specifically for a guest, SCOPE, or MIGS student. Such course work usually will not apply to a WMU degree program, and the SCOPE program does not grant course credit. If the non-degree admitted student subsequently decides to apply to a specific WMU degree program after his or her non-degree enrollment, the applicant will be expected to meet all University and program-specific admission requirements. The time period for any “Non-degree Admission” status may not exceed four years from the time such admission status is granted.

Guest (GST)

Permission to take graduate classes is granted to a Guest student (GST) with a bachelor's degree who wishes to enroll in certain courses, but does not plan to pursue a program leading to a graduate degree, or is not eligible for degree admission. This guest status also is granted to a visiting student from another university. GST status does not constitute admission to a degree or certificate program, and the courses taken under this status might not apply to a particular degree or certificate program. For the student eligible for admission, a maximum of nine credits taken under GST status may be considered in a degree program if the student should later decide to apply for admission to a degree program and if an advisor and the graduate dean approve the credit.

Michigan Intercollegiate Graduate Studies (MIGS)

The MIGS admissions category is a guest scholar program that enables graduate students of Michigan institutions offering graduate degree programs to take advantage of unique educational opportunities on the campuses of the other institutions. Any graduate student in good standing in a master's, specialist, or doctoral program at a participating institution is eligible to participate in the MIGS program. (Western Michigan University participates in this program.) The student's good standing at the home institution affords the opportunity to study at the host institution, providing the proposed program of study is approved by the departmental officers and the MIGS liaison officers at both the home and host institutions. The officers of the home institution determine whether the experiences sought are unique or not available at the home institution; the officers of the host institution determine whether space and other necessary resources are available at the host institution. This type of enrollment is limited to one term for master's or specialist degree students, or two terms for doctoral degree students. For further information, contact a graduate advisor or the MIGS liaison officer in The Graduate College.

All credit earned under a MIGS enrollment will be accepted by the student’s home institution as if offered by that institution; unlike regular transfer credits, grades earned in MIGS courses are applied toward the home institution grade point average. When MIGS credits are transferred into a graduate program, the total number of transferred credits from all sources may not exceed 50% of the credits required in the program.

Project S.C.O.P.E. (Senior Citizens’ Opportunity Program in Education)
The following are the key features of the Senior Citizen's Opportunity in Education Program:

1. Senior citizens (persons 62 years of age or older) may qualify.
2. Enrollees may register during the drop/add period in one regularly scheduled class, tuition free, each semester or session on a seat-available basis. The late registration fee is waived. Registration is done by the Registrar's Office.
3. Enrollees may not register for credit.
4. Only academic facilities necessary for the performance in class are accessible to SCOPE participants. SCOPE enrollees do not have access to normal services available to regular students such as the Health Center, Student Recreation Center, student discounts, etc. Special identification cards are issued to SCOPE participants.
5. Regular, degree-seeking admission is not extended to enrollees so the admission application is waived.
6. Special course fees, if applicable, for materials, trips, etc. are assessed.
7. Specific courses may not be available to SCOPE students due to space availability.
In addition to the tuition and fees, in the event the account is referred to a collection agency, the student will be responsible for any collection costs, collection fees, and collection charges and/or legal fees incurred in collecting the account balance.

Questions concerning current fee schedules should be directed to the Office of the Director of Accounting Services.

**Tuition**

For the current tuition rates, go to [www.wmich.edu/tuition](http://www.wmich.edu/tuition). These rates are subject to change without notice by action of the Board of Trustees.

Resident\(^1\): See the Resident Classification section directly below for definition.

Non-Resident\(^2\): See the Residency Policy section directly below for definition.

**Residency Policy of Western Michigan University**

The governing board at each university in Michigan has the authority to establish a residency policy/guidelines for admissions and/or fee purposes. Therefore, residency policies (guidelines) may vary from school to school and are independent of those used by other state authorities to determine residency for purposes such as income and property tax liability, driving and voting.

The following policy was approved by the Western Michigan University Board of Trustees effective with the Fall Semester, 2001. This policy applies to all students (undergraduate and graduate) at WMU. The Office of the Assistant Vice President for Business administers this policy. Additionally you may contact the Office of the Assistant Vice President for Business directly at 3080 Seibert Administration Building, Western Michigan University, Kalamazoo, MI 49008, or call (269) 387-2366 for additional information or to request an application form.

**Residency Policy for University Admissions and/or Fee Purposes**

Any student may apply for in-state resident classification for any semester/session in which they are enrolled by completing the “Application for Resident Classification for University Admissions and/or Fee Purposes” ([www.obf.wmich.edu/documents/docs/residency_app.pdf](http://www.obf.wmich.edu/documents/docs/residency_app.pdf)) and submitting it to the Office of the Assistant Vice President for Business. Applications can be filed as early as one month prior to the start of each semester/session but not later than 20 calendar days following the first day of classes for the fall and winter semesters (10 calendar days for the spring and summer sessions). The deadline dates are the same for all students (undergraduate and graduate).

1. Since normally a student comes to Western Michigan University for the primary or sole purpose of attending the University rather than to establish a domicile in Michigan, one who enrolls in the University as a non-resident shall continue to be so classified throughout his/her attendance as a student, unless and until he/she demonstrates that his/her previous domicile has been abandoned and a Michigan domicile established. The burden of proof is on the student.
2. “Domicile” is defined as the place where an individual’s true, fixed and permanent home and principal establishment is and to which the individual returns whenever he/she is absent from the University. A student shall not be considered domiciled in Michigan unless the student is in continuous physical presence in this state for one year (12 consecutive months) immediately preceding the first day of classes of the term for which classification is sought and intends to make Michigan his/her permanent home, not only while in attendance at the University but thereafter as well, and has no domicile elsewhere.

3. Dependent Student: For tuition classification purposes, a student is presumed to be a dependent of the student’s natural parents and/or legal guardian if the student is 24 years of age or younger and (a) has been involved primarily in educational pursuits, or (b) has not been entirely financially self-supporting through employment.

   a. Dependent Student – Parent(s) in Michigan

   The domicile of a dependent student is presumed to be the same as that of the student’s natural parents. A dependent student whose parents are, according to University Residency Policy, domiciled in Michigan is presumed to be eligible for resident classification for University purposes as long as the student has not taken steps to establish a domicile outside of Michigan or any other action inconsistent with maintaining a domicile in Michigan.

   A dependent student with one parent domiciled in Michigan regardless of whether that parent is the student’s custodial parent, is presumed to be eligible for resident classification for tuition-paying purposes if one parent is, according to University Residency Policy, domiciled in Michigan.

   The domicile of a dependent student’s legal guardian(s) will be presumed to have the same evidentiary effect as that of a dependent student’s natural parent(s), and references to parents in this policy shall include legal guardians, only when the student is the dependent of the legal guardian, and such guardianship has been established due to complete incapacity or death of the student’s natural parent(s). A parent’s inability to provide funds necessary to support a college education shall not qualify as complete incapacity.

   A dependent student who is living in Michigan and who is, according to University Residency Policy, permanently domiciled in Michigan does not lose resident status if the parents leave Michigan provided: (1) that the student has completed at least the junior year of high school prior to the parents’ departure; (2) that the student remains in Michigan, enrolled as a full-time student in high school or an institution of higher education; and (3) that the student has not taken steps to establish a domicile outside Michigan or any other action inconsistent with maintaining a domicile in Michigan.

   b. Dependent Student – Parent(s) Not in Michigan

   A dependent student whose parents are domiciled outside the State of Michigan is presumed to be a non-resident for tuition-paying purposes at Western Michigan University.
4. Independent Student: A student may be granted in-state residency for tuition paying purposes, once the student provides evidence of 12 consecutive months (one year) of physical presence in the State of Michigan immediately preceding the first day of classes of the term in which the student is applying for a change in status. The year of continuous presence is never the only criterion used for determining in-state classification and, in itself, will not qualify a student for in-state status for tuition-paying purposes at WMU.

5. Residence of Spouse: The residence of a student who otherwise would be classified as a non-resident will follow that of his/her spouse if the spouse qualifies as a resident student for tuition-paying purposes.

6. Immigrants and Aliens: Only persons who are entitled to reside permanently in the United States may be eligible for resident classification at Western Michigan University. These individuals, like U.S. citizens, must still prove that they have established a Michigan domicile as defined in these regulations. In other words, having the privilege of remaining permanently in the United States, in itself, does not entitle a person to resident classification for University fee purposes. At the present time, non-citizens who are entitled to reside permanently in the United States include:
   a. Permanent Resident Alien must be fully processed and possess Permanent Resident Alien card or stamp in passport verifying final approval by filing deadline for applicable term.
   b. Refugees must have I-94 card with “Refugee” designation.
   c. A, E (primary), G, and I visa holders: Based upon current law, these non-immigrant visa classifications are the only ones that permit the visa holder to establish a domicile in the United States. As changes occur in applicable law, this list shall be updated.

7. Migrant Worker (Seasonal/Agricultural Employment): If an independent student, or the parent of a dependent student, has been employed as a migrant worker in Michigan for a minimum of two (2) months each year for the three (3) of the five (5) years prior to the date of the proposed in-state classification or for a minimum of three (3) months each year for two (2) of the five (5) years prior to the date of the proposed in-state classification, the student shall be classified as a resident. Proof and verification of employment is required. A migrant worker in Michigan is defined as one who travels to Michigan to pursue agricultural or related industry employment.

8. Misrepresentation and Falsification of Information: Students who provide false or misleading information or who intentionally omit relevant information on their admissions application or the “Application for Resident Classification for University Admission and/or Fee Purposes” or any other document relevant to residency eligibility may be subject to disciplinary and/or legal measures.

9. Appeal Process: Any student may appeal the decision on their residency application within 20 calendars days after he/she has been served notice of the decision on their application by taking the following steps:
   a. Provide a written notice of appeal to the Vice President for Business and Finance stating the reasons therefore. Please note that any additional documents that may provide evidence of domicile not submitted with the initial application must be included with the appeal.
   b. Additionally, the student must request in writing that all documents submitted with the initial application for residency be forwarded to the Vice President for Business and Finance so the entire file may be reviewed in the appeal process.
   c. Failure to comply within the required 20 days shall constitute a waiver of all claims to reclassification or rebates for the applicable semester/session.
The student will receive a written decision on the appeal when the review is complete. The decision on the residency appeal shall be the final recourse within the University.

The Student’s Responsibility and the Residency Application Process

While circumstances for each applicant are unique, the following information is designed to be a reference for students who are interested in applying for resident classification for tuition-paying purposes at Western Michigan University (WMU). The fact that a student may qualify for resident status at another college or university in the State of Michigan or that the student may be considered a resident by other laws or regulations within the State of Michigan is not used in determining resident status for tuition-paying purposes at WMU.

Required Documentation

When filing an Application for Resident Classification for University Admissions and/or Fee Purposes, the following documentation must be included with the application form:

- All applicants must provide a copy of a valid driver’s license for their self and of the person or persons upon whom the applicant is basing the claim to resident eligibility.
- All applicants must provide copies of the front and signature pages of the most recent year’s federal and state income tax returns and accompanying W2s for the applicant and the person or persons upon whom the applicant is basing the claim to resident eligibility.
- All applicants who are born outside of the United States must provide verification of U.S. citizenship or visa status.
- All applicants who are dependents (refer to Stipulation 3 of our policy) must provide copies of the front and signature pages of their parent’s most recent year’s federal and state income tax returns and accompanying W2s.
- All applicants whose claim to eligibility for resident classification is based on permanent, full-time employment for themselves, a parent or spouse must provide a letter from the employer, written on company letterhead (including phone number), stating the position, status and dates of employment. A copy of the most recent pay stub showing Michigan taxes being withheld must also be included.
- All applicants whose claim is based on their spouse’s status as a resident, must provide a copy of their marriage certificate with the application.
- All applicants are also responsible for providing any other documentation necessary to support their claim to residency eligibility that may be requested by the Office of the Assistant Vice President for Business.

General Information

A student enrolling at WMU for the first time shall be classified as an in-state or out-of-state student for tuition-paying purposes. It is the student’s responsibility to read the Residency Policy and to register under the proper residency classification. Students are encouraged to contact the Office of the Assistant Vice President for Business if they have questions regarding their residency classification or need assistance.
Any student who previously attended WMU as a non-resident student and reapplies for admission will continue to be classified as a non-resident student until an Application for Resident Classification for University Admission and/or Fee Purposes is filed and approved.

The admissions office performs the initial screening for in-state/out-of-state residency classification. If a student indicates Michigan resident on the admissions application and the admissions office questions the status, the student will be classified as a non-resident student. The fact that the student’s claim to residency for tuition-paying purposes is questioned does not necessarily mean that the student will be ineligible. It simply means that the student’s circumstances must be documented by completing an Application for Resident Classification for University Admission and/or Fee Purposes.

A student who has an out-of-state classification at the time of admission but claims eligibility for resident classification, must file an Application for Resident Classification for University Admission and/or Fee Purposes for an official determination of status if any of the following circumstances apply:

- The student is living out of the state of Michigan at the time of application to the University
- Either parent is living out of the state of Michigan (applies if the student is 24 years of age or younger and is a dependent student)
- The student has attended or graduated from an out-of-state high school and has been involved in educational pursuits for the majority of time since graduate from high school
- The student has had out-of-state employment or domicile within the last 3 years

*Please Note: The above list is not exhaustive.*

Before a student is granted residency status for admissions and/or fee purposes, the University will require the student to have continuously resided in Michigan for one year immediately preceding the first day of classes of the term in which the student is applying for in-state classification. If the student presents clear and convincing evidence which demonstrates the establishment of a Michigan domicile, the student will be eligible for in-state classification.

**Establishing a Michigan Domicile**

The following circumstances and activities which may demonstrate Michigan domicile, though not conclusive or exhaustive, may lend support to a claim to eligibility for in-state classification. This is not an exhaustive list.

- In the case of a dependent student, at least one parent domiciled in Michigan, as demonstrated by the parent’s permanent employment, establishment of a household and severance of out-of-state ties.
- Student employed in Michigan in a full-time, permanent job, provided that the student’s employment is the primary purpose for the student’s presence in Michigan.
- Student’s spouse employed in Michigan in a full-time, permanent job, provided that the spouse’s employment is the primary purpose for the student’s presence in Michigan.

The following circumstances and activities listed below are temporary or indeterminate and, in and of themselves, do not demonstrate domicile in Michigan:
• Enrollment in a Michigan high school, community college or university
• Employment in Michigan that is temporary or short-term
• Employment in Michigan in a position normally held by a student
• Military assignment in Michigan
• Payment of Michigan income or property taxes
• Ownership of property in Michigan
• Presence of relative in Michigan (other than parent(s) for dependent student)
• Possession of a Michigan driver’s license or voter’s registration
• A student’s statement of intent to be domiciled in Michigan.

In cases where it is determined that a student has not demonstrated establishment of a domicile in Michigan as defined by this policy, the University will require the student to document one year of continuous physical presence in the state. The year to be documented will be the 12 consecutive months immediately preceding the first day of classes of the semester/session in which the student is requesting residency.

In documenting the year of continuous presence in Michigan, the student will be expected to show actual physical presence by means of enrollment, employment, in-person financial transactions, etc. Having a lease or a permanent address in Michigan does not, in itself, qualify as physical presence. Short-term absences (vacation periods of 21 days or less, spring break, and break time between fall and spring semesters), in and of themselves, will not jeopardize compliance with the one-year requirement. The nature of the short-term absence will be assessed to determine whether it is contrary to an intent to be domiciled in Michigan. Absences from Michigan that exceed the time mentioned above or failure to document 12 consecutive months of physical presence will be considered as noncompliance.

**Filing Dates/Deadlines**

Students may apply for resident classification for any semester/session in which they are enrolled. Applications must be filed not later than 20 calendar days following the first day of classes for the Fall and Spring semesters (10 calendar days for the Summer I and Summer II sessions). The deadline dates for filing the Application for Resident Classification for University Admission and/or Fee Purposes are the same for all students (undergraduate and graduate). If the deadline falls on a weekend, holiday or closure day, it will be extended to the next business day.

(Note: Applications must be received in the Office of the Assistant Vice President for Business by the filing deadline. Applicants who do not file by the deadline will be responsible for paying tuition at the non-resident rate. Exceptions will not be granted.)

Incomplete information (supporting documentation) and/or absence of dates (month/day/year) could result in immediate denial of resident status and/or delay the processing of your application.

All official actions concerning the review of your residence application will be communicated to you in writing. It is your responsibility to notify this office of any change in your mailing address.
Auditing Courses, Tuition for

Students who audit courses (who register for classes but do not desire credit) are governed by the same regulations and tuition fees as students desiring credit.

Change in Credit Hour Load, Effect on Tuition

Changes in student credit hour load prior to the end of the final day for adding a course are considered to be reassessments, and a refund may be granted if the net reduction in the credit hour load changes the student’s rate category. After the final day for adding a course, there is no reassessment or refund for reduction in credit hour load. An increase in credit hour load may result in an upward adjustment of the tuition fee assessment if the net addition in the credit hour load changes the student’s rate category. Students should refer to the current Registration booklet for complete information pertaining to the University's refund policy.

Complete Withdrawal from All Courses, Effect on Tuition

The Registration booklet for the appropriate semester/session should be consulted for the refund policy that pertains to complete withdrawal.

Students completely withdrawing from all classes must withdraw through the student information system or by going to the Registrar's office during the official drop/add days in order to process their withdrawal and assure a refund. The withdrawal date for refund purposes will normally be determined by the date that the Registrar receives a Change of Enrollment Request form or an Appeal to Withdraw form.

Students who find it impossible to be on campus to process a complete withdrawal may write to the Registrar's office, Room 3210 Seibert Administration Building, for aid in processing their withdrawal. All written requests for complete withdrawal must bear the appropriate postmark date for consideration of any refund.

Student Fees Other Than Tuition

Admission Application Fee

A non-refundable fee of $40 must accompany each application for admission.

Class Fees

Some courses have class-specific fees for which the student will be responsible. The University makes every effort to publish such class-specific fees in the online class schedule.
Collection Costs

In addition to the tuition and fees, in the event the account is referred to a collection agency, the student will be responsible for any collection costs, collection fees, and collection charges and/or legal fees incurred in collecting the account balance.

Enrollment Fee

For all students registered in on-campus courses, the enrollment fee incorporates all required fees with the exception of the student organizations’ assessment fee into a single per capita assessment. The enrollment fee for students registered in on-campus classes can be found on www.wmich.edu/tuition.

Extended University Programs Fee

A tuition surcharge fee of $200.00 per three-hour course ($80.00 per one-hour course; $160.00 per two-hour course) is assessed each semester/session.

E-Learning Course Fee

A tuition surcharge fee of $90.00 per E-Learning course offered by Academic Technology and Instructional Services is assessed each semester/session.

Graduation Fee and Application Deadline

Summer II Session Graduation (August)
$45.00 Application Deadline: February 1

Fall Semester Graduation (December)
$45.00 Application Deadline: August 1

Spring Semester Graduation (April)
45.00 Application Deadline: December 1

Summer I Session Graduation (June)
$45.00 Application Deadline: February 1

International Student Fee

International students will be charged a $25.00 fee each semester or $12.50 fee each session.

International Student Insurance Program: Mandatory Hospital, Medical, and Surgical Insurance

All international students are required to carry health insurance if health care coverage is not provided by their sponsor. Students will be automatically enrolled in the University-sponsored policy unless an
approved alternate policy is chosen. Non-sponsored international students must show proof of coverage and have alternate policies approved at the Sindecuse Health Center during the first two weeks of the semester/session. No refunds of insurance premiums can be given after that time. The insurance coordinator at the Health Center is available to assist students via e-mail at she-usip@wmich.edu or phone at (269) 387-3266.

**Late Add Fee**

Classes cannot be added after the drop/add registration period ends except for extenuating circumstances as determined by the Office of the Registrar. Should the Registrar deem that a late add should be granted, the student will be assessed a fee of $100.00 per class added.

**Liability Insurance Fee**

Students enrolled in courses requiring participation off-campus for field experience or practicum will be charged a liability insurance fee. This fee will be assessed one time per year, Fall semester through Summer II session. Students registered in classes that require more than one type of liability insurance will be charged for each type one time.

**Records Initiation Fee**

A one time fee of $300 is assessed for each entering undergraduate, graduate, or transfer student who is registered for four or more credit hours. This fee is not charged to concurrently enrolled high school students, guest students (including MIGS students), or SCOPE students. This fee helps subsidize the establishment of each student's official academic record at the University, and supports related activities such as integrated web course registration, online grade and program reviews, automated degree audit, student accounts receivable, and the provision of an individual electronic portfolio that reflects the learning, educational growth, and personal accomplishments for each student.

**Residence Hall and Dining Fees**

For current rates go to [www.reslife.wmich.edu](http://www.reslife.wmich.edu)

The rates quoted are on the basis of two or more students per room and include a $25.00 per semester deferred maintenance fee. These fees and rates are subject to change without notice by action of the Board of Trustees. The Board of Trustees reviews annually the room and dining rates and may increase the rates if, in its opinion, such an increase is necessary.

Newly admitted undergraduate students are automatically sent information about residence hall offerings for the semester they anticipate coming to the University. Individuals returning to the University as re-entries, and newly admitted graduate students, will receive information by return mail upon requesting details from the Manager of Residence Hall Facilities, Student Services Building. Residence hall accommodations are not automatically made as a result of admission to the University.
Student Activity Fee

A student assessment fee (SAF) of $12.00 per semester (Fall and Spring) and $6.00 per session (Summer I and Summer II) will be collected from all graduate and undergraduate students at the time of registration. This assessment is for the support of student organizations and agencies. The student organizations and agencies use this money to enhance the out of classroom experience on campus. The following is a sample of the programs funded in previous years: Bronco Bash, Homecoming, College Bowl, Miller Movies, Bernie's Afterhours, Bernhard Center’s Center Stage, lectures, etc.

Transcript Fee

An unofficial transcript may be obtained in the Registrar's Office for $2.00, or may be printed by the student from the web for no cost. An official transcript obtained in the Registrar’s Office or sent via regular mail is $5.00. The transcript will be released only upon written authorization of the student and only after payment is made.

Tuition and Fee Payment for Graduate Appointees

Graduate appointees (i.e., those holding assistantships, associateships, or fellowships) are entitled to a charge privilege for tuition and related fees. However, installment payments must be made. An account is considered to be delinquent thirty days after the beginning of a semester and thirty days after the beginning of a session. At that time a one and one-half percent monthly service charge will be added to the unpaid balance. Delinquent accounts are subject to all University collection procedures, including referral to an external collecting agency. All tuition and fees must be paid prior to registration for the next semester/session.

Registration is conducted via the web at Western Michigan University according to the schedule and procedures given in the Registration booklet, published prior to each semester and session and available in the Registrar's Office, in advising offices, and on the WMU web site. The Registration booklet should be consulted for details regarding procedures and regulations regarding the adding or dropping of courses, tuition and fee schedules and their methods of payment, final examination week schedules, and all the University regulations that affect the registration process. Registration by students signifies an agreement to comply with all regulations of the University whenever approved by the University.

Students should be aware that course information, including building, room, instructor, and time may change. The information in the online registration system is the most current.

To begin registration, the student will log in to GoWMU at http://gowmu.wmich.edu and follow the script displayed.

Advance Registration

Western Michigan University offers advance registration for each enrollment period as described in the Registration booklet issued prior to each semester and each session. Students are encouraged to take advantage of advance registration but are cautioned that any subsequent change in their schedules should
be made before the final day of the drop/add period. See the sections below for more information about changing registration schedules.

Adding and Withdrawing from Classes Before the Final Date to Drop

Students may enroll in (add) any course through the first five days of classes of a semester or session. The final date for adding courses is published in the Registration booklet.

Only students who have a class that is not officially scheduled to meet during the five-day Drop/Add period will be given an additional opportunity to drop/add. See the Registration booklet for details of this procedure.

Students may withdraw (drop) classes during the five-day Drop/Add period (see the Registration booklet and the course will not be reflected on the student's official transcript. All withdrawals received after the Drop/Add period will be reflected on the student's academic record as a non-punitive “W” (Official Withdrawal).

Dropping Classes and Withdrawing from All Classes

Students may drop a course or withdraw from all courses without academic penalty through the Monday of the tenth week of classes in the Fall and Spring semesters and through the Monday of the fifth week of the Summer I and Summer II sessions. A non-punitive "W" will be reflected on the student's academic record for any classes dropped after the drop/add period and before the withdrawal deadline. The final date for withdrawing is published in the registration booklet. Students may not withdraw from any class after this date without academic penalty.

Each student is encouraged to confer with the instructor before withdrawing from a class as the student may not re-register for the class.

Students who wish to drop a course or withdraw from all classes officially after the Monday of the tenth week of classes in the Fall and Spring semesters and through the Monday of the fifth week of the Summer I and Summer II sessions because of genuine hardship (i.e., illness, death in the immediate family), must be passing the course and must file a written appeal on forms which may be obtained from the Registrar's Office.

If a student wishes to withdraw from some but not all classes, s/he must obtain the approval of the instructor of record for each course to be dropped. If the student wishes to withdraw from all classes, s/he must obtain the approval of the academic advisor and a financial aid advisor. International students must also obtain the approval of the Office of International Services and Student Affairs.

If the semester has ended, the student must request a grade change to "W" through the Grade Appeal Process, as described in the section of this catalog entitled Student Rights and Responsibilities, Course Grade and Program Dismissal Appeals.
The Registrar's Office will record the drop or withdrawal if it has approvals as listed above.

**Graduate Credit and Course Numbers**

To receive graduate credit, graduate students will register for courses offered at the 5000-, 6000-, or 7000-level. Courses numbered 6000 and above are open only to graduate students; courses numbered 5000 through 5990 are open to both graduate students and advanced upperclass students who meet the course prerequisites. Graduate students enrolling in courses at the 5000-level or higher will receive graduate credit.

All 7000-level courses are graded on a "Credit/No Credit" basis, without exception.

No graduate credit is given for registration in undergraduate courses, nor for any type of correspondence work, regardless of course number.

**Graduate Leave of Absence**

Western Michigan University supports a graduate leave of absence policy to assist graduate students who are temporarily unable to continue their programs. The leave of absence may extend consecutively for up to two semesters and two sessions. Extensions of a leave of absence may be possible with a new application. Reasons for requiring a leave usually include bereavement, illness, care giving, maternity, paternity, and call to active military duty. Students requesting a leave of absence must submit an application to their department/school/unit chairperson or director. The policy and form can be found at [www.wmich.edu/grad/forms/leaveofabsencepolicy.pdf](http://www.wmich.edu/grad/forms/leaveofabsencepolicy.pdf)

*Preparing the Application for Leave of Absence*

In consultation with the supervising faculty member, an Application for Leave of Absence form is to be completed by the student, and signed by both the student and the advisor or supervising faculty member. The application is to be submitted to the chairperson/director for review and signature before being forwarded to the dean of the Graduate College. Whenever possible, application should be made in advance of the anticipated leave or as soon as possible after commencement of the leave. Whenever possible, it is helpful if the commencement and termination of the leave coincide with the beginning of a semester or session.

It is the student’s responsibility to ensure that the proposed leave is compatible with the regulations of any granting agency from which funding would normally be received during the leave period and that such agencies are informed of the proposed leave. Students on student loan programs should clarify the consequences that such a leave may have on their repayment status. International students are advised to consult with the Office of International Services and Student Affairs regarding their immigration status during a proposed leave.

A student granted a leave of absence will have his or her time-to-completion of degree extended by the amount of time granted in the leave of absence. The continuous enrollment policy will also be held in abeyance during this time.
Graduate Appointees Requesting a Leave of Absence

A graduate student holding an assistantship, associateship, or fellowship who is granted a leave of absence will have his or her salary and stipend (where applicable) suspended during the period of the leave. During the absence, a student replacement will serve usually on a temporary basis. Whenever possible, the remainder of the appointment will be held for the student upon his or her return to the next term. However, in situations where research activity has progressed substantially during the absence, the original appointee may no longer be able to resume the appointment. In situations where the student is returning in the next academic year, efforts will be made for that student to resume his or her appointment if possible.

In the event that a student appointee and chairperson/director disagree on the leave or its arrangements, students may follow the dispute resolution process available under the policy on Adjudication of Situations Involving Graduate Students Rights and Responsibilities.

Registration in Master’s Thesis, Specialist Project, Doctoral Dissertation

A student who intends to register for the Master's Thesis (7000), Specialist Project (7200), or Doctoral Dissertation (7300) for the first time is required to file a completed Permission to Elect form with The Graduate College before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials.

Registration for Continuous Enrollment in Master’s Thesis, Specialist Project, Doctoral Dissertation

Following a student's first enrollment in the Master's Thesis (7000), Specialist Project (7200), or Dissertation (7300), the student must have continuous enrollment in that same course until all thesis or project or dissertation requirements are completed satisfactorily and approved by all appropriate bodies. Registration deadlines apply. For students not enrolled in the Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II.

Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in the Summer I or Summer II session, the student must be enrolled in that session. Students who desire to have remote access to WMU’s library databases during the Summer I and Summer II sessions may do so by paying the customary computer fee for each session in which computer and remote library services are desired.

Research Subject Protection and Registration

Students conducting research that involves human or animal subjects, biohazards, genetic materials, or nuclear materials/radiation must have prior approval of the research proposal by the appropriate
University board, thus assuring compliance with the regulations for the protection of such subjects or for
the use of such materials. There are no exceptions to this requirement. Registration for courses in which
research is conducted that requires such prior approval should not be attempted until the appropriate
University board grants approval. The department requiring the course is responsible for assuring that
the student has complied with federal, state, and WMU requirements. The student completing such
regulated research for a master's thesis, specialist project, or doctoral dissertation must include the
written approval or exemption letter from the appropriate board as an appendix to the thesis, project, or
dissertation, and a student completing such regulated research for a course report, paper, or project must
include the written approval or exemption letter from the appropriate board as an addendum to the
report, paper, or project. For more information, call the Office of the Vice President for Research, (269)
387-8298.
Academic Forgiveness

Students who are readmitted into graduate study will not have grades and credit hours count in the computation of their grade point average that were earned more than seven years prior to their new entrance date. In such cases, the transcript will read, “Grades and credit hours earned more than seven years prior to current entrance date were not included in the computation of the grade point average.” The request for academic forgiveness must occur at the time of readmission.

Graduate Student Permanent Program of Study

A Graduate Student Permanent Program of Study is a document composed by a graduate student's program advisor that lists all course and other requirements necessary for completion of the degree program to which the student was admitted. The Graduate Student Permanent Program of Study is approved by the student's program advisor and by the graduate dean, filed in the Registrar’s Office, and used to audit the student's eligibility for the degree. For more information, see the section in this catalog entitled Graduation Procedures and Requirements.

Identification Card

The Bronco Card is the student's photo identification card at WMU. In addition, the Bronco Card is the student's access card for the library, dining areas, Student Recreation Center, and computer centers and is a security access card for buildings on campus.

The Bronco Card also enables the student to ride for free on the Metro Bus Service on any route around the Kalamazoo area.

The Bronco Card has the size, look, and feel of a credit card. Included on the card are the student's picture and signature. On the back of the card is a magnetic strip, used for authentication.

The Bronco Card will serve the student as a University ID for as long as the student remains at WMU.

Name Change

Students may maintain academic records under the name used at the time of admission. However, any active student desiring to make an official name change must report to the Registrar's Office, third floor Seibert Administration Building to record the change. Legal proof is required.

Transcript

A student's permanent academic record or transcript is a document listing, at minimum, all courses taken and credit hours and grades earned in the courses.

An unofficial transcript may be obtained in the Registrar's Office for $2.00, or may be printed by the student from the web for no cost. An official transcript obtained in the Registrar's Office or sent via
regular mail is $5.00. The transcript will be released only upon written authorization of the student and only after payment is made.
Academic Standards

Notwithstanding the Academic Standards policy outlined below, a student admitted with Conditional Admission or Provisional Admission status must meet the specified performance level within the time frame identified in the letter of admission or may not continue to enroll in University courses. Further, the Academic Standards policy inherently presumes the student will first meet satisfactorily any obligations or requirements specified in the letter of admission before the Academic Standards policy shall have any effect on the continuing enrollment of the student.

1. Good Standing: A graduate student admitted to a graduate degree or certificate program is in good standing whenever that student's degree or certificate program grade point average is at least 3.0.
2. Warning: Whenever the grade point average for any enrollment period is less than 3.0, but the degree program grade point average is 3.0 or above, the student will be warned.
3. Probation: If a student's degree program grade point average Falls below 3.0, the student will be placed on probation.
4. Extended Probation: The student will be placed on Extended Probation at the discretion of the academic department housing the student’s program when, following a semester on Probation, the student’s degree program grade point average is below 3.0 and the student’s grade point average for the enrollment period is 3.0 or above.
5. Final Probation: The student will be placed on Final Probation at the discretion of the academic department housing the student’s program when, following a semester on Extended Probation, the student’s degree program grade point average is below 3.0 and the student’s grade point average for the enrollment period is 3.0 or above.
6. Probation Removed: When the conditions of Good Standing are restored, Probation will be removed.
7. Dismissal: Students on Probation or Extended Probation who fail to achieve at least a 3.0 grade point average for the enrollment period, or students on Final Probation who fail to achieve a 3.0 degree program grade point average will be dismissed from the University.
   - Dismissed students must apply for readmission through the normal admission process. The student will send a Readmission Application to the Admissions Office that, in turn, will forward the student's Readmission Application to the program or academic unit admission body for decision on readmission.
8. Appeal Procedure: Upon appeal by the student, the program or academic unit admission body will determine whether to grant Extended Probation or Final Probation status. The status must be granted by the program or academic unit admission body in order for the student to register. The appeal must be initiated and the decision made by the program or unit prior to the subsequent semester's last day to add classes.

Attendance

Students are responsible directly to their instructors for class and laboratory attendance, and for petitions to excuse absences.
Course Grades and Grading System

A grade is given in each course in which a student registers. Grades are indicated by letters and assigned honor points as shown in the table below. **Credit toward a degree program will be granted only for courses in which a grade of "C" or better is earned.**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Definition</th>
<th>Honor Points Per Credit Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Outstanding, Exceptional</td>
<td>4.0</td>
</tr>
<tr>
<td>BA</td>
<td></td>
<td>3.5</td>
</tr>
<tr>
<td>B</td>
<td>Very good</td>
<td>3.0</td>
</tr>
<tr>
<td>CB</td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>2.0</td>
</tr>
<tr>
<td>DC</td>
<td></td>
<td>1.5</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>E</td>
<td>Failing</td>
<td>0.0</td>
</tr>
<tr>
<td>X</td>
<td>(Failure) Unofficial Withdrawal</td>
<td>0.0</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete ~</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>Official Withdrawal ~</td>
<td></td>
</tr>
<tr>
<td>CR</td>
<td>Credit</td>
<td></td>
</tr>
<tr>
<td>NC</td>
<td>No Credit</td>
<td></td>
</tr>
<tr>
<td>AU</td>
<td>Audit</td>
<td></td>
</tr>
</tbody>
</table>

X - (Failure) Unofficial Withdrawal: The symbol "X" is used to indicate that a student has never attended class or has discontinued attendance and does not qualify for the grade of "I." The "X" will be computed into the student's grade point average.

I - Incomplete: This is a temporary grade which the instructor may give to a student when illness, necessary absence, or other reasons beyond the control of the student prevent completion of course requirements by the end of the semester or session. The grade of “I” (Incomplete) may not be given as a substitute for a failing grade.

A grade of "I" must be removed by the instructor who gave it or, in exceptional circumstances, by the department chairperson.

Incomplete grades (except those given in Master's Thesis 7000, Specialist Project 7200, and Doctoral Dissertation 7300, and courses directly related to them or identified by departments) will convert to an "X" if not removed within one calendar year, or sooner if so stipulated by the instructor. Students who receive an incomplete grade in a course must not reregister for the course in order to remove the "I".

An instructor who assigns a grade of "I" will complete an official Report of Incomplete Work form indicating the remaining requirement for removal of the incomplete grade and indicating the time allowed, if less than one full year. The instructor will retain a copy for his/her own records and submit a
copy to the departmental office. The remaining copies will be returned to the Registrar's Office, which will provide the student with a copy.

W - Official Withdrawal: A grade of "W" is given in a course when a student officially withdraws from that course or from the University before the final withdrawal date in the semester or session specified in the Registration booklet.

CR or NC - Credit or No Credit: The Credit/No Credit grading system is used in all 7000-level courses, as well as some departmental courses approved by the University. The student's transcript will indicate "CR" when the grade received is an A, BA, or B; "I/NC" when incomplete; and "NC" when the grade received is a CB, C, DC, D, E, or X.

AU - Audit: The symbol "AU" is used to indicate that a student has enrolled in a course as an auditor, has attended at least three-fourths of the class or laboratory sessions, and has given evidence to the course instructor that the role as auditor has been satisfactory. A student who registers for a graduate course as an auditor, with the permission of the instructor, is not eligible to sit for examinations, earns no credit hours for the registration, and pays full tuition. The student must enroll in the audit status at the time of registration, and may not be transferred from the audit status after the course has begun.

Grade Change

A student who believes that an error has been made in the assignment of a grade must follow the procedure described later in this catalog in the Student Rights and Responsibilities section under the heading, "Course Grade and Program Dismissal Appeals."

Grade Point Average

A grade point average is obtained by dividing the total number of honor points earned by the total number of semester hours completed. For example, a total of forty-eight honor points earned in a semester by a student who completed sixteen hours of course work gives a grade point average of 3.0 for the semester.

Graduate Credit by Examination

Each academic unit responsible for offering a graduate program may, with the approval of its dean, establish a procedure for granting credit by examination for any course numbered 5000 through 6990. All credit by examination is subject to the following regulations:

1. The academic unit which offers a graduate program shall determine if an equivalency examination may be used to obtain credit for a particular 5000- or 6000-level course in that academic unit.
2. All equivalency examinations will be administered and graded by no fewer than two faculty members from the academic unit offering the particular course.
3. All credit by examination shall be graded "Credit" or "No Credit." "Credit" will be posted on the transcript as "Credit earned by examination" without letter grade or honor points. Students who do not achieve a sufficient score to receive "Credit" will have no entry made on their transcripts.
4. Credit by examination can be used to meet all other University graduation requirements except the residency requirement.

5. Credit by examination can be earned only by those students admitted to a specific graduate degree or certificate program and who are enrolled concurrently with the examination for credit.

6. Credit by examination earned at another university may transfer in accordance with the current policies of The Graduate College governing the transfer of credit.

7. Examination fees are assessed on a credit hour basis and are the same for all students. The current fee schedule: less than four credit hours, $50.00; four credit hours to eight credit hours, $100.00. By special arrangement, some course examinations may require higher fees.

**Honor Points**

The number of honor points earned in a course is the number of semester hours credit given by the course multiplied by the value of the letter grade received. (See the “Grading System” table above.) For example, a grade of "B" (3 honor points) in a four-hour course gives 3 X 4, or 12 honor points.

Honor points are not generated in a Credit/No Credit course, such as in any 7000-level course.

Credit earned in undergraduate courses is not computed into the graduate point-hour ratio.

Honor point deficiencies acquired in credits earned at Western Michigan University cannot be made up by credits and honor points earned at another university. Only credit hours transfer from another university—not grades and not honor points.

**Final Examination**

All students enrolled in a course in which a final examination is given must take the examination.

Student requests for an examination at any other time than that scheduled may not be honored.

**Full-time/Part-time Student Status**

For all graduate students taking courses for a stated degree or certificate program, six hours constitutes full-time status, and three hours constitutes half-time status in Fall and Spring semesters. In the Summer I and Summer II sessions, three hours in either session constitutes full-time status for that session and two hours constitutes half-time status.

Students who have completed all course work for their master’s or doctoral level program and who have only the thesis or dissertation to complete are required by Western Michigan University to enroll for a minimum of one-hour in thesis or dissertation credits in all Fall and Spring semesters through the semester of graduation. If the student will graduate in the Summer I or Summer II session, the student must be enrolled in that session. Such enrollment will satisfy WMU’s continuous enrollment requirement.
However, students must be aware that FICA regulations and some federal loan deferment regulations require at least half-time enrollment, which at WMU is now at least three hours of enrollment. Graduate students, even those enrolled for thesis or dissertation hours, must be enrolled for at least half-time (3 hours at WMU) in order to qualify for FICA tax exemption or to be eligible for loan deferments.

Since enrollment fees are determined by hours enrolled, and not by full- or part-time status, students (whether graduate or undergraduate) who enroll for four or fewer hours are charged a lesser enrollment fee than those who enroll for five or more hours, and consequently they will be required to pay an additional fee for unlimited use of the recreation center. Students enrolling for four or fewer hours will have access to the recreation center for 10 visits without extra fee charges.

**Independent Study**

Independent Study refers to enrollment in an appropriately designated, variable-credit course for a specific plan of study, authorized and supervised by a designated, consenting faculty member.

Independent Study is not a substitute for regular courses, but an enrichment opportunity. Normally, it is a project designed to allow students to investigate an area of interest not within the scope of a regular course, to probe in more depth than is possible in a regular course, or to obtain an educational experience outside that normally offered by a regular course.

Since individual Independent Study projects are not normally reviewed through the usual departmental and University processes, it is essential that the academic adequacy of such projects be assured by some other means applied consistently throughout the University.

The following policy guidelines are intended to serve that function.

**Proposals for Independent Study**

Independent Study requires an adequate description of the work to be undertaken, requiring planning in advance of the registration period. Sufficient time, therefore, must be allowed for such planning and for obtaining the necessary faculty and administrative approvals.

While the Independent Study project is normally student-initiated, early interaction with faculty is essential in the development of a mutually acceptable project description. At a minimum, such a description should contain an outline of the study topic, specification of the work to be done and the materials to be read, the credit to be given, the type and frequency of faculty-student contacts, and a statement of the evaluative criteria to be used by the faculty member.

**Approval Process**

The faculty member must accept and approve the student and the project, and then submit the agreed-upon proposal on the appropriate University form to the department chairperson for approval. If the chairperson approves, information copies of the form must be submitted to the dean and the Registrar.
The granting of approval by the department chairperson may involve considerations, such as faculty workload, which go beyond the merits of the project.

**Faculty Responsibility**

Independent Study is basically a tutorial process, necessarily involving substantial faculty participation. In that respect, it should be distinguished from "credit by examination," a different option in which the role of the faculty member is primarily evaluative.

A student is on his/her own in Independent Study in that it involves no class meetings or formal lectures, but the faculty member is the responsible custodian of the project, obliged to provide guidance, assistance, criticism, suggestion, and evaluation, and shall be the instructor of record who is responsible for turning in a grade to the Registrar’s Office.

**Repeated Course**

With the exception of courses that are approved by the University Curriculum Review Policy as repeatable for credit (e.g., multi-topic or umbrella courses), no more than two courses may be retaken and no course may be repeated more than once during the student’s graduate career (inclusive of both master’s and doctoral programs) at WMU. This number may be further limited by individual departments. Permission to retake a course must be obtained from the program advisor and graduate dean before registration for the course to be repeated takes place. The original grade for the course will remain on the student’s transcript, and both the original and repeated course grade will be computed into the degree program grade point average.

**Thesis, Project, and Dissertation**

**Composition and Role of Thesis Committee, Project Committee, and Dissertation Committee**

**Master’s Thesis Committee**

A master’s thesis committee shall be appointed for each student undertaking a thesis as partial fulfillment of the requirements for a master's degree. The purpose of the thesis committee is twofold: 1) to provide the range of expertise necessary to advise a student in the conduct of the master's thesis, and 2) to ensure that evaluation of the thesis represents a consensus of professionals in the student's chosen discipline.

The master's thesis committee is charged with the supervision and evaluation of the master's thesis, a task that includes but is not limited to the following responsibilities: a) advise the student on selection and/or development of a master's thesis topic; b) review and approve a proposal for the master's thesis; c) provide consultation regarding progress on the thesis; d) evaluate the final document; and e) in those departments requiring an oral defense, evaluate the oral defense of the thesis.
In addition to the previously described responsibilities that are generic to all thesis committee members, the chairperson of the committee assumes the following additional responsibilities: a) in those departments where this responsibility is not discharged through other mechanisms, advise the student regarding selection of thesis committee members; b) routinely monitor student progress on the thesis; c) call thesis committee meetings; d) evaluate the readiness of the thesis proposal and of the thesis for committee review and action; and e) inform the student of the need to adhere to the Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations.

Each thesis committee shall consist of a minimum of three members or associate members of the graduate faculty of Western Michigan University. Two of the committee members must be from the department or academic program in which the student is pursuing the master's degree. The appointment of a master's thesis committee is a three-stage process requiring, first, a mutual agreement between the master's student and the prospective committee members; second, a formal appointment by the chairperson of the department (or the chairperson's designee); and third, notification of and approval by the office of the dean of The Graduate College regarding this appointment.

Each unit offering a master's degree in which the thesis is either required or optional may approve and disseminate additional guidelines concerning master's thesis committees, including the qualifications for committee membership, the procedures used to select and appoint committee members, and the specific functions and responsibilities that the members of these committees have. Additionally, each unit is encouraged to disseminate an updated list of faculty who qualify to serve on master's thesis committees and their respective areas of expertise.

If there are differences among the members of a master's thesis committee over the approval of the thesis and its oral defense, it shall be the responsibility of the committee to undertake every reasonable effort to resolve these differences and come to a unanimous decision.

In the event a student wishes to appeal a negative decision by the student's master's thesis committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case the committee cannot reach a unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the dean of The Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the thesis. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the master's thesis committee if the case merits it.

**Specialist Project Committee**

A specialist project committee shall be appointed for each student undertaking a project as partial fulfillment of the requirements for a specialist degree. The purpose of the project committee is twofold: 1) to provide the range of expertise necessary to advise a student in the conduct of the specialist project, and 2) to ensure that evaluation of the project represents a consensus of professionals in the student's chosen discipline.

The specialist project committee is charged with the supervision and evaluation of the specialist project, a task that includes but is not limited to the following responsibilities: a) advise the student on selection
and/or development of a specialist project topic; b) review and approve a proposal for the specialist project; c) provide consultation regarding progress on the project; d) evaluate the final document; and e) in those departments requiring an oral defense, evaluate the oral defense of the project.

In addition to the previously described responsibilities that are generic to all project committee members, the chairperson of the committee assumes the following additional responsibilities: a) in those departments where this responsibility is not discharged through other mechanisms, advise the student regarding selection of project committee members; b) routinely monitor student progress on the project; c) call project committee meetings; d) evaluate the readiness of the project proposal and of the project for committee review and action; and e) inform the student of the need to adhere to the Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations.

Each project committee shall consist of a minimum of three members or associate members of the graduate faculty of Western Michigan University. Two of the committee members must be from the department or academic program in which the student is pursuing the specialist degree. The appointment of a specialist committee is a three-stage process requiring, first, a mutual agreement between the specialist student and the prospective committee members; second, a formal appointment by the chairperson of the department (or the chairperson's designee); and third, notification of and approval by the office of the dean of The Graduate College regarding this appointment.

Each unit offering a specialist degree in which the project is either required or optional may approve and disseminate additional guidelines concerning specialist project committees, including the qualifications for committee membership, the procedures used to select and appoint committee members, and the specific functions and responsibilities that the members of these committees have. Additionally, each unit is encouraged to disseminate an updated list of faculty who qualify to serve on specialist project committees and their respective areas of expertise.

If there are differences among the members of a specialist project committee over the approval of the project and its oral defense, it shall be the responsibility of the committee to undertake every reasonable effort to resolve these differences and come to a unanimous decision.

In the event a student wishes to appeal a negative decision by the student's specialist project committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case the committee cannot reach a unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the dean of The Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the project. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the specialist project committee if the case merits it.

**Doctoral Dissertation Committee**

For each doctoral student a doctoral dissertation committee shall be appointed to review the dissertation proposal, procedures, and results; to make suggestions relative to these concerns to the student; and to decide whether to approve the dissertation and the oral defense as fulfilling these requirements for the doctoral degree.
Each doctoral dissertation committee shall consist of at least three members. The student's major dissertation advisor shall serve as chairperson of the committee. At least one member shall be from outside the student's department (this person may be from a related cognate discipline, from outside the student's college, or from outside WMU) who shall serve as a bona fide, fully participating member of the committee. The committee shall be approved and recommended by the unit, approved by the office of the appropriate academic dean, and approved and appointed by the graduate dean. Each member of the committee must be either a member or an associate member of the graduate faculty.

All members of this committee must approve the dissertation and at least three must be in attendance for and approve its oral defense. The dissertation must be in a form acceptable to the unit and to the Graduate College before the student may be awarded the doctoral degree.

Each unit offering a doctoral program shall approve and publish its policies concerning doctoral dissertation committees, including the qualifications for membership on doctoral dissertation committees, the procedures used to select who should serve on these committees, and the specific functions and responsibilities that the members of these committees have. The chairperson of each student's doctoral dissertation committee shall indicate in writing the specific responsibilities that individual members of that committee have.

If there are differences among the members of a doctoral dissertation committee over the approval of the dissertation and its oral defense, it shall be the responsibility of the committee to undertake every reasonable effort to resolve these differences and come to a unanimous decision.

In the event a student wishes to appeal a negative decision by the student's doctoral dissertation committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case the committee cannot reach a unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the dean of The Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the dissertation. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the doctoral dissertation committee if the case merits it.

**Electronic Thesis and Dissertation (ETD) Program**

The Electronic Thesis and Dissertation (ETD) program, managed by The Graduate College, has been adopted as a permanent program at WMU. ETDs are optional for all on-campus and branch campus graduate students.

**Benefits**

The ETD program benefits the University by showcasing the contributions of our students. It benefits the disciplines by making the most current research readily available on the Internet. It benefits the students by preparing them for future electronic submission to journals and conferences as well as providing them a vehicle for sharing their research with potential employers. The ETD process also enables students to add multimedia files and other features to the manuscript, allowing for a more creative and advanced expression of the material in the thesis, project, or dissertation.
**Proprietary Rights**

Students retain all proprietary rights, such as copyright and patent rights, to the thesis, project, or dissertation. Students also retain the right to use all or part of the thesis, project, or dissertation in future publications.

**Accessibility Options**

There are several accessibility options. Students may choose to make the manuscript immediately available worldwide on the Internet, allow restricted access to only the WMU campus network for a period of one year, or withhold all access for patent and/or proprietary purposes for a period of one year. Students may also choose to make some files accessible while restricting access to others. The student should consult with faculty to determine the appropriate accessibility option, and to determine which journals consider posting of a thesis or dissertation to a website as a prior publication. The default accessibility option is “restricted access” for all submissions unless the student chooses another option. Restricted access is removed after one year unless the graduate or his/her advisor requests its continuation. The graduate or his/her advisor may renew restricted access indefinitely on a yearly basis.

**ETD Creation**

After a thesis, project, or dissertation is formatted according to the standards in the Guidelines for the Preparation of Theses, Specialist Projects, and Dissertation, it is converted from the original document into a Portable Document Format (PDF) file. The Graduate College offers periodic workshops on the process, including conversion of electronic files to PDF. Multimedia files and special features may also be added to the document. Where appropriate, departments will assist students with embedding various media files into their ETDs.

**ETD Submission and Storage**

The ETD submission process is very similar to the paper thesis, project, or dissertation submission process. Instead of submitting a paper copy of the committee-approved manuscript to The Graduate College for final review and approval, the PDF file will be submitted directly to the ETD server. Approval forms, research protocol approval letters, and any other signed documents will be submitted separately to The Graduate College to be filed for additional security. ETDs will be electronically catalogued and available through a link from the ETD site and accessible from the University Libraries online catalog at the access level chosen by the student. Long-term preservation of dissertations will be maintained by continued submission of the manuscripts to Bell and Howell (University Microfilms, Inc.). Students also have the option to submit a paper copy of the final thesis, project, or dissertation for deposit with the University Libraries.

**Transfer Credit**

Transfer credit will be recorded on the Western Michigan University transcript as "Credit" (CR) only and will not be calculated into the honor points earned and the graduate grade point average at Western Michigan University. Grades and honor points do not transfer; only credit transfers. As a consequence,
honor point deficiencies acquired in credits earned at Western Michigan University cannot be made up by credits earned at another university.

**Master's Program**

A student enrolled in a master’s program must complete a minimum of 24 semester hours at Western Michigan University. Any credits transferred into a master’s program from other universities may not exceed sixteen semester credit hours. Graduate credit may be transferred from other schools provided:

1. The credits were earned in an institution accredited for graduate study and are of "B" grade (3.0) or better. Moreover, the student's overall grade point average for all graduate work taken at the other institution must also be "B" (3.0) or better.
2. The credit is earned within a six-year period prior to graduation from Western Michigan University, is represented on an official transcript of the other university, and is identified as graduate credit.
3. The student's department verifies that the transfer credits contribute to the student's degree program and includes them in the student's Graduate Student Permanent Program of Study.
4. The graduate dean approves the inclusion of the transferred credits in the student's Graduate Student Permanent Program of Study.

**Second Master's Program**

A student enrolled for a second master’s degree from Western Michigan University must complete a minimum of 24 additional semester hours at Western Michigan University. Any credits transferred internally into the second master’s program may not exceed sixteen semester credit hours.

**Specialist Program**

A student with a master's degree from another university who completes a specialist degree at Western Michigan University may transfer up to thirty-six semester hours of approved graduate credit. A student without a master's degree who completes a specialist degree at Western Michigan University may transfer up to twelve semester hours of approved graduate credit.

**Doctoral Program**

A student enrolled in a doctoral program must complete a minimum of thirty semester hours, excluding the dissertation, at Western Michigan University after admission to the doctoral program. The thirty hours, excluding the dissertation, may not include any credit earned at another institution. Credit earned at another institution in addition to the thirty hours (excluding the dissertation) earned at WMU after admission to the doctoral program, however, may be approved by the doctoral program advisor and included in the student's Graduate Student Permanent Program of Study.

**Undergraduate Credit in a Graduate Program**

In certain instances, an advisor may permit a student to include up to six semester hours of 3000- or 4000-level courses in a graduate program, provided the student receives written permission from the
advisor, the department chair, and the graduate dean prior to registering for these courses and then earns a grade of "B" or better. These courses earn undergraduate credit only which is not computed into the graduate grade point average.
Graduation Procedures

When a student satisfactorily completes all academic requirements for a degree, fulfills all financial and legal obligations to the University, and meets all relevant processing deadlines, the student is eligible for graduation and to receive the appropriate degree. An eligible student may graduate at the end of a semester or a session—in December, April, June, or August; however, a Commencement Ceremony is held only in December, April, and June.

Degree Program

Annual Review of Graduate Students

A graduate student’s academic performance, professional development, research progress, and, where applicable, professional/ethical behavior will be reviewed annually to determine the student’s eligibility to continue in the program. Upon the student’s initial enrollment in a graduate certificate or master’s or specialist or doctoral program, the department shall provide a document to the graduate student outlining the annual review criteria and procedures. The review will assist the student in measuring timely progress toward completion of the program of study and in providing documentation for awards or assistantships or, if deficiencies are apparent, note them and indicate corrections necessary. Uncorrected deficiencies and/or unsatisfactory progress, performance, or behavior may result in a student’s dismissal from the program.

Graduation Process

The graduation process requires students to

1. Apply for graduation by submitting the form Application for Graduation Audit and an application fee ($45.00). The application form may be obtained from the Registrar's Office on the third floor of the Seibert Administration Building or on the Internet at <www.wmich.edu/registrar/pdf/forms/gradaudit.pdf>. Doctoral students should apply at least two semesters prior to intended graduation date.

   Graduation Fee and Application Deadline

   Graduation Fee: $45

   Application Deadlines:
   Fall Semester Graduation (December) August 1
   Spring Semester Graduation (April) December 1
   Summer I Session Graduation (June) February 1
   Summer II Session Graduation* (August) February 1
   *No Commencement Exercises in August

2. Fulfill all degree and University requirements and obligations.
3. If required for the degree, successfully complete, defend, and have approved by the graduate dean the master's thesis, specialist project, or doctoral dissertation.
4. Meet all department, Graduate College, and University deadlines for the completion of all work required for the program or degree and the submission of all materials required for graduation.

All work taken either on or off the campus must be completed by graduation day.

**Graduation Audit**

The graduation audit, initiated by the submission of the Application for Graduation Audit, is a process by which a student's academic record is examined to make sure all the requirements for the degree have been met. A graduation auditor in the Registrar's Office conducts the audit, and its outcome depends greatly on the completeness and appropriateness of the materials contained in the student's academic record. Students should ensure that the following requirements are met and the following documents are contained in their academic record before applying for graduation:

1. A Graduate Student Permanent Program of Study is completed, approved by the advisor and graduate dean, and filed in the Registrar's Office with the appropriate graduation auditor. The Graduate Student Permanent Program of Study should be filed as soon as practicable after the student begins enrollment following admission to the degree program.
2. Master’s degree students will file their Permanent Program of Study prior to completion of 12 credit hours of study.
3. Specialist degree students will file their Permanent Program of Study after completion of 12 credit hours of study or by the end of their first academic year of enrollment.
4. Doctoral degree students will file their Permanent Program of Study after completion of 18 credit hours of study or by the end of the second semester of enrollment.
5. All transfer credit, if applicable, is approved, and the Graduate Transfer Credit form is appropriately signed by the advisor and the graduation auditor.
6. All completed course work (and other program requirements, where applicable) coincides with the Graduate Student Permanent Program of Study.
7. Where applicable, all relevant documents are filed attesting to the approval of committee appointments, passing of comprehensive examinations, completion of research tools, successful defense of thesis or project or dissertation, fulfillment of any residency requirement, and compliance with the continuous enrollment requirement within the time limit allowed for the completion of degree requirements.

Students who do not meet all degree and University requirements will be removed from the graduation class automatically. Such students must change their graduation date. No fee is charged for submitting a change of graduation date form. Under no circumstances will any student be graduated with a class if the student's academic record does not show complete fulfillment of all requirements within thirty days after the established commencement date.

Students who wish to change from one graduation class to another need to complete a change of graduation date form. The graduation auditor will not automatically move the student to another graduation class. No fee is charged for submitting a change of graduation date form.
Non-degree Graduate Certificate Program

Students completing the requirements for a Graduate Certificate Program, whether together with a degree or independent of a degree, may apply for a certificate of completion. The process, fee, and requirements for obtaining a graduate certificate are similar to that described above for obtaining a degree. The essential differences are that the student applying for a graduate certificate will have been officially admitted to the certificate program, will have completed the application form entitled Application to Receive Graduate Certificate, and will have completed satisfactorily the certificate program requirements recorded on the student's advisor-approved Graduate Certificate Program, Program Outline.

Graduation Requirements

Graduates of specific degree programs offered by Western Michigan University are expected to meet the same academic standards and requirements. These academic standards and requirements vary, however, by discipline, by degree level, by program concentration, and often by conditions related to a student's admission (for example, the completion of specified courses or experiential prerequisites). For more specific information about the graduation requirements for each department's degree programs, read the program requirements section of the relevant department's listing in this catalog or contact the degree program's graduate advisor or the department office.

Master’s Degree

In addition to the minimum University requirements for graduation listed below, each master's degree program requires students to complete satisfactorily specific courses, examinations, research, and/or experiences. For more complete information about the requirements for each master's program, read the program requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Minimum Credit Hours: Completion of a minimum of thirty hours of accepted graduate credit in an approved program of study. Hours in addition to thirty may be required by a specific program; consult the program advisor for complete information.
   - At least one-half of the credits earned for the master's degree must be in courses numbered 6000 or above.
   - A master's level Graduate Student Permanent Program of Study may include a maximum of four hours of credit in 5980 (Readings).

2. Grade Point Average: A degree program grade point average of at least 3.0 is required for all work taken for the master's degree at Western Michigan University.
   - Credit toward the master's degree is granted only for graduate courses in which a grade of "C" or better is earned. Courses with lower grades will not count toward graduation.

3. Transfer Credit: A student enrolled in a master’s program must complete a minimum of 24 semester hours at Western Michigan University. Any credits transferred into a master’s program from other universities may not exceed sixteen semester credit hours. Graduate credit may be transferred from other schools provided:
The credits were earned at an institution accredited for graduate study and are of "B" grade (3.0) or better. Moreover, the student's overall grade point average for all graduate work taken at the other institution must also be "B" (3.0) or better.

The credit is earned within a six year period prior to graduation from Western Michigan University, is represented on an official transcript of the other university, and is identified on that transcript as graduate credit.

The student's department verifies that the transfer credits contribute to the student's degree program and includes them in the student's Graduate Student Permanent Program of Study.

The graduate dean approves the inclusion of the transferred credits in the student's Graduate Student Permanent Program of Study.

Honor points and grades earned at another university do not transfer to Western Michigan University. Transfer credit will be recorded on the Western Michigan University transcript as "Credit" (CR) only and will not be calculated into the honor points earned and the grade point average at Western Michigan University.

4. Time Limit: All work accepted for the degree program must be completed within six years preceding the date on which the master’s degree is conferred. All work must be completed satisfactorily by the day of graduation. Students whose degrees are taken primarily through part-time study have the option of requesting an extension from the graduate dean. Extensions beyond the six years may also be granted for other students by the dean of The Graduate College for such legitimate reasons as illness, injury, or hardship. In such situations, the student and department must demonstrate how the student will bring up to date the content knowledge from courses taken more than six years before the projected date of graduation.

5. Research Subject Protection: Students conducting research that involves human or animal subjects, biohazards, genetic materials, or nuclear materials/radiation must have prior approval of the research proposal by the appropriate University board, thus assuring compliance with the regulations for the protection of such subjects or for the use of such materials. There are no exceptions to this requirement. For more information, call the Office of the Vice President for Research, 387-8298.

6. Enrollment in Master's Thesis (7000): A student who intends to register for the Master's Thesis (7000) for the first time is required to file a completed Permission to Elect form before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials.

7. Continuous Enrollment in 7000: The course 7000, Master’s Thesis, is six credit hours and may be registered for in increments of one to six hours. Following a student's first enrollment in 7000, the student must have continuous enrollment in 7000 until all thesis requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the thesis within the first six hours of registration will be required to continue to enroll in 7000; however, only six hours of 7000 will count toward meeting the program requirements for the master’s degree. For students not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session. Students who desire to have remote access to WMU’s library databases during the Summer I and Summer II sessions
may do so by paying the customary computer fee for each session in which computer and remote library services are desired.

8. Submission of Master's Thesis (7000) Manuscript: The manuscript, when submitted, must conform to the style and format requirements explained in the University's Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations, available for purchase in Western's Campus Bookstore or for free downloading at http://www.wmich.edu/grad/. Also, the manuscript may be submitted for review only after it has been approved by the student's thesis committee and only with the signed committee approval forms certifying departmental approval of the manuscript and of the student's successful defense of it. Students who submit a thesis electronically through the ETD site must submit these approval forms as well as any other documents containing signatures, such as research protocol approval letters, separately to The Graduate College.

If the student wishes to have the master's thesis published by Bell & Howell (formerly University Microfilms, Inc.), a certified check or money order for $50.00 (payable to Bell & Howell) must accompany the manuscript when it is submitted to The Graduate College.

See the Graduate Studies section of this catalog, under GRAD 7000, for additional information regarding the Master's Thesis.

Second Master’s Degree

A student enrolled for a second master’s degree from Western Michigan University must complete a minimum of 24 additional semester hours at Western Michigan University. Any credits transferred internally into the second master’s program may not exceed sixteen semester hours. The second degree program must fulfill all of the other usual requirements for a master's degree.

Acquiring a Master’s Degree en route to the Doctoral Degree

Students who enter a doctoral program with a bachelor’s degree may, upon recommendation of their department, acquire the master’s degree by the following means:

1. The student requests the departmental graduate advisor to review the student’s program of study to ascertain that it meets the requirements for the master’s degree.
2. The graduate advisor or chair submits a program of study demonstrating that the student has met all requirements for the master’s degree as defined by The Graduate College and the student’s academic unit/department and submits a letter indicating that the department recommends that the student be awarded the master’s degree.
3. The student files an application for graduation with a master’s degree, initiating the graduation audit which determines the student’s eligibility for graduation.
4. A student who achieves a master’s degree en route to the doctoral degree must complete the minimum number of semester hours of graduate course work beyond the master’s degree specified by the doctoral program in which the student is enrolled and must meet the additional competencies that distinguish the doctoral degree from the master’s degree.
5. A separate application for graduation with a doctoral degree must be filed.
Students who enter a doctoral program holding a master’s degree may, upon recommendation of their department, acquire a second master’s degree **en route** to the doctoral degree by the following means:

1. Six hours from the first master’s program may be applied to the second degree if evaluated and approved by the advisor and the graduation auditor as meeting the general and program requirements for transfer credit to a graduate program.
2. The student requests the departmental graduate advisor to review the student’s program of study to ascertain that it meets the requirements for the master’s degree.
3. The graduate advisor or chair submits a signed program of study for the master’s degree demonstrating that the student has met all requirements for the master’s degree as defined by The Graduate College and the student’s academic unit/department and appends a letter indicating that the department recommends that the student be awarded a master’s degree.
4. The student files an application for graduation with a master’s degree, initiating the graduation audit which determines the student’s eligibility for graduation.
5. With the approval of the advisor, the semester hours of course work earned and applied to the second master’s degree may be applied to the doctoral degree. The student must complete the minimum number of semester hours specified by the doctoral program and must demonstrate that he or she has met the additional competencies that distinguish the doctoral degree from the master’s degree.
6. A separate application for graduation with a doctoral degree must be filed.

**Specialist Degree**

In addition to the minimum University requirements for graduation listed below, each specialist degree program requires students to complete specific courses, examinations, research, and/or experiences. For more complete information about the requirements for a specialist program, read the program requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. **Minimum Credit Hours:** Completion of a minimum of sixty hours of accepted graduate credit in an approved program of study. Hours in addition to sixty may be required by a specific program; consult the program advisor for complete information.
   - A specialist level Graduate Student Permanent Program of Study may include a maximum of four hours of credit in 5980 (Readings).
2. **Residency Requirement:** A residency requirement is established by each specialist program and approved by the University's curriculum review process and must be met prior to graduation. Unless otherwise approved by the University for an individual academic unit, the general residency requirement for specialist students is one academic semester of full-time study on campus or enrollment in two sessions in consecutive years and the intervening semesters. Consult the program advisor for complete information.
3. **Grade Point Average:** A degree program grade point average of at least 3.0 is required for all work taken for the specialist degree at Western Michigan University.
   - Credit toward the specialist degree is granted only for graduate courses in which a grade of "C" or better is earned. Courses with lower grades will not count toward graduation.
4. **Transfer Credit:** A student with a master's degree from another university who completes the remaining credits for a specialist degree at Western Michigan University may transfer up to
thirty-six semester hours of approved graduate credit. A student without a master's degree who completes a specialist degree at Western Michigan University may transfer up to twelve semester hours of approved graduate credit. Graduate credit earned at another university is eligible for transfer to a Western Michigan University specialist program provided:

- The credit is earned at an institution accredited for graduate study and is of "B" grade (3.0) or better. Moreover, the student's overall grade point average for all graduate work taken at the other institution must also be "B" (3.0) or better.
- The credit is earned within a six year period prior to graduation from Western Michigan University, is represented on an official transcript of the other university, and is identified on that transcript as graduate credit.
- The student's program advisor verifies that the transfer credits contribute to the student's degree program and includes them in the student's Graduate Student Permanent Program of Study.
- The graduate dean approves the inclusion of the transferred credits in the student's Graduate Student Permanent Program of Study.
- Honor points and grades earned at another university do not transfer to Western Michigan University. Transfer credit will be recorded on the Western Michigan University transcript as "Credit" (CR) only and will not be calculated into the honor points earned and the grade point average at Western Michigan University.

5. Time Limit: A student admitted to the specialist program with a master’s degree is required to complete the specialist program within five years; a student admitted without a master’s degree is required to complete the specialist program within six years. All work must be completed satisfactorily by the day of graduation. Students whose degrees are taken primarily through part-time study have the option of requesting an extension from the graduate dean. Extensions beyond the six years may also be granted for other students by the dean of The Graduate College for such legitimate reasons as illness, injury, or hardship. In such situations, the student and department must demonstrate how the student will bring up to date the content knowledge from courses taken more than six years before the projected date of graduation.

6. Research Subject Protection: Students conducting research that involves human or animal subjects, biohazards, genetic materials, or nuclear materials/radiation must have prior approval of the research proposal by the appropriate University board, thus assuring compliance with the regulations for the protection of such subjects or for the use of such materials. There are no exceptions to this requirement. For more information, call the Office of the Vice President for Research, 387-8298.

7. Enrollment in Specialist Project (7200): A student who intends to register for the Specialist Project (7200) for the first time is required to file a completed Permission to Elect form before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials.

8. Continuous Enrollment in 7200: The course 7200, Specialist Project, may be registered for in increments of one to six hours. Following a student's first enrollment in 7200, the student must have continuous enrollment in 7200 until all project requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the project within the first six hours of registration will be required to continue to enroll in 7200; however, only six hours of 7200 will count toward meeting the program requirements for the specialist degree. For students not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent Fall
semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session. Students who desire to have remote access to WMU’s library databases during the Summer I and Summer II sessions may do so by paying the customary computer fee for each session in which computer and remote library services are desired.

9. Submission of Specialist Project (7200) Manuscript: The manuscript, when submitted, must conform to the style and format requirements explained in the University's Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations, available for purchase in Western's Campus Bookstore or for free downloading at http://www.wmich.edu/grad/. Also, the manuscript may be submitted for review only after it has been approved by the student's project committee and only with the signed committee approval forms certifying departmental approval of the manuscript and of the student's successful defense of it. Students who submit a project electronically through the ETD site must submit these approval forms as well as any other documents containing signatures, such as research protocol approval letters, separately to The Graduate College.

If the student wishes to have the specialist project published by Bell & Howell (formerly University Microfilms, Inc., a certified check or money order for $50.00 (payable to Bell & Howell) must accompany the manuscript when it is submitted to The Graduate College.

See The Graduate Studies section of this catalog, under GRAD 7200, for additional information regarding the Specialist Project.

**Doctoral Degree**

In addition to the minimum University requirements for graduation listed below, each doctoral degree program requires students to complete specific courses, examinations, research, and/or experiences. For more complete information about the requirements for each doctoral program, read the program requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Minimum Credit Hours: After admission to the doctoral program, completion of a minimum of thirty hours, excluding the dissertation, at Western Michigan University in an approved program of study. Hours in addition to thirty may well be required by a specific program; consult the program advisor for complete information. The thirty hours, excluding the dissertation, may not include any credit earned at another institution. Credit earned at another institution in addition to the thirty hours and dissertation earned at WMU after admission to the doctoral program, however, may be approved by the doctoral program advisor and included in the student's program of study.

   o Each student's program will be planned by a committee selected in consultation between the student and the graduate advisor of the program in which the student wishes to study. The exact distribution of courses, seminars, and research will depend upon the program and may vary from one student to another. Each program, however, will contain a
significant amount of research, and each student will be required to complete a dissertation.
- A doctoral level Graduate Student Permanent Program of Study may include a maximum of four hours of credit in 5980 (Readings).

2. Research Tools: Demonstration of proficiency in two appropriate research tools, as determined by the department and approved by the University. Normally, the research tools are selected from among foreign language, statistics, research methodology, and computer programming; however, other tools have been approved for some programs.

3. Residency Requirement: The general residency requirement for doctoral students is one academic year (two consecutive semesters) of full-time study on campus. Each doctoral program may, however, with approval of the University through the curriculum review process establish its own residency requirement. Students must meet the residency requirement prior to approval for candidacy. Students should consult with their advisor regarding the residency requirement for the specific program of interest.

4. Comprehensive Examinations: Passing the required comprehensive examination(s) that cover the principal subject matter areas included in the student's program of study.

5. Grade Point Average: A degree program grade point average of at least 3.0 is required for all work taken for the doctoral degree at Western Michigan University.
- Credit toward the doctoral degree is granted only for graduate courses in which a grade of "C" or better is earned. Courses with lower grades will not count toward graduation.

6. Transfer Credit: Often doctoral students attend Western Michigan University after earning a master's or other graduate degree elsewhere, and their subsequent course work is then usually elected at Western Michigan University. However, graduate credit earned at another university after admission to the doctoral program is eligible for transfer provided:
- The credit is earned at an institution accredited for graduate study and is of "B" grade (3.0) or better. Moreover, the student's overall grade point average for all graduate work taken at the other institution must also be "B" (3.0) or better.
- The credit is earned within a six year period prior to graduation from Western Michigan University, is represented on an official transcript of the other university, and is identified on that transcript as graduate credit.
- The student's program advisor verifies that the transfer credits contribute to the student's degree program and includes them in the student's Graduate Student Permanent Program of Study.
- The graduate dean approves the inclusion of the transferred credits in the student's Graduate Student Permanent Program of Study.
- Honor points and grades earned in courses at another university do not transfer to Western Michigan University. Transfer credit will be recorded on the Western Michigan University transcript as "Credit" (CR) only and will not be calculated into the honor points earned and the grade point average at Western Michigan University. A graduate degree earned elsewhere that comprises part of the student's doctoral program of study at Western Michigan University will be posted on the student's transcript, but the degree's courses, grades, and honor points will not be transferred nor posted on the transcript.

7. Time Limit: After admission, all requirements for the degree must be completed within seven years preceding the date on which the degree is conferred. Students whose degrees are taken primarily through part-time study have the option of requesting an extension from the graduate dean. Extensions beyond the seven years may also be granted for other students by the dean of
The Graduate College for such legitimate reasons as illness, injury, or hardship. In such situations, the student and department must demonstrate how the student will bring up to date the content knowledge from courses taken more than seven years before the projected date of graduation.

8. Research Subject Protection: Students conducting research that involves human or animal subjects, biohazards, genetic materials, or nuclear materials/radiation must have prior approval of the research proposal by the appropriate University board, thus assuring compliance with the regulations for the protection of such subjects or for the use of such materials. There are no exceptions to this requirement. For more information, call the Office of the Vice President for Research, 387-8298.

9. Enrollment in Doctoral Dissertation (7300): A student who registers for the Doctoral Dissertation (7300) for the first time is required to file a completed Permission to Elect form before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials.
   o Doctoral Dissertation (7300) varies in credit from a minimum of twelve hours to a maximum of twenty-four hours. The minimum and maximum number of hours of 7300 required by each department in a student's program of study will be determined by the department in a proposal approved by the University's curriculum review process. A department may require all students within the program to register for a specific, common total of hours between twelve and twenty-four, or a program may require different students within the program to register for a variety of total hours between twelve and twenty-four. For more complete information about the dissertation requirements for each doctoral program, read the program requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.
   o See the Graduate Studies section of this catalog, under GRAD 7300, for additional information regarding the Doctoral Dissertation.

10. Continuous Enrollment in 7300: The course 7300, Doctoral Dissertation, may be registered for in increments of one or more hours. Following a student's first enrollment in 7300, the student must have continuous enrollment in 7300 until all dissertation requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the dissertation within the program-stipulated hours will be required to continue to enroll in 7300; however, only the program-stipulated hours for 7300 will count toward meeting the program requirements for the doctoral degree. For students not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session. Students who desire to have remote access to WMU’s library databases during the Summer I and Summer II sessions may do so by paying the customary computer fee for each session in which computer and remote library services are desired.

11. Submission of Doctoral Dissertation (7300) Manuscript: The manuscript, when submitted, must conform to the style and format requirements explained in the University's Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations, available for purchase in Western's Campus Bookstore or for free downloading at http://www.wmich.edu/grad/. Also, the manuscript may be submitted for review only after it has been approved by the student's dissertation
committee and only with the signed committee approval forms certifying departmental approval of the manuscript and of the student's successful defense of it. Students who submit a dissertation electronically through the ETD site must submit these approval forms as well as any other documents containing signatures, such as research protocol approval letters, separately to The Graduate College.

12. Publication of the Dissertation Manuscript: All doctoral dissertations will be published (microfilmed) by Bell & Howell (formerly University Microfilms, Inc.) and an abstract of the dissertation will be prepared by the student for publication in *Dissertation Abstracts*. A certified check or money order for $60.00 (payable to Bell & Howell) must accompany the manuscript when it is submitted to The Graduate College.

**Nondegree Graduate Certificate Program**

To signify that a student has satisfactorily completed an approved curriculum in a Graduate Certificate Program, a certificate of completion is awarded. Regular admission to the program by the relevant academic unit is required.

The student must complete the fifteen (15) to twenty-one (21) hours of course requirements of the graduate certificate program with a “B” (3.0) or better program grade point average, with no course grade lower than a “C,” within a six-year period after admission to the certificate program. Students whose certificate programs are taken primarily through part-time study have the option of requesting an extension from the graduate dean. Extensions beyond the six years may also be granted for other students by the dean of The Graduate College for such legitimate reasons as illness, injury, or hardship. In such situations, the student and department must demonstrate how the student will bring up to date the content knowledge from courses taken more than six years before the projected date of completion of the certificate program.

For more information about the completion requirements for each certificate program, read the program requirements section of the relevant program's listing in this catalog or contact the program's advisor or the department office.
Fellowships, Assistantships, Associateships, Grants

Western Michigan University provides fellowships, associateships, and assistantships for students planning to pursue graduate study. Collectively, these awards are known as graduate appointments. Graduate appointees are first and foremost students. As such, their most important task is to complete their degree requirements in a timely fashion; this is the primary expectation of the University. Graduate appointments are funded through state appropriations and federal, state, local, and private grants for at least three principal reasons. First, employment of graduate students in teaching, research, and non-teaching positions during their graduate education encourages and supports their participation in these major functions of university life and thereby strengthens the quality of the students’ educational experience. Second, appointments provide direct financial support to outstanding students who are essential to the development of quality graduate programs. Third, graduate students provide valuable and necessary services to the University in their roles as appointees. Applications are due by February 15, and appointments are usually made by April 1 for students planning to enroll in the fall semester. Appointments are often renewable, except for Graduate College Fellowships and Dissertation Fellowships. For more information, and to obtain application forms, visit or call The Graduate College (269) 387-8212, or visit the Graduate College’s financial assistance website: www.wmich.edu/grad/funding

The following appointments are available:

**Graduate College Fellowship**
Graduate College Fellowships for two semesters are awarded in open competition to outstanding students (3.25 and above) entering master's degree programs. An entering student is defined as one who will have earned no more than six graduate credits by the beginning of the fall semester. The fellowship requires no service from the student, but encourages participation in the professional activities of the department. Enrollment in at least nine hours per semester is required. The fellowship will pay 18 hours of full tuition. Application deadline: February 15.

**Graduate College Doctoral Associateship**
Graduate College Doctoral Associateships for two semesters and one session are available to students admitted to a doctoral program. The associateship requires twenty hours of service per week from the student in the department or in a related area. Enrollment of at least six hours per semester and three hours per session is required. The associateship will pay up to 21 hours of full tuition. Application deadline: February 15.

**Graduate College Dissertation Completion Fellowship**
Graduate College Dissertation Completion Fellowships for two semesters and two sessions are awarded in open competition and on the basis of superior scholarly achievement to assist full time doctoral students with completion of their dissertations. To be eligible, an applicant must be a doctoral candidate who can demonstrate superior academic achievement and a record of timely and steady progress toward degree completion. Applicants must have completed all requirements for the degree except the dissertation and must have an accepted dissertation proposal. Enrollment of at least six hours per semester and three hours per session is required, except where the applicants have already completed the minimum number of dissertation hours specified by their programs. The Fellowship provides a tuition scholarship of up to 18 hours of full tuition. Application deadline: February 15.
**Thurgood Marshall Assistantship**
Thurgood Marshall Assistantships for the academic year plus the Summer I and Summer II sessions are available to U.S. citizens from historically underrepresented groups who are beginning their master's degree programs and who have regular admission to the program. Enrollment is required in at least nine hours per semester and five hours per session, and service of ten hours per week is required in the student's department or academic unit. The Thurgood Marshall Assistantship provides a partial tuition scholarship up to 27 hours. Application deadline: February 15.

**Historically Underrepresented Groups Program**
The Historically Underrepresented Groups Program doctoral associateships for the Fall and Spring semesters and Summer I and II sessions are available to qualifying entering doctoral students who are U.S. citizens from historically underrepresented groups who have regular admission to a doctoral program. Enrollment is required in at least six hours per semester and 3 hours per session, and service of twenty hours per week is required in the student’s department or academic unit. The associateship provides a tuition scholarship of up to 24 hours of full tuition. Application deadline: February 15.

**Martin Luther King/Cesar Chavez/Rosa Parks Future Faculty Fellowship**
Martin Luther King/Cesar Chavez/Rosa Parks Future Faculty Fellowships are available to U.S. citizens from historically underrepresented groups with regular admission to a doctoral program and who wish to pursue a full-time teaching career in post-secondary education in Michigan or Illinois. The fellowship does not require departmental service; however, students must meet other requirements as stated in the guidelines for KCP fellowships. KCP fellowships can be awarded in conjunction with other appointments. Inquiries should be sent to The Graduate College. Application deadline: February 15.

**Departmental Teaching or Research Assistantship**
Teaching and Research Assistantships for two semesters of full-time appointment are available in many departments of the University. Inquiries should be sent to the chairperson of the department.

**Graduate Student Research Fund**
The Graduate Student Research Fund was established to support graduate students engaged in independent scholarly research, scientific inquiry, inventive technology, and original artistic activity. The fund is intended to help students pay extraordinary or unusual costs incurred in research projects. The typing of theses and dissertations and project papers, as well as the purchase of supplies and equipment commonly provided by departments or by other existing grants or funds are not considered to be unusual expenses.

To be eligible for a grant from the Graduate Student Research Fund, an applicant must be regularly admitted to a graduate degree program, in good academic standing, and enrolled for at least six hours in the semester or for at least three hours in the session that the research takes place (students on "continuous enrollment" status are exempt from this requirement), and the sole or principal investigator.

Applicants whose research involves human subjects, animals, and/or bio-safety requirements must provide documentation of prior approval of the research proposal by the appropriate University review body.
Grants will range up to $600.00 for those applicants selected for funding. The amount will depend, in part, on the number of applications received and the budget available and, in part, on the priority given the application by the selection committee. Normally, preference is given to applications submitted before the research project has been completed. However, applicants should be aware that not all applications may be selected for funding and that not all applicants may receive the amount of funding requested. Applications are available at The Graduate College or at www.wmich.edu/grad/funding. Application deadline: September 15, November 1, and March 15.

**Graduate Student Travel Fund**

The Graduate Student Travel Fund was established to support graduate students engaged in independent scholarly research, scientific inquiry, inventive technology, and original artistic activity. The fund supports graduate student travel to meetings or events sponsored by professional organizations for the purpose of reporting the results of research, exhibiting or performing creative works, or otherwise disseminating results of their scholarly activity. This fund does not cover conference attendance for other purposes (e.g., as a non-presenting attendee or workshop participant), nor to present the findings of another's scholarly work.

To be eligible for a grant from the Graduate Student Travel Fund, an applicant must be regularly admitted to a graduate degree program, in good academic standing, enrolled for at least six hours in the semester or for at least three hours in the session that the research or travel takes place (students on "continuous enrollment" status are exempt from this requirement), and the sole or principal investigator and the invited presenter.

Applicants whose research involves human subjects, animals, and/or bio-safety requirements must provide documentation of prior approval of the research proposal by the appropriate University review body.

Grants will range up to $600.00 for those applicants selected for funding. The amount will depend, in part, on the number of applications received and the budget available and, in part, on the priority given the application by the selection committee. Normally, preference is given to applications submitted before the travel has been completed. However, applicants should be aware that not all applications may be selected for funding and that not all applicants may receive the amount of funding requested. Applications are available at The Graduate College or at www.wmich.edu/grad/funding. Application deadline: September 15, November 1, and March 15.

**University Dames Endowed Scholarship Grant**

University Dames Endowed Scholarship grants are available for candidates who are admitted to a graduate degree program, who have successfully completed at least 15 credit hours of graduate work, and who are in good academic standing. Preference is given to female candidates. The award amount is credited to the student’s University account and applied toward tuition, fees, and books. Nominations from department chairs or graduate advisors must include the nominee’s vita and a letter of support from either the department chair or graduate advisor. The scholarship is awarded on an annual basis each spring. Application deadline: March 31.
George and Beatrice Fisher Gerontology Dissertation Prize

This annual award recognizes the doctoral dissertation that best advances the study and understanding of the process of aging. The prize may be awarded in any discipline or field related to gerontology. Candidates must be in good academic standing. Nominations from department chairs or graduate advisors must include a summary of the nominee’s gerontology research, a vita, and a letter of support from the department chair or graduate advisor. The annual award is made during the month of June. Application deadline: May 15.

Policies Governing Graduate Appointees

Definitions and Classifications

1. A graduate appointee is a student enrolled in a program leading to a graduate degree or to a graduate certificate who receives a University-administered salary. Amounts may vary by program.
2. To be eligible for a graduate appointment a student must be regularly admitted, in good academic standing, and enrolled in a program leading to a graduate degree or a graduate certificate. In most cases graduate appointees are required to be enrolled as full-time students. A student admitted to a graduate degree program or concurrently to a graduate degree program and a graduate certificate program is eligible for an appointment in any unit in the University. A student admitted only to a graduate certificate program is eligible for an appointment only within the academic unit offering the graduate certificate.
3. Although graduate appointments differ in many important ways, each can be classified as either an assistantship/associateship or a fellowship. Assistants/Associates provide service to the University which is part of the learning experience in their disciplines. As apprentices they perform part of the functions of their academic units. In contrast, Fellows have no formal service obligation to the University, although they are expected to participate in the normal activities of their academic units which is considered training for participants within the program.
4. More than one fractional appointment may be held simultaneously. However, in no case shall one person hold more than the equivalent of one full appointment.
5. A student may be awarded an appointment for only one program at the master’s level and one program at the doctoral level.
6. A master’s level student may receive funding for up to two years. At the academic dean’s discretion, a third year of funding may be provided.
7. A doctoral level student may receive funding for up to five years.

Types of Appointments

Assistantship

a. Assistantships are awarded to graduate students with the expectation of appropriate professional service. Graduate assistants are apprentices in the profession, and while the service aspect is emphasized in the definition in order to make a distinction, Graduate Assistants, first and
foremost, are students and valued members of the community of scholars. They are chosen for their scholarship and manifest interest in the discipline as well as for their ability to perform the needed service.

b. The service of a Graduate Teaching Assistant (T.A.) consists of activities directly related to teaching, while the service of a Graduate Research Assistant (R.A.) consists of research activity under the supervision of a faculty member or administrator, and the service of a Graduate Non-Teaching Assistant (N.T.A.) includes all other professional work in the unit accepted as appropriate and germane to the student's educational goal.

**Associateship**

Associateships are assistantships awarded to outstanding students in doctoral programs. Service may involve teaching, research, or other appropriate activity.

**Fellowship**

Fellowships are awarded to students who have distinguished themselves by outstanding academic achievement or special abilities. Fellowships are provided by the University or by another donor with the approval of the University. The fellowship grant (stipend) is a gift to help the Fellow achieve an educational goal.

**Service Requirement**

The kinds of service required of Graduate Assistants/Associates may vary among departments, each of which determines its own range of appropriate possibilities subject to administrative review. Whatever kind of service is expected, however, a full assistantship in any department consists of twenty hours of service per week or its equivalent. Equivalency is calculated on the basis of the value assigned by a department to the performance of each particular service.

No service is required of students holding Fellowships; the fellowship grant (stipend) is a gift to help the Fellow achieve an educational goal, rather than a payment for services.

**Stipends and Salaries**

1. The amount of a fellowship grant (stipend) is set by the donor with the concurrence of the Provost and Vice President for Academic Affairs.
2. The minimum salary for full-time Assistants and Associates in each type of appointment is established by the Provost and Vice President for Academic Affairs.
3. Fractional awards are made for fractional appointments.
4. Assistantship, associateship, and fellowship awards have tax implications. Detailed records of educational expenses and check stubs from any payment received from the University should be kept for tax purposes.

**Affirmative Action**

The University's Affirmative Action Policy shall apply to graduate appointments.
Professional Ethics

Graduate assistants and associates shall adhere to the same standards of professional ethics as those of the regular faculty. (See "Statement on Professional Ethics" in current Agreement between WMU and the AAUP.)

Notification of Status

1. At the time of their appointment, graduate appointees shall be informed in writing of the specific conditions of the appointment. They shall be informed that the offer of an appointment is contingent upon acceptance into a graduate degree program at the University, and continuance of the appointment depends in part on satisfactory progress in that program and satisfactory performance of assigned duties. The letter shall also state the amount of the award, whether a tuition scholarship is involved, the probable assigned activities, the length of the appointment, conditions of service, and, if appropriate, the criteria for renewal. Any other conditions peculiar to an individual appointment shall be contained in the letter of appointment.

2. Each appointee shall be provided with information prepared by The Graduate College concerning current University-wide procedures, practices, privileges, and responsibilities that relate to graduate appointees. Each department is responsible for providing any supplemental information on these matters that is necessary and special.

Professional Development

1. Assigned activities of graduate appointees shall be relevant professional experiences.

2. Graduate appointees can expect professional guidance and timely evaluation in the performance of their duties.

Enrollment Status

1. For the 2006-2007 academic year, a full appointment requires a minimum enrollment of six credits per semester or three credits per session. Individual departments may require an enrollment of more than the minimum number of credit hours. A Graduate College Fellowship requires enrollment in at least 9 credit hours per semester. Some circumstances may allow for decreased enrollment; however, departments will advise appointees.

2. It should be noted that students registered for five or more credits a semester (four or more credits a session) are assessed, as part of the enrollment fee, prepaid student health center and recreation center fees that allow access to health center services and recreation center facilities. Students enrolled for four or fewer credits a semester (three or fewer credits a session) are assessed a lesser enrollment fee which allows for only limited services at the health center and provides ten visits to the recreation center. Students in the latter example can choose to pay the difference between the two enrollment fees, enabling them to have full access to the health center services and have unlimited recreation center privileges.
Evidence of Status

1. For formal identification as a graduate appointee, students are placed on an electronic list shared with various campus offices that provide services to appointees.
2. Validation may be authorized during the summer sessions for graduate appointees on academic year appointments even if the appointee is no longer receiving a stipend.

Appointee Benefits

1. Tuition Scholarships: Graduate appointees may, at the discretion of the University, be granted partial (master’s level) or full (doctoral level) tuition scholarships. Any such tuition scholarship will be identified in the appointment letter and on the appointment form. Tuition scholarships are awarded only during the semester(s) or session(s) a graduate appointment is held. Students who are granted such partial or full tuition scholarships and subsequently withdraw from a class or from classes after the refund period will be required to repay the portion of the tuition scholarship that was granted as a benefit of the appointment.
2. University housing: Graduate appointees will be accorded priority in securing University housing in residence halls or family housing apartments (if deadlines are observed and as facilities permit).
3. Library: Graduate appointees will be accorded the same privileges and responsibilities as faculty members in the use of the library facilities. These are specified in the faculty handbook (Western Michigan University Policy Handbook). Appointees will also have access to library carrels on a space available basis after faculty requests have been filled.
4. Parking: Graduate appointees are exempt from paying the motor vehicle registration fee, but are required to register their motor vehicles. Application may be made to the Public Safety Annex for parking privileges in designated lots; the appointee will be required to present the ID and appear on the electronic validation list held at the service desk.
5. Campus Bookstore: Graduate appointees will be accorded discount privileges on purchases at the Western Michigan University Bookstore in the same manner and degree as faculty and staff members. Discount will be given for current semester or session only; the appointee will be required to present the student identification card and appear on the electronic validation list held at the service desk.
6. University facilities: Graduate appointees will be accorded the use of University facilities (e.g., student offices, research facilities, etc.) authorized by the director of the facilities on the same basis that they are authorized for part-time faculty.
7. Health Care: Appointees may elect to enroll in a University-sponsored Health Insurance Program. [All students enrolled at Western Michigan University are eligible to participate in the Student Health Insurance Program (dependent coverage available) where each participant pays the full cost of coverage.] Graduate appointees are eligible to receive a University contribution towards the cost of coverage, provided they complete the necessary enrollment form and file it and the appropriate premium with The Graduate College during the prescribed enrollment periods. Enrollment materials and information are available at the Sindecuse Health Center and The Graduate College.
Financial Aid and Scholarships

Western's Student Financial Aid Office administers a variety of student financial aid programs designed to assist graduate students who are in need of additional financial support. Four types of financial aid programs are available for graduate students: scholarships, employment opportunities, loans, and tuition plans. The federal and state governments, colleges and universities, private associations, companies, and private citizens are sources of financial assistance.

To learn the most current information about opportunities and application procedures, visit the Student Financial Aid website: [www.wmich.edu/finaid](http://www.wmich.edu/finaid). The Office telephone number is (269) 387-6000, and you may email the Office: finaid-info@wmich.edu.

Maintenance Requirements

In accordance with Federal and State regulations, the financial aid office must monitor academic progress towards graduation on an annual basis (at the end of spring semester). The Office monitors the following: 1) Minimum credit hours passed per semester, 2) maximum total semesters attempted, 3) maximum total hours attempted, and 4) minimum cumulative grade point average. Full-time master’s students must maintain a cumulative grade point average of 3.0 and pass at least 12 credit hours per academic year (or 6 hours per fall and/or spring semester); attempt no more than 72 hours total and attend no more than 8 fall and/or spring semesters. Full-time doctoral students must maintain a cumulative grade point average of 3.0 and pass at least 12 hours per academic year (or 6 hours per fall and/or spring semester); attempt no more than 135 hours total and attend no more than 14 fall and/or spring semesters. If the student is consistently enrolled less than full-time (less than 6 hours each fall and spring semester), the student should visit the financial aid website ([www.wmich.edu/finaid](http://www.wmich.edu/finaid)) for details. Students who have not met the minimum criteria are not eligible for federal loans or for federal or state work study. Students who have experienced unusual circumstances may submit a written appeal with documentation to the Student Financial Aid Office to be considered by an appeal committee.

Withdrawal from All Courses, Effect on Financial Aid

Financial aid recipients contemplating a partial or complete withdrawal should discuss withdrawal plans with a Financial Services Specialist in Student Financial Aid before withdrawal.

Financial aid recipients who drop some classes during the drop/add period (or indicate having never attended some classes) may lose some or all financial aid eligibility. Financial aid recipients who drop all classes prior to the start of the semester (or having never attended any classes) are no longer eligible for financial aid for that semester. All scholarship, grant, assistantship, associateship, and loan payments (and refunds of financial aid) must be returned to Western Michigan University.

A Federal financial aid recipient who completely withdraws from all classes after the beginning of the semester will have the amount of Federal aid earned up to that point determined by a specific formula. If more Federal aid was received than earned, the excess Federal aid must be returned. The amount of Federal aid earned is determined on a pro-rata basis. That is, if 30 percent of the semester is completed, 30 percent of the Federal aid received is earned. Once having completed more than 60 percent of the semester all of the Federal aid is earned.
**Receipt of Assistantship/Fellowship**

A financial aid recipient who has been offered an assistantship, associateship, or fellowship by a department or by the Graduate College will not be indicated on the financial aid Award Letter until the financial aid office has been notified of the award by the Graduate College. If a student accepts the full amount of Federal loans awarded, the loans may be reduced when the assistantship, associateship, or fellowship (or any other awards) are added to the award file. Even if the loans have been disbursed, they may be reduced at the time the Financial Aid Office receives notification of the receipt of additional assistance.

**Students Admitted on Guest (GST) Status**

Students who have been admitted to The Graduate College on GST status are not considered admitted to a graduate program and may not be eligible for financial aid. Students admitted on GST status to complete teacher education certification requirements to obtain permanent certification may be eligible for loans at the undergraduate level. Students who have applied for admission to a graduate program and are classified as GST to take prerequisite courses to be admitted into the graduate program may be eligible for loans at the undergraduate level for a twelve-month period. Students who are in these GST categories and are eligible for federal aid may need to have parental information listed on their FAFSA if under 24 years of age at the time of application.

**International Students**

International students are not eligible for Federal or State financial aid. There may be scholarships, assistantships, associateships, or fellowships available through WMU departments or the Graduate College. International students may also be eligible for an “alternative loan” if a U.S. citizen that is credit-worthy is willing to co-sign the loan. There are also scholarship search engines for international students such as [www.edupass.org](http://www.edupass.org) or [www.supercollege.com](http://www.supercollege.com) online.

**Career and Student Employment Services**

Western Michigan University's Career and Student Employment Services maintains a list of part-time jobs both on and off campus; work-study employment; temporary employment; seasonal/summer jobs; and internship/pre/professional/cooperative education employment opportunities. For more information, visit the office website: [http://broncojobs.wmich.edu](http://broncojobs.wmich.edu).

**Programs of Assistance Available from Sources Other Than WMU**

For information about financial opportunities available through programs from sources other than WMU, visit the website [www.finaid.org](http://www.finaid.org).

**General University Policies**

In addition to the several policy statements included below, the University’s general academic policies may be found on Western Michigan University’s website: [www.wmich.edu/sub/policies.html](http://www.wmich.edu/sub/policies.html)


Code of Honor

Western Michigan University (WMU) is a student-centered research university that forges a responsive and ethical academic community. Its undergraduate, graduate, and professional programs are built upon intellectual inquiry, investigation, discovery, an open exchange of ideas, and ethical behavior. Members of the WMU community respect diversity, value the cultural differences of those around them, and engender a sense of social obligation. Because of these values, all individuals are expected to conduct themselves in a professional and civil manner. This includes exemplifying academic honesty, integrity, fairness, trustworthiness, personal responsibility, respect for others, and ethical conduct. These attributes are exhibited in the University as well as in the community. Members of the University community abide by this code out of commitment to serve as responsible citizens of the University, the community, the nation, and the world. Responsibility for fulfilling the obligations of the code of honor is shared by the students, faculty, and every other member of the University community.

Student Rights

Basic Rights

As provided by University policy or by law:

1. Students have the right to free inquiry, expression, and association.
2. Students should be free from discrimination and harassment based on race, sex, sexual orientation, age, color, national origin, religion, disability, marital status, or family status.
3. Students should be secure in their persons, living quarters, papers, and effects.
4. Students are protected against improper disclosure as provided for in the Family and Education Rights and Privacy Act of 1974.
5. Students have the right to access their personal records and other University files as provided for under the Michigan Freedom of Information Act.
6. Students are free to participate in the governance of the University through membership in appropriately designated University and college committees.

Academic Rights

Students have those academic rights and responsibilities as described in the University catalogs, including but not limited to the following:

1. Student performance will be evaluated solely on academic criteria.
2. Students have protection against prejudiced or capricious academic evaluation.
3. Students are free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.
4. Students will be informed by the faculty about course requirements, objectives, and policies in each class. This information will be provided at the beginning of the semester or sufficiently in advance of actual evaluation.
Each course instructor is required to make available to students a course syllabus that shall contain a basic course description, course objectives, course requirements and policies, grading criteria, and instructor contact information. Instructors are encouraged to include a tentative schedule indicating when various topics will be addressed, and when quizzes, exams and due dates for assignments shall occur. Instructors are further encouraged to include in their syllabi basic University policies regarding academic conduct, human rights, diversity, and students with disabilities.

5. Students have the right to have all their examinations and other graded material made available to them with an explanation of the grading criteria. Faculty will retain all such materials not returned to the student for at least one full semester (or through the Summer I and Summer II sessions) after the course was given. Faculty are not required to return such material to the student, but must provide reasonable access.

**Student Academic Conduct**

The following policies and procedures shall apply to all matters of student academic conduct.

**Academic Honesty**

If a student is uncertain about an issue of academic honesty, he/she should consult the faculty member to resolve questions in any situation prior to the submission of the academic exercise.

Violations of academic honesty include but are not limited to:

**Cheating**

*Definition*: Cheating is intentionally using or attempting to use unauthorized materials, information, notes, study aids or other devices or materials in any academic exercise.

*Clarification*

1. Students completing any examination are prohibited from looking at another student's examination and from using external aids (for example, books, notes, calculators, conversation with other) unless specifically allowed in advance by the faculty member.
2. Students may not have others conduct research or prepare work for them without advance authorization from the faculty member. This includes, but is not limited to, the services of commercial term paper companies.

**Fabrication, Falsification, and Forgery**

*Definition*: Fabrication is the intentional invention and unauthorized alteration of any information or citation in an academic exercise. Falsification is a matter of altering information while fabrication is a matter of inventing or counterfeiting information for use in any academic exercise or University record. Forgery is defined as the act to imitate or counterfeit documents, signatures, and the like.
Clarification

1. "Invented" information shall not be used in any laboratory experiment, report of results or academic exercise. It would be improper, for example, to analyze one sample in an experiment and then "invent" data based on that single experiment for several more required analyses.
2. Students shall acknowledge the actual source from which cited information was obtained. For example, a student shall not take a quotation from a book review and then indicate that the quotation was obtained from the book itself.
3. Falsification of University records includes altering or forging any University document and/or record, including identification material issued or used by the University.

Multiple Submission

Definition: Multiple submission is the submission of substantial portions of the same work (including oral reports) for credit more than once without authorization from instructors of all classes for which the student submits the work.

Clarification

Examples of multiple submission include submitting the same paper for credit in more than one course without all faculty members’ permission; making revisions in a credit paper or report (including oral presentations) and submitting it again as if it were new work.

Plagiarism

Definition: Plagiarism is intentionally, knowingly, or carelessly presenting the work of another as one's own (i.e., without proper acknowledgment of the source). The sole exception to the requirement of acknowledging sources is when the ideas, information, etc., are common knowledge.

Instructors should provide clarification about the nature of plagiarism.

Clarification

1. Direct Quotation: Every direct quotation must be identified by quotation marks or appropriate indentation and must be properly acknowledged, in the text by citation or in a footnote or endnote.
2. Paraphrase: Prompt acknowledgment is required when material from another source is paraphrased or summarized, in whole or in part, in one's own words. To acknowledge a paraphrase properly, one might state: "To paraphrase Locke's comment,..." and then conclude with a footnote or endnote identifying the exact reference.
3. Borrowed facts: Information gained in reading or research which is not common knowledge must be acknowledged.
4. Common knowledge: Common knowledge includes generally known facts such as the names of leaders of prominent nations, basic scientific laws, etc. Materials which add only to a general understanding of the subject may be acknowledged in the bibliography and need not be footnoted or endnoted.
5. Footnotes, endnotes, and in-text citations: One footnote, endnote, or in-text citation is usually enough to acknowledge indebtedness when a number of connected sentences are drawn from one source. When direct quotations are used, however, quotation marks must be inserted and acknowledgment made. Similarly, when a passage is paraphrased, acknowledgment is required.

Faculty members are responsible for identifying any specific style/format requirement for the course. Examples include but are not limited to American Psychological Association (APA) style and Modern Languages Association (MLA) style.

**Complicity**

*Definition:* Complicity is intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.

**Clarification**

Examples of complicity include knowingly allowing another to copy from one's paper during an examination or test; distributing test questions or substantive information about the materials to be tested before the scheduled exercise; collaborating on academic work knowing that the collaboration will not be reported; taking an examination or test for another student, or signing another's name on an academic exercise.

(Note: Collaboration and sharing information are characteristics of academic communities. These become violations when they involve dishonesty. Faculty members should make clear to students expectations about collaboration and information sharing. Students should seek clarification when in doubt.)

**Computer Misuse**

*Definition:* Academic computer misuse is the use of software to perform work which the instructor has told the student to do without the assistance of software.

**Conduct in Research**

Research and creative activities occur in a variety of settings at the University, including class papers, theses, dissertations, reports or projects, grant funded projects and service activities. Research and creative activities rest on a foundation of mutual trust. Misconduct in research and in creative activity destroys that trust and is prohibited. Students shall adhere to professional standards of integrity in both artistic and scientific research including appropriate representations of originality, authorship and collaborative crediting.

*Definition:* Misconduct in research is defined as serious deviation, such as fabrication or falsification of data, plagiarism, or scientific or creative misrepresentation, from accepted professional practices of the discipline or University in carrying out research and creative activities or in reporting or exhibiting/performing the results of research and creative activities. It does not include honest error or honest differences in judgments or interpretations of data.
Clarification

Examples of misconduct in research include but are not limited to:

1. Fabrication of Data: Deliberate invention or counterfeiting of information.
2. Falsification of Data: Dishonesty in reporting results, ranging from unauthorized alteration of data, improper revision or correcting of data, gross negligence in collecting or analyzing data, to selective reporting or omission of conflicting data.
3. Plagiarism and Other Misappropriation of the Work of Another: The representation of another person's ideas or writing as one's own, in such ways as stealing others' results or methods, copying or presenting the writing or ideas of others without acknowledgment, or otherwise taking credit falsely. Representing another's artistic or technical work or creation as one's own. Just as there are standards to which one must adhere in the preparation and publication of written works, there are standards to which one must adhere in creative works in the tonal, temporal, visual, literary and dramatic arts.
4. Abuse of Confidentiality: Taking or releasing the ideas or data of others which were given in the expectation of confidentiality, e.g., stealing ideas from grant proposals, award documents, or manuscripts intended for publication or exhibition/performance when one is a reviewer for granting agencies or journals or when one is a juror.
5. Dishonesty in Publication or Exhibition/Performance: Knowingly publishing, exhibiting or performing work that will mislead, e.g., misrepresenting material, particularly its originality, or adding or deleting the names of other authors without permission.
6. Deliberate Violation of Requirements: Failure to adhere to or receive the approval required for work under research regulations of federal, state, local or university agencies, including guidelines for the protection of human subjects or animal subjects and the use of recombinant DNA, radioactive material, and chemical or biological hazards.
7. Failure to Report Fraud: Concealing or otherwise failing to report known misconduct or breaches of research or artistic ethics.

Research Board Requirements

Misconduct in research includes failure to comply with requirements of the conduct of research and creative activities, e.g., the protection of human subjects, the welfare of laboratory animals, radiation, and biosafety. Allegations in these areas may be brought by Human Subjects Institutional Review Board, the Institutional Animal Care and Use Committee, and the Institutional Biosafety Committee.

Charges of Violations of Academic Honesty and Conduct in Research

Western Michigan University’s academic honesty and conduct in research policies have been created and defined by members of its academic community, recommended by its Faculty Senate, and adopted by its Board of Trustees. The processes necessary to support these policies are managed and facilitated by the Office of Student Conduct (OSC). If you have questions about the forms, the process, your role in the process, or anything else related to academic honesty, please call the Office of Student Conduct at 387-2160. These policies take effect August 30, 1999, and supersede previous catalog sections entitled “Academic Policy and Status,” “Academic Conduct Violation: Consequences and Appeals,” “Academic Grade Appeals Procedure,” and “General Academic Appeals Procedure.”
This section applies to cases in which a student is to be charged with a violation of the Academic Honesty Policy, including the policy on Academic Honesty and the policy on Conduct in Research.

1. Charging a student with a violation: An Academic Dishonesty/Conduct in Research Charge Form is filled out by the instructor for the purpose of charging the student. After the instructor completes the form, the instructor sends it (or may fax it) to the OSC. A staff member in that office will then contact the student and schedule a meeting between the student and the OSC. An OSC staff member will also notify the Registrar of the pending case, and will institute a “disciplinary hold” preventing the student from dropping, adding, or registering in classes.

2. If the student admits the charge: If the student admits responsibility, the OSC will contact the instructor and arrange an appointment between the instructor and the student to communicate the instructor’s penalty for the behavior, unless the instructor chooses not to meet with the student. The instructor may impose an academic penalty up to failure of the course in which the student is enrolled. The OSC may also impose non-grade-related penalties ranging from reprimand to dismissal from the University.

3. If the student denies responsibility: If the student denies the charge, the OSC will consult with the instructor to ascertain the instructor’s preference as to the hearing type. The hearing may be a meeting between the instructor and the student or a meeting between the student and an Academic Integrity Committee. An Academic Integrity Committee will consist of three faculty members and two students, selected using procedures established by the Professional Concerns Committee of the Faculty Senate. The choice of hearing type is the instructor’s. The OSC will assist the instructor in setting up the hearing and will notify the student of its time, date, and location.

4. If the student wants to appeal a finding of responsibility after a hearing with the instructor: A student may appeal a finding of responsibility resulting from a hearing with the instructor to an Academic Integrity Committee within five University business days. The student cannot appeal after that time has elapsed.

5. The authority of the Academic Integrity Committee: An Academic Integrity Committee will conduct hearings to determine whether the student is responsible for academic dishonesty. An Academic Integrity Committee makes no decisions regarding the penalties and/or grades to be imposed, either by the instructor or by the OSC.

6. If a finding of “responsible” has been made: A finding of “responsible” occurs when a student admits responsibility to the OSC, the instructor so decides, or an Academic Integrity Committee so decides by majority vote. When that finding has occurred, the instructor may impose an academic penalty up to and including failure of the course in which the student is enrolled. A decision by the instructor regarding a grade penalty cannot be appealed by the student once the student has been found responsible and has exhausted or waived all appeals. Also, once the student has been found responsible and has exhausted or waived all appeals, that student’s continued attendance in the relevant class depends on the penalty imposed by the instructor and/or the OSC. If the instructor determines to fail the student in the course, the student is not permitted to continue attending class. Again, following a finding of responsibility, the OSC may impose additional penalties ranging from reprimand to dismissal from the University. In all cases when a final finding of responsibility has been made, the finding will be included in the student’s educational record. Students will not be permitted to withdraw from a course to avoid imposition of any academic penalty.
7. If a finding of “not responsible” has been made: If a finding of “not responsible” has been made, the charge is dismissed and no penalties are imposed.

8. While a case is pending: A case is considered pending until one of two events occurs: (1) the student admits responsibility or (2) the hearing process is completed. While a case is pending, the student has the right to attend and participate in the class. If the case is pending at the end of the semester, the instructor must assign an Incomplete grade and then submit a change of grade once the process is complete.

9. Instructor unavailable to assign grade: Circumstances may arise which may prevent an instructor from assigning a grade in a timely manner. In such instances, the academic unit chair/director will make reasonable efforts to contact and ask the instructor to supply a grade. If these efforts are unsuccessful, the instructor’s academic unit chair/director will appoint another qualified faculty member to assign the grade.

Selection, Training, and Organization of Academic Integrity Committee (AIC)

An Academic Integrity Committee (AIC) will be drawn from a panel of faculty and students who are trained by the Office of Student Conduct (OSC). For each instance of an academic dishonesty charge which requires AIC review (see above), a five-member AIC composed of three faculty members and two students will be selected to hear the charge of academic dishonesty and to determine whether the charge has merit. Procedures for selection of a five-member AIC and, when required, AIC replacements from the AIC panel will be constructed and administered by the Professional Concerns Committee (PCC).

Each academic unit will elect one tenured or tenure-track faculty member to serve on the AIC panel. Student AIC panel members must be recommended by faculty, and each academic unit is asked to recommend one undergraduate and one graduate student to the OSC. Students recommended to the AIC panel will be screened by the OSC to ensure that no AIC student member has incurred a previous academic dishonesty sanction and that each AIC student member has a satisfactory disciplinary record.

Faculty members will serve three-year terms (with staggered terms for the first AIC panel, to ensure continuity of experience and training). Students will serve one-year terms with reappointment possible for up to a total of three years. It will be necessary to include on the panel those who can serve in the spring and summer.

For a charge against an undergraduate student, at least one student member of the panel shall be an undergraduate student. For a charge against a graduate student, at least on member of the panel shall be a graduate student. Each AIC will elect a faculty member to chair the committee, and, whenever possible, hearings should be conducted with a full panel. However, should extenuating circumstances arise (e.g., a panelist is ill), a hearing may be conducted with four members. When necessary, faculty and/or student members of an AIC may be replaced with AIC panel members selected by the PCC.

The Professional Concerns Committee (PCC) shall also function as an oversight committee for reviewing and monitoring all University policies and procedures dealing with academic conduct, including academic dishonesty, grade appeal and program dismissal issues. A report of all AIC activities shall be made to the Faculty Senate Executive Board each year by the PCC, and recommendations for changes in policies and procedures regarding academic conduct, including academic dishonesty, grade
appeal and program dismissal issues, may be part of that annual report. Such recommendations may result in modifications to these procedures and policies.

Course Grade and Program Dismissal Appeals

Course Grade Appeals

This section applies when a student wants to appeal a final course grade that has been recorded by the Registrar on the student’s academic record. Appeal panels are assembled from the faculty under the authority of and by the Provost and Vice President for Academic Affairs or designate. Throughout this process, the Provost's Office is available to students and instructors for assistance on procedures and clarification of the rights of all parties.

The accepted bases of a course grade appeal are:

A. Grades were calculated in a manner inconsistent with University policy, the syllabus, or changes to the syllabus.
B. The grade(s) was/were erroneously calculated.
C. Grading/performance standards were arbitrarily or unequally applied.
D. The instructor failed to assign or remove an Incomplete or to initiate a grade change as agreed upon with the student.
E. Late withdrawal from class(es), after grades have been assigned, due to genuine hardship. (Students appealing on this basis should proceed by contacting the Registrar's Office and following the procedures for a late withdrawal appeal.)

A grade appeal cannot be made in response to a grade penalty assessed as a result of an official finding of responsibility for academic integrity violations. Such a finding will have been made through the procedures provided in the academic integrity policy.

The steps to be taken in appealing a grade are:

1. Informal meeting with instructor: A student is encouraged to begin the appeal process by meeting with the instructor who assigned the grade. Such meetings often help students understand the grading practices of instructors and often lead to resolution of differences over grades.
2. Written appeal and conference with the academic unit chair/director: A student must submit a letter requesting an appeal to the academic unit chair/director. This letter must be received by the academic unit chair/director within sixty business days of the last day of the semester or session in which the grade was recorded on a student’s record. The Provost or designate may grant an extension should a genuine hardship arise (i.e., illness, death in the immediate family). The letter must identify the basis of the appeal and must state in detail why the student believes that grade should be changed.

Following a conference with the student, the chair/director must respond in writing to the student with a copy to the instructor, their dean, and the Grade and Program Dismissal Appeals Committee (GAPDAC) within twenty business days. In this letter, the chair/director should
confirm the meeting with the student, recap their discussion, and state whether the student has an appeal which meets the established criteria (A, B, C, D, or E above). If the situation appears to meet the criteria for appeal, the chair/unit director may recommend that the instructor reevaluate the student’s work. The chair/director cannot change the student’s grade without the instructor’s agreement.

Note: Grade appeals or other complaints based on charges of discrimination or sexual harassment should be taken to the Office of Institutional Equity or other office, pursuant to other University policies and procedures.

3. Appeal to committee: After the chair/director has completed the response to the student’s appeal, the student may appeal to GAPDAC. This appeal must be initiated within twenty business days of the completion of step 2. If the student has requested a meeting with the academic unit chair/director and has not been granted such a meeting within forty business of the student’s request, the student may then initiate an appeal to GAPDAC.

The student will initiate an appeal through the Provost's Office. When the appeal is received, the Provost or designate will schedule a meeting of GAPDAC using procedures determined by the Professional Concerns Committee of the Faculty Senate. The GAPDAC will consist of three members drawn from a panel of faculty established for this purpose. In a grade appeal, both the student(s) and the instructor should provide a written statement describing the situation under consideration. An appearance to provide additional information at the appeal by either the instructor or the student(s) may be requested by the appeals committee.

A GAPDAC can effectuate a grade change by majority vote. The decision of the hearing panel is final and not subject to appeal.

4. Instructor unavailable to assign grade: Circumstances may arise which may prevent an instructor from assigning a grade in a timely manner. In such instances, the academic unit chair/director will make reasonable efforts to contact and ask the instructor to supply a grade. If these efforts are unsuccessful, the instructor’s academic chair/director will appoint another qualified faculty member to assign the grade.

Program Dismissal Appeals

This section applies when a student wants to appeal a decision to dismiss the student from an academic program for reasons other than charges of violations of academic integrity policies. Appeal panels are assembled from the faculty under the authority of and by the designate of the Provost and Vice President for Academic Affairs. Throughout this process, the Provost's Office is available to students and instructors for assistance on procedures and clarification of the rights of all parties.

The accepted bases of a program dismissal appeal are:

A. The program dismissal decision was made in a manner inconsistent with University policy or the program policy.
B. The program dismissal procedures were not followed.
C. Evaluation/performance standards were arbitrarily or unequally applied.

A program dismissal appeal cannot be made in response to an academic integrity or conduct dismissal from the University. The student’s status, as dismissed from the program, will remain unaltered until a successful appeal is completed.

Note: A program dismissal appeal based on charges of discrimination or sexual harassment should be taken to the Office of Institutional Equity or other office, pursuant to other University policies and procedures.

Appeal to committee: The student may appeal to a Grade and Program Dismissal Appeals Committee (GAPDAC). This appeal must be initiated within twenty business days of the notification of program dismissal. The student will initiate an appeal through the Provost's Office. When the appeal is received, the Provost or designee will schedule a meeting of GAPDAC using procedures determined by the Professional Concerns Committee of the Faculty Senate. The GAPDAC will consist of three members drawn from a panel of faculty established for this purpose. In a program dismissal, the student appellant should attend the meeting of the appeal panel and must provide a written statement describing the grounds for appeal. A University representative from the program must attend the meeting and must provide a written statement describing the grounds for and circumstances of dismissal.

A GAPDAC may reverse or sustain a program dismissal by majority vote. The decision of the hearing panel is final and not subject to appeal.

Selection, Training, And Organization of Grade and Program Dismissal Appeal Committee (GAPDAC)

A Grade and Program Dismissal Appeal Committee (GAPDAC) will be drawn from a pool of faculty who are trained under procedures determined by the Professional Concerns Committee (PCC) of the Faculty Senate. For each appeal that requires review, a GAPDAC panel will be selected to hear the appeal and to decide the matter.

Each academic college shall provide a cohort of tenured or tenure-track faculty members to serve on the GAPDAC pool in proportion to its respective student credit hour production. Faculty members will serve three-year terms (with staggered terms for the first GAPDAC pools, to ensure continuity of experience and training). It will be necessary to include in the pool those who can serve during summer sessions.

Each GAPDAC shall be composed of three faculty members, at least one of whom is from the college where the course or program in question resides. Each GAPDAC will elect a faculty member to chair the committee, and each GAPDAC must have all three members present to have a quorum. Procedures for selection of a GAPDAC will be constructed and administered by the PCC.

Faculty Oversight of Grade and Program Dismissal Appeals Committees

The PCC shall function as an oversight committee for reviewing and monitoring all University policies and procedures dealing with grade and program dismissal appeal issues. A report of all GAPDAC
activities shall be made to the Faculty Senate Executive Board each year by the PCC, and recommendations for changes in policies and procedures regarding grade and program dismissal appeal issues may be part of that annual report. Such recommendations may result in modifications to these policies and procedures.

Dissertation/Thesis/Project Appeals Procedure

If there are differences among the members of a thesis/project/dissertation committee over the approval of the thesis/project/dissertation and its oral defense, it shall be the responsibility of the committee to undertake every reasonable effort to resolve these differences and come to a unanimous decision.

In the event a student wishes to appeal a negative decision by the student's thesis/project/dissertation committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case the committee cannot reach a unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the dean of The Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the thesis/project/dissertation. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the committee if the case merits it.

The Family Educational Rights and Privacy Act

The Office of the Registrar is the institution’s official custodian of educational records. This office also holds the final responsibility in the enforcement of the Federal Educational Rights and Privacy Act of 1974 (FERPA). Maintaining confidentiality of educational records is the responsibility of all users whether the individuals are faculty, staff, or students. The Family Educational Rights and Privacy Act affords students certain rights with respect to their educational records. They are:

1. The right to inspect and review the student’s educational records within 45 days of the date the University receives a request for access.

   Students should submit to the registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

   An educational record is a record which is maintained by the institution directly related to a student, and from which a student can be identified. Educational records do not include the records of instructional, administrative, and educational personnel, which are in the sole possession of the maker and are not accessible or revealed to any individual except a temporary substitute, records of the law enforcement unit, student health records, employment records, or alumni records.
Students may not inspect and review the following as outlined by the Act:

- Financial information submitted by their parents
- Confidential letters and recommendations associated with admissions, employment, or job placement.
- Honors information to which they have waived their rights of inspection and review.
- Educational records containing information about more than one student, in which case the institution will permit access only to that part of the record which pertains to the inquiring student.

2. The right to request the amendment of the student’s educational records that the student believes are inaccurate, misleading, or otherwise in violation of the student’s privacy rights.

Students may ask the University to amend a record they believe is inaccurate or misleading. They should write the University official responsible for the records, clearly identifying the part of the record they want changed, and specify why it is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student’s educational records, except to the extent that FERPA authorizes disclosures without consent.

One exception, which permits disclosure without consent, is disclosure to University officials with legitimate educational interests and/or needs to review an educational record in order to fulfill his or her professional responsibility. A University official for the purpose of this policy is defined as follows:

- Members of the faculty
- Members of the professional, executive and administrative staff, excluding any member of the WMU Police Department
- Students, when properly appointed as members of a hearing panel or screening committee
- Representatives of the State Auditor General when performing their legal function
- A person or company with whom the University has contracted (e.g., attorney, auditor, or collection agency) but limited to only the specific student information needed to fulfill their contract
- Others as designated in writing by the President, Vice President, of Dean
- Persons in compliance with a court order
- Accrediting agencies performing an accreditation function

The University, upon request, may disclose educational records to officials of another school in which a student seeks to enroll, with a student’s consent.
Another exception that permits disclosure without consent is when the information consists solely of “Directory Information.” Directory Information may be published or released by University faculty and staff at their discretion. Unless a student specifically directs otherwise, as explained more fully in paragraph four (4) below, WMU designates all of the following categories of information about its students as “Directory Information.”

Name
Address
Telephone number
Date and place of birth
Curriculum and major field of study
Dates of attendance
Enrollment status (full/part-time)
Degrees/awards received
Most recent previous educational agency or institution attended by the student
Participation in officially recognized activities and sports
Weight and height of athletes

4. A student has the right to refuse the designation of all categories of personally identifiable information listed above as Directory Information. If a student exercises this right, it will mean that no Directory Information pertaining to the student will be published or otherwise released to third parties without consent, a court order or a subpoena.

Any student wishing to exercise the right of withholding all categories of personally identifiable information must inform the Registrar’s Office in writing by not later than the fifth day of the semester/session. A student’s notification to withhold information will remain in effect until the student requests in writing that the prior withholding be revoked.

5. A student has the right to file a complaint with the U.S. Department of Education concerning alleged failures by WMU to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is Family Policy Compliance Office, U.S. Department of Education, 600 Independence Avenue SW, Washington, D.C. 20202-4605.

Residency Policy of Western Michigan University

The entire residency policy of Western Michigan University is included in the “Tuition and Fees” section of this catalog.

Policy of Sexual Harassment and Sexism

Western Michigan University is committed to an environment which encourages fair, humane, and beneficial treatment of all faculty, staff, and students. In accordance with that fundamental objective, the University has a continuing commitment to assure equal opportunity and to oppose discrimination because of race, color, sex, sexual orientation, age, religion, national origin, handicap, height, weight, or marital status. Therefore, in that same perspective, neither sexual harassment nor sexism will be
tolerated at Western Michigan University. It is expected that each member of the University community will consider himself/herself responsible for the proper observance of this policy.

Definitions

**Sexual Harassment**

Sexual harassment is defined as unwelcome sexual conduct which is related to any condition of employment or evaluation of student performance. This definition is intended to include more than overt advances toward actual sexual relations. It applies as well to repeated or unwarranted sex-related statements, unwelcome touching, sexually explicit comments, and/or graphics. All persons should be sensitive to situations that may affect or cause the recipient discomfort or humiliation or may display a condescending sex-based attitude towards a person. Sexual harassment is illegal under both state and federal law. In some cases, it may be subject also to prosecution under the criminal sexual conduct act. Conduct will be defined as sexual harassment when any or all three of the following conditions exist:

1. The sex-related situations are unwelcome by the recipient.*
2. A specific or implied connection with employment or student status is involved.
3. The sexual harassment continues after the recipient has made it clear that the conduct is unwelcome.*

* Note: In some cases of overt physical sexual conduct, a blatant threat if sexual favors are not given, or promised reward in exchange for sexual favors, no notice that the conduct is unwelcome shall be necessary and a finding of sexual harassment may be based on a single occurrence.

**Sexism**

Sexism is defined as the perception and treatment of any person, not as an individual, but as a member of a category based on sex. Whether expressed in overt or subtle form such as sex-related jokes or materials, sexism in the classroom or workplace is unacceptable at the University; and its elimination shall be the responsibility of the entire University community. Depending upon the seriousness of the misconduct, informal corrective action may be adequate.

**Complaint Procedure**

Sexual harassment and sexism constitute acts of misconduct. Therefore, whenever such acts are reported and confirmed, prompt, disciplinary action will be taken, up to and including discharge. However, to enable the University to act through these formal procedures, employees and students are encouraged to report such incidents. Employees should report such conduct to the Director of Compensation and Employee Relations, 1275 Seibert Administration Building (387-3620). Students should report such conduct to the Affirmative Action Director and Assistant General Counsel, Office of Institutional Equity, 1015 Trimpe Building (387-6316).

The Director of Compensation and Employee Relations and the Affirmative Action Director and Assistant General Counsel shall jointly establish appropriate procedures to
implement this policy. They shall also investigate thoroughly any complaints of alleged sexual harassment or sexism, and then report the results of such investigation to the President of the University.

If you hesitate to file a sexual harassment complaint for fear of retaliation, you need to know that:

Federal and state law, as well as University policies, protect any person who has filed a complaint of sexual harassment or sexism from being intimidated, threatened, coerced, discriminated against or any other form of retaliation.

Likewise, protection is afforded any person who testifies, assists or participates, in any manner, in an investigation resulting from a sexual harassment complaint.

Therefore, any individual so harassed, intimidated, or otherwise retaliated against may file a complaint alleging harassment, intimidation, or retaliation. Such complaint should be filed with the Office of Institutional Equity, 1015 Trimpe Building (387-6316).

**President’s Statement on Racial and Ethnic Harmony**

Western Michigan University is firmly committed to the principles of racial equality and nondiscrimination. On its campus, students, faculty, and staff of many races and ethnic backgrounds live and work closely together day by day in offices, classrooms, and residence halls. This racial and ethnic mix brings richness and diversity to the cultural, intellectual, and personal dimensions of campus life. The University benefits from this diversity and seeks to enhance it.

All members of the University are expected to contribute to an atmosphere of racial and ethnic harmony on campus, displaying tolerance for cultural differences and courtesy and civility in discourse with students, faculty, and staff of diverse backgrounds and origins. In this environment there is no room for any derogatory comments of a racial nature, be they in the form of slurs, posters, songs, jokes, graffiti, or the like.

Most members of the campus community need not be reminded of the institutional position in this regard. The very few who need the admonition must realize that the University will take the strongest possible action, including dismissal, against those who through racist acts bring discord to this campus.

**Discrimination: Complaints and Grievance Procedure**

Western Michigan University, in accordance with the law, prohibits discrimination in the provision of all student instruction, activities, and programs. Discrimination based on race, color, religion, national origin, sex, sexual orientation, age, disability, height, weight, veteran status, family status, or marital status shall not be tolerated in the determination of eligibility, participation, or grading for any courses or program established for the benefit of students unless otherwise provided by law.

Students who have inquiries about the University's Anti-Discrimination Policy or about anti-discrimination laws, including Title IX and the Rehabilitation Act of 1973, or who have complaints of
prohibited discrimination, may file their inquiries and complaints with the Office of Institutional Equity, 1015 Trimpe Building (387-6316).

The Office of Institutional Equity will receive and investigate complaints of prohibited discrimination filed with it by students and may assist the students in resolving their concerns. The complaint, an oral allegation or charge against the University, an employee(s), or agent, stating prohibited discrimination has occurred, must be filed with the Office of Institutional Equity or professor, instructor, or program director within fourteen (14) calendar days of events or knowledge of events giving rise to the complaint. A complaint must be filed by the student and discussed with the Office of Institutional Equity before any formal grievance can be initiated.

The Office of Institutional Equity will make reports and recommendations to the complaining students and to the academic dean or program director concerned. In the event the student's complaint is not satisfactorily resolved, the student may file a formal written grievance. Formal written grievances protesting prohibited discrimination shall be filed in accordance with the Anti-Discrimination Grievance Procedure for Students.

A grievance is defined as a formal written allegation by a student or students that there has been a violation of the University's Anti-Discrimination Policy or a discriminatory application of official University policies, procedures, rules, or regulations regarding student rights or privileges.

Any student who wants to file such a grievance should contact the Office of Institutional Equity, 1015 Trimpe Building (387-6316). The grievance must be filed with the Affirmative Action Department on an official University Grievance Form and be signed by the student(s) involved. The grievance must be timely, state all facts relevant to the protested events, indicate when the incident(s) occurred, and specify the discriminatory acts and policies, rules, or regulations involved. The Office will serve as an intermediary for written grievances and is to receive copies of all grievance correspondence. Any student(s) filing a written grievance may choose to have a representative present at any step in the Grievance Procedure, provided the Office is given at least twenty-four (24) hours notice prior to the concerned meeting.

**The Grievance Procedure**

Step 1: Departmental Level

A formal grievance must be filed with the Office of Institutional Equity no later than thirty (30) calendar days after the event or events being grieved took place. The Affirmative Action Department will then forward the grievance to the Step 1 representative, who will be the Department Head or any other person designated by the appropriate Vice President to respond to the grievance. The Step 1 representative must provide a written answer within fourteen (14) calendar days after receiving the formal grievance.

Step 2: Appeal to the Vice Presidential Level

If the grievance is not resolved at Step 1, the student may appeal to the appropriate Vice President within seven (7) calendar days after receiving the departmental representative's written answer. The student must file the appeal with the Office of Institutional Equity, using an official University appeal
form. The Office will, in turn, notify the departmental representative and the appropriate Vice President of the student's appeal. The appropriate Vice President or his/her designated representative will then arrange a meeting with the grievant, his/her representative (if requested), and any other individuals who may help resolve the grievance. This meeting must be held within fourteen (14) calendar days after the appropriate Vice President or his/her designee hearing the appeal receives the grievance from the Office of Institutional Equity. Within seven (7) calendar days after this meeting, the appropriate Vice President or his/her designee hearing the appeal will communicate an answer in writing to the involved parties.

Step 3: Appeal to the Presidential Level

If the grievance has not been resolved at Step 2, it may be appealed to the University President. The Office of Institutional Equity must receive the appeal within seven (7) calendar days after the grievant receives the Step 2 answer. The President, at his/her discretion, will handle the grievance personally or will designate a representative to conduct a hearing or investigation of the grievance, report findings, and recommend a decision. The President will make the final grievance decision and communicate it to the appropriate parties.

In addition to filing a grievance with The Office of Institutional Equity, the student may file a complaint directly with the Office of Civil Rights, U.S. Department of Education, or pursue both avenues of complaint resolution.

Western Michigan University’s Student Code

A student who chooses to enroll at Western Michigan University assumes the obligation for conduct that is compatible with the University’s mission as an educational institution. While students have the privilege to enroll at the institution of their choice, choosing to enroll at Western Michigan University requires a student to become aware of, and to abide by the behavior standards of the University. Ignorance of acceptable boundaries of student behavior as contained in the Student Code is not a basis for excusing inappropriate behavior.

Western Michigan University is an educational community that aspires to be purposeful, open, just, disciplined, caring, and celebrative. The Student Code and the Office of Student Conduct are tangible examples that illustrate commitment to these ideals. The Student Code describes the boundaries of acceptable student behavior and is approved by the Board of Trustees. The Office of Student Conduct interprets and enforces the Student Code.

The University disciplinary process is not analogous to, is not equivalent to, and does not conform to, criminal law processes. This process is designed, in part, to determine responsibility, or lack thereof, for violations of the Student Code only—not guilt or innocence relative to criminal matters. The University disciplinary process shall be informal in nature so as to provide substantial justice and it shall not be bound by legal jargon, court-like proceedings, or legal definitions, which are the province of the criminal courts.

The discipline of students in the educational community is a part of the teaching process and as such, its focus shall be educational. This includes the possible use of suspension or expulsion as disciplinary measures as they may prove invaluable tools in the education of the University community. The student...
judicial system is not only concerned with the individual student’s welfare, but also the welfare of the University community. Any question about the processes, rules, or policies, or any other concern not specifically covered by the Student Code shall be decided solely by the Dean of Students or his/her designee. Additionally, the Student Code provisions may be extended or amended to apply to new and unanticipated situations which may arise.

Enrollment in the University does not insulate students from their obligation to behave in a manner consistent with local, state, and federal law. Violation of local, state, and federal law while on University premises is a violation of the Student Code. While the University does not desire to act as a policing authority for the activities of the student off of University premises, the University may take appropriate action in situations involving misconduct demonstrating flagrant disregard for any person or persons, and/or when a student’s or student organization’s behavior is judged to threaten the health, safety, and/or property of any individual or group. Many of the items of misconduct referred to in the Student Code may also constitute violations of local, state, and federal law and carry the possibility of criminal prosecution as well.

While any violation of the Student Code is considered a serious matter, certain violations are considered to be of an especially serious nature. These violations include acts of academic dishonesty, any acts that disrupt the functions of the University, and any acts that threaten the health or safety of any member of the University community or any other person. Student involved in these activities are considered a threat to the orderly functioning of the University, and their behavior is considered detrimental to the educational mission.

The complete text of the Western Michigan University Student Code is published by the Office of Student Conduct of the Division of Student Affairs and may be obtained from that Office.

Western Michigan University Expectations for Good Practice in Graduate Education

The Mission of WMU

Western Michigan University is a student-centered research university, building intellectual inquiry, investigation, and discovery into all undergraduate, graduate, and professional programs. The university provides leadership in teaching, research, learning, and public service. Nationally recognized and internationally engaged, the University:

- Forges a responsive and ethical academic community
- Develops foundations for achievement in pluralistic societies
- Incorporates participation from diverse individuals in decision-making
- Contributes to technological and economic development
- Engenders an awareness and appreciation of the arts

Graduate education at WMU encompasses all of these goals and strives to provide students an environment that fosters scholarship, independent judgment, academic rigor, and intellectual honesty.
Professional Rights of Student Appointees

A portion of students at Western Michigan University has been granted graduate appointments. These graduate appointees serve an academic or service unit within the university. In return for their service they are given a stipend, a salary, and partial tuition remission. Graduate appointees, in addition to having the basic and academic rights mentioned below, also have professional rights. These include meaningful teaching, research, or service responsibilities; clear and reasonable departmental expectations; work activities that average twenty hours per week for a full appointee; approved leaves of absence; and due process in regard to service disputes.

Students Rights and Responsibilities

Basic and academic rights and responsibilities are set forth in the Graduate Catalog, the Research Misconduct Policy, the Student Code of Conduct, and other policies of Western Michigan University. Basic rights include, but are not limited to, the rights of inquiry, expression, and association; freedom from discrimination and harassment; personal security; freedom from improper disclosure; access to personal records; and participation in university governance. Academic rights include, but are not limited to, the right to be evaluated fairly; to have academic freedom in discussing their subject; to be fully informed by faculty regarding the requirements of each class and course of study; and to have access to and explanations of all graded materials.

Student Responsibilities

Along with rights come responsibilities. Students at WMU are required to conduct themselves in a mature, professional, ethical, and civil manner. This includes engaging in academic honesty, and ethical research conduct. In the academic arena, students are expected not to engage in such behaviors as cheating; fabrication, falsification, or forgery; multiple submissions; plagiarism; computer misuse; and complicity with others regarding such offenses. While conducting research, students are expected to maintain the same standards as they apply to the design of studies, treatment of subjects, collection of data, and reporting of that data. A complete listing of responsibilities is detailed in university policies.

Graduate students must:

- Conduct themselves appropriately in all interactions with faculty and staff in accordance with the accepted standards of the discipline and WMU policies governing discrimination and harassment.
- Take primary responsibility to inform themselves of regulations, rules, and policies governing their graduate studies and research at WMU.
- Recognize that faculty and staff have many professional responsibilities, in addition to graduate education.
- Recognize that the faculty have broad discretion to allocate their own time and other resources in ways that are academically productive.
- Recognize that the faculty adviser, who provides the intellectual and instructional environment in which that student plans a program of study, may be involved with research for which the student provides assistance, and that the University, through the faculty adviser's access to
teaching and research funds, may also provide the student with special financial support for that research.

- Expect that a student's research results, with the appropriate recognition, may be incorporated into progress reports, summary documents, applications for continuation for funding, and similar documents authored by the faculty adviser.
- Recognize that the faculty adviser is responsible for monitoring the accuracy, creativity, validity, and integrity of the student's research. Careful, well conceived research reflects favorably on the student, the faculty adviser, the degree program, and WMU.
- Exercise the highest integrity in taking examinations, completing master's, specialist's, and doctoral projects, and/or collecting, analyzing, and presenting research data in theses, dissertations, and presentations.
- As applicable to the student's degree program, acknowledge contributions of the faculty adviser and other members of the research team to the student's work in all publications and conference presentations; acknowledgement may mean co-authorship when that is appropriate.
- Recognize that in some disciplines, the faculty adviser will determine when a body of work is ready for publication, exhibition or performance, and is an acceptable product, since the faculty adviser bears responsibility for overseeing the performance of the students and ensuring the validity of any applicable research.
- Maintain the confidentiality of the faculty adviser's professional activities and research prior to presentations and/or publication, in accordance with existing practices and policies of the discipline and the University.
- Be allowed the opportunity to participate in the governance of the University as designated by the Graduate Student Advisory Committee for representation on the councils of the Faculty Senate. They shall also have representation at the departmental level, in faculty meetings and on standing committees, (e.g. policy, hiring, graduate issues) except in cases where confidential personnel matters are under consideration.
- When serving as teaching assistants, abide by the academic regulations of the University and be afforded the rights of an instructor, including the protection of academic freedom.
- Cooperate and assist in any investigations as requested by the University.

**Correspondingly, it is imperative that faculty:**

- Interact with students in a professional and civil manner in accordance with the accepted standards of the discipline and Western Michigan University's policies governing discrimination and harassment.
- Impartially evaluate student performance, regardless of the graduate student's religion, race, gender, sexual orientation, nationality or other criteria as established by law, the collective bargaining agreement, and/or University policies.
- Serve on graduate student committees without regard to the religion, race, gender, sexual orientation, nationality, or other criteria as established by law, the collective bargaining agreement, and/or University policies.
- Prevent personal rivalries with colleagues from interfering with their duties as graduate advisers, committee members, directors of graduate studies, or colleagues.
- Avoid dual relationships that could impair their professional judgment. They will excuse themselves from serving as advisers on graduate committees or supervising assistantship work.
when there is a financial, familial, friendship, or other close personal relationship that could result in a conflict of interest.

- Acknowledge any student contributions to research and/or creative activity presented at conferences, in professional publications, or in applications for copyrights and patents.
- Not impede a graduate student's progress and completion of his/her degree in order to benefit from the student's proficiency as a teaching or research assistant.
- Create in the classroom, lab, or studio, supervisory relations with students that stimulate and encourage students to learn creatively and independently.
- Have a clear understanding with graduate students about their specific academic, creative activity, and/or research responsibilities, including time lines for completion of comprehensive examinations, research, and the thesis or dissertation, as applicable.
- Provide oral and written comments and evaluation of each student's work in a timely manner.
- Assist the departmental director of graduate studies in an annual review of graduate students' progress.
- Discuss laboratory, departmental and authorship policy with graduate students in advance of entering into collaborative projects.
- Ensure an absence of coercion with regard to the participation of graduate students as human research subjects in their faculty advisers' research.
- Be aware of the responsibilities inherent in the faculty-student relationship and avoid dual relationships that may exploit students by virtue of their authority. Faculty who have a direct teaching or advising relationship with a student are prohibited from requesting that a student do personal work (mowing lawns, babysitting, etc) with or without appropriate compensation.
- Familiarize themselves with policies that affect their graduate students.
- Evaluate students' progress and performance in regular and informative ways consistent with timely completion of the degree.
- Cooperate and assist in any investigations as requested by the University.

Transmission of Knowledge in Graduate Education

Graduate education is structured around the generation and transmission of knowledge at the highest level. In many cases, graduate students depend upon faculty advisers to assist them in identifying and gaining access to financial and/or intellectual resources that support their graduate programs. In addition, faculty advisers and department administrators must apprise students of the "job market" so that students can develop realistic expectation for the outcomes of their studies.

In some academic units, the student's specific adviser may change during the course of the student's program. The role of advising may also change and become a mentoring relationship.

The reward of finding a faculty adviser implies that the student has achieved a level of excellence and sophistication in the field or exhibits sufficient promise to merit the more intensive interest, instruction, and counsel of faculty.

To this end, graduate students must:

- Devote an appropriate amount of time and energy toward achieving academic excellence and earning an advanced degree.
• Be aware of time constraints and other demands imposed on faculty members and program staff.
• Take the initiative to ask questions that promote understanding of the academic subjects and advances in the field.
• Communicate regularly with faculty advisers, particularly in matters related to research and progress within the graduate program and with any teaching responsibilities.

**Correspondingly, faculty advisers should:**

• Provide clear guidelines for all requirements each student must meet, including course work, languages, research tools, examinations, and thesis or dissertation, teaching/laboratory assistantships, and delineating the amount of time expected to complete each step.
• Evaluate student progress and performance in regular and informative ways consistent with the practice in the field.
• Help students develop interpretive, writing, oral, and quantitative skills, in accordance with the expectations of the discipline and the specific degree program.
• Assist graduate students in the development of grant writing skills, where appropriate.
• Take reasonable measures to ensure that graduate students who initiate thesis or dissertation research/creative activity do so in a timely fashion, regardless of the overall demand of assistantships in the laboratory, studio, or classroom.
• When appropriate, encourage graduate students to participate in professional meetings or display their work in public forums and exhibitions.
• Stimulate in each graduate student an appreciation of professional skills they will be required to master in their respective disciplines, i.e., teaching, administration, research, writing, and creativity.
• Create an ethos of collegiality so that learning takes place within a community of scholars.

In academic units, faculty advisers support the academic promise of graduate students in their programs. In some cases, academic advisers are assigned to entering graduate students to assist them in academic advising and other matters. In other cases, students select faculty advisers in accordance with the disciplinary interest or research expertise of faculty. Advising is variant in its scope and breadth and may be accomplished in many ways.

A student's academic performance and faculty member's scholarly interest may coincide during the course of instruction and research/creative activity/performance. As the faculty-graduate student relationship matures and intensifies, direct collaboration may involve the sharing of authorship or right to intellectual property developed in research or other creative activity. Such collaborations are encouraged and are a desired outcome of the mentoring process.

It is understood that the standards of mentoring may differ by department, depending on the degrees students are pursuing and the availability of the time that students who work as professionals in communities outside Kalamazoo have to consult with their advisers. Nevertheless, it is recommended that advisement, consultation and mentoring be nurtured via electronic means if they cannot be nurtured in person.

It is further understood that the department must establish appropriate policies and practices to assist students whose major adviser or committee member is no longer able to serve in that capacity.
students assigned to participate in externally funded research grants must become aware of the special importance of completing their research commitments. These commitments extend beyond financial concerns to encompass issues of professional ethics, legal compliance with external authorities, and institutional loyalty.

Note: Western Michigan University wishes to thank the University of Missouri at Columbia for permission to use portions of their graduate code.

Western Michigan University Adjudication of Situations Involving Graduate Students’ Rights and Responsibilities

1.0 Academic Rights and Responsibilities

Whenever a graduate student has been accused of behavior that is in violation of academic regulations, the existing Graduate Catalog governs the adjudication of the accusation.

2.0 Basic Rights and Responsibilities

Whenever a graduate student has been accused of behavior that is in violation of non-academic regulations, the University Student Code governs the adjudication. The Research Misconduct Policy governs the adjudication of alleged violations of ethical research behavior.

In addition to the rights and responsibilities of all graduate students, there are rights and responsibilities that pertain specifically to graduate students who are serving on appointments. These appointments include doctoral associateships, doctoral fellowships, graduate assistantships, and graduate fellowships. Because of the special nature of the relationship between a graduate appointee and the faculty members in the department being served, there are additional requirements.

3.0 Professional Rights and Responsibilities of Graduate Appointees

This resolution process governs matters other than those governed by the Graduate Catalog, the Student Code and/or the Research Misconduct Policy.

Graduate appointees serve the university through appointments that are awarded by the departments/schools under the sponsorship of Academic Affairs and The Graduate College. Therefore, the path to resolving certain disputes resides first with the department/school and next with The Graduate College.

3.1 Departmental/School Level. Resolution of issues at the departmental/school level may be handled informally. If disputes arise between graduate appointees and their departments, both should attempt to resolve them in informal, direct discussions. If the problem remains unresolved, then the unit administrator should be consulted. If still aggrieved, a student may then submit a formal, written request for consideration by the Department/School Hearing Board. The Departmental/School Hearing Board shall be comprised of the unit administrator or designee, two faculty members, and two graduate students from the department. The faculty members are to be selected by the department. One graduate
student is to be selected by the departmental graduate student organization and a second graduate student by the Graduate Student Advisory Committee. Where no departmental graduate student organization exists, both students will be selected by the Graduate Student Advisory Committee. If the unit administrator is directly involved in the case, neither the unit administrator nor the designee may serve on the hearing board. In such cases, the office of the Dean of the Graduate College will appoint a replacement member.

3.2 Graduate College Level. The Graduate College shall establish a hearing board comprised of a representative of the Academic College as designated by the Dean of that College, the Dean of the Graduate College or designee, the Chair of the Graduate Student Advisory Committee or designee, one faculty member from the department in question, and one student chosen by the Graduate Student Advisory Committee.

3.3 A member who has faculty rank from a unit not involved with the dispute shall chair each hearing board.

3.4 Term of Office. Hearing board members at both levels shall be selected in the fall of the year and shall serve one year. The one-year term shall not preclude reappointment of any member the following year.

3.5 The formal request alleging violations of professional rights must include a proposed remedy that could be implemented by a responsible administrator. The department/school, within the limits of its resources and the limits imposed by due respect for the professional rights of the faculty, seeks an appropriate remedy for legitimate student complaints.

3.6 Written requests for a hearing must be initiated no later than mid-term of the semester or the end of the session following the term wherein the alleged violation occurred. The appropriate Hearing Board may grant an exception to this provision if the involved party or student is absent from the University during that session.

3.7 The student initiating the grievance may request the hearing at the Departmental/School level. Under special circumstances (with approval of The Graduate College) the resolution of an issue may begin at the Graduate College level.

3.8 Hearing Boards shall establish their own procedures in a manner consistent with this document. A copy of the procedures adopted by each unit shall be filed with the appropriate Dean's office and with the office of the Dean of the Graduate College.

3.9 Upon receipt of a formal request, the chairperson of the Hearing Board shall transmit a copy of the grievance within ten (10) class days to the Hearing Board members and to the person or persons party to the matter.

3.10 In urgent cases in which it is alleged that a regulation, administrative decision or action threatens immediate and irreparable damage to any of the parties involved, the Hearing Board or judiciary shall expedite the hearing and final disposition of the case.
3.11 A Hearing Board or judiciary is empowered to act on a request to direct an individual or unit to discontinue or postpone an administrative decision or action that threatens immediate and irreparable damage to any of the parties involved, pending final disposition of the case. The hearing board shall expedite the hearing and final disposition of this urgent case.

3.12 A department/school or college hearing board shall review each hearing request for jurisdiction and judicial merit and may then forward a copy of the request to the appropriate individual (2) and invite a written response. After considering all submitted information, the board may:

a. Accept the request, in full or in part, and proceed to schedule a hearing.
b. Reject the request and provide an appropriate explanation.
c. Invite all parties to meet with the board for an informal discussion of the issues. Such a discussion shall not preclude a later hearing.

3.13 Notice of hearing. At least three (3) days prior to a formal hearing, both the respondent and the complainant shall be entitled to a written notification of the hearing from the appropriate hearing body. This notice of hearing shall state:

a. The nature of the issues, charges and/or conflicts to be heard with sufficient particularity to enable both the respondent and the complainant to prepare their respective cases.
b. The time and place of the hearing.
c. The body adjudicating the case.
d. The names of the respondent and complainant.
e. The name(s) of any potential witnesses.

3.14 Either the complainant or the respondent may request, with cause, a postponement prior to the scheduled time of a hearing. The Hearing Board may grant or deny such a request.

3.15 Both the respondent and the complainant shall be expected to appear at the hearing and present their cases.

a. Should the complainant fail to appear, the board may either postpone the hearing or dismiss the case.
b. Should the respondent fail to appear, the board may either postpone the hearing if good cause has been given for the failure to appear or hear the case in his or her absence.
c. The judiciary may accept written statements from a party to the hearing in lieu of a personal appearance, but only in unusual circumstances. Such written statements must be submitted to the board at least one (1) day prior to the scheduled hearing.

3.16 Hearing Boards shall ensure that a collegial atmosphere prevails in hearings. Involvement of counsel should normally not be required. When present, counsel shall be limited to a member of the student body, faculty, or staff of the University.

3.17 During the hearing, parties to a complaint shall have an opportunity to state their cases, present evidence, designate witnesses, ask questions, and present a rebuttal.
3.18 The hearing board shall prepare a written report of findings and rationale for the decision and shall forward copies to the parties involved, to the responsible administrator(s), and to the Dean of The Graduate College. The report shall indicate the major elements of evidence, or lack thereof, which support the hearing board's decision. All recipients are expected to respect the confidentiality of this report. When a hearing board finds that a violation of professional rights has occurred and that redress is possible, it shall direct the responsible administrator to provide redress. The administrator, in consultation with the hearing board, shall implement an appropriate remedy.

3.19 Appeals. The decision of the original hearing board is final, except in cases which result in a recommendation of termination of appointment. In such cases the decision may be appealed by either party to a grievance only to the next level hearing board. If the original hearing was by a department/school hearing board, the appeal shall be made to The Graduate College Hearing Board. If the original hearing was by The Graduate College Hearing Board, the appeal should be made to the Graduate Studies Council. In such cases, a subcommittee of the Graduate Studies Council shall be appointed by the chair of the council and shall include the chair as well as one council member and a graduate student serving on the council.

3.20 Appeals must allege either that applicable procedures for adjudicating the case were not followed in the previous hearing or that the findings of the hearing board were not supported by the preponderance of the evidence. Presentation of new evidence will not be permitted at an appeal hearing.

All appeals must be written and signed and must specify the alleged defects in the previous adjudication(s) in sufficient detail to justify further proceedings. The appeal must also specify the redress that is sought.

3.21 Appeals must be filed within ten (10) class days following a notice of a decision. Any action regarding the original decision shall be held in abeyance while under appeal.

3.22 The appellate board shall review each appeal request and may then forward a copy of the request to the appropriate individual and invite a written response. After considering all submitted information, the appellate board may

a. Decide that sufficient reasons for an appeal do not exist and that the decision of the lower hearing body shall stand;

b. Direct the lower hearing body to rehear the case or to reconsider or clarify its decision; or

c. Decide that sufficient reasons exist for an appeal and accept the request, in full or in part, and proceed to schedule an appeal hearing.

3.23 Following an appeal hearing, an appellate board may affirm, reverse, or modify the decision of the lower hearing body.

3.24 Any intimidation or retaliation against a graduate student, including but not limited to actions which negatively impact the student's grades or appointment status, solely for raising an issue concerning his/her appointment, questioning assignments or duties, and/or initiating or participating in proceedings under this policy is strictly forbidden. Any person confirmed to have so intimidated or retaliated will be subject to disciplinary action, up to and including termination.
3.25 Nothing in this process shall be construed to be considered a contract between the graduate student and the University, and/or to supersede or negate other University policies, procedures, and/or contractual requirements.

Note: Western Michigan University wishes to thank Michigan State University for permission to adapt portions of their graduate adjudication process.
Complete and current information about University and Student Services may be obtained by visiting the University’s website (http://www.wmich.edu/). The services listed below are only a portion of those offered by the University to students, alumni, staff, and visitors.

**Academic Technology and Instructional Services (ATIS)**

Academic Technology & Instructional Services (ATIS), formerly the Department of Distance Education, provides expanded access to educational opportunities through eLearning modalities (compressed video-interactive television, online, individual learning, etc.) for Western Michigan University students.

ATIS partners with WMU academic units to offer educational opportunities via alternative delivery methods. The academic units are responsible for identifying potential faculty members, evaluating faculty credentials, and ensuring consistency of content with on-campus courses. Courses are offered through Academic Technology & Instructional Services via four primary delivery methods, although some courses are offered via "mixed mode" or "hybrid" solutions. Along with acting as a first line of support for students and faculty of eLearning courses, ATIS provides various services such as instructional design assistance to faculty, technical support for students, on-campus testing, and coordination of test proctoring arrangements.

For more information, call (269) 387-2847.

**Archives**

The University Archives and Regional History Collections is located in East Hall, Room 111. Staff collect, preserve, and make accessible records documenting the history of the University and of twelve southwestern Michigan counties. Holdings include: books, ephemera, newspapers, microfilm, photographs, oral history tapes, and manuscript collections. In addition, local public records from southwestern Michigan are on deposit from the State Archives.

**Athletics, Intercollegiate**

The University is represented by men's teams in football, baseball, basketball, tennis, ice hockey, and soccer. Women's teams represent the University in basketball, golf, gymnastics, softball, tennis, indoor and outdoor track, soccer, and volleyball.

Athletics are governed by the Athletic Board, which adheres to the policies and principles established by the National Collegiate Athletic Association and Mid-American Conference. Western Michigan University is a member of the Mid-American Conference. Other members of the conference are Akron, Ball State, Bowling Green, Buffalo, Central Michigan, Eastern Michigan, Kent State, Marshall, Miami (Ohio), Northern Illinois, Ohio, and Toledo.
Career and Student Employment Services

The Office of Career and Student Employment Services offers a full range of services to help develop skills, explore the world of work and obtain full-time employment upon graduation. Services include a career learning lab, on-campus interviewing, part-time off-campus employment, internship opportunities, weekly job opportunity bulletins, Web-based employment listings, maintenance and distribution of education credentials, a computerized career guidance system, career fairs, and workshops.

For more information or to schedule an appointment, call (269) 387-2745. The Office is located on first floor of Ellsworth Hall.

Children’s Place Learning Center

The Children's Place Learning Center, located in the middle of campus at 2210 Wilbur, is open from 7:30 a.m. to 6:00 p.m. weekdays. The convenient location and flexible care schedules make the center an attractive child-care option for WMU faculty, staff, and students. Children 2-1/2 to 11 years old and toilet trained may be enrolled full-time, part-time, or hourly (maximum 10 hours per week). Breakfast, lunch, and snacks are included in the tuition and are provided by WMU's Dining Services Department. A full vegetarian menu is available each day.

The Children's Place philosophy emphasizes child-initiated learning within a culturally diverse community. The program nurtures and supports the development of children by providing developmentally appropriate activities which address each child's need for fun, creativity, active play, communication skills, problem solving, social interaction, rest and nutrition. The program is licensed by the State of Michigan. For more information and an application call (269) 387-2277.

Disabled Student Resources and Services

Disabled Student Resources and Services assists Western Michigan University students with disabilities as they seek to find effective accommodations, maximize their abilities and gain independence. DSRS offers advocacy, registration assistance, readers/scribes and other test accommodations, textbook taping, accessibility information, handi-van transportation, adaptive equipment, and referral to other campus and community agencies.

The office can be reached by calling (269) 387-2116.

Housing

Western Michigan University students may live on or off campus. Two alternatives exist on-campus, Residence Halls and WMU Apartments, and both deliver tremendous value to their residents. The success rate in meeting the diverse needs of their residents is very high and improvements are constantly being made. For these reasons, students should carefully consider the benefits of on-campus housing.
when choosing where to live. The listed rental fees are complete. They include all utilities, cable TV, and in most cases, many extra benefits not available off-campus.

Your residence hall application will be sent upon admission to Western Michigan University. An apartment application may be submitted before you are officially admitted to the University. The application date is the basis for assignment and the probability of an assignment increases with early application. Admission to the University or submitting a contract for a housing assignment does not guarantee a space will be available. Requests received after capacity are placed on a waiting list.

**Residence Life**

For information contact the Residence Life Office, 3510 Faunce Student Services Building, 269-387-4735 or 800-545-6006. Website: [www.reslife.wmich.edu](http://www.reslife.wmich.edu)

**WMU Apartments**

Make inquiries directly to the WMU Apartment Office, 3506 Faunce Student Services Building, Western Michigan University, Kalamazoo, MI 49008-5079 or telephone: 800-882-9819 or 269-387-2175 or fax 269-387-4786. Website: [www.wmich.edu/apartments](http://www.wmich.edu/apartments)

**Community Living**

For information regarding off-campus housing, contact the Residence Life Office, Community Living, 3510 Faunce Student Services Building. Telephone: 269-387-2336; FAX: 269-387-2325. Website: [www.ocl.wmich.edu](http://www.ocl.wmich.edu)

**Office of Information Technology**

The Office of Information Technology (OIT) encompasses a wide spectrum of computing and information technologies. In addition to supporting administrative computing functions on campus, OIT also services academic and educational computing needs at the University. This includes providing students with computer accounts with access to the Internet (for e-mail and World Wide Web), supporting open access computing facilities for student use, providing a wide variety of computing workshops, and supporting a computing Help Desk.

The Office of Information Technology is located on the third floor of the University Computing Center. Telephone 387-5430. The website is [www.wmich.edu/uoit](http://www.wmich.edu/uoit)

**International Programs and Services**

Western Michigan University annually hosts over a thousand international students and has a long tradition of international involvement across all colleges. Commitment to continued expansion of our international dimension is included in the university mission statement. The “international” key on the university’s World Wide Web home page will take you to a comprehensive directory of international
programs and services. Offices that administer international programs and services are conveniently located together in Ellsworth Hall.

**Office of International Services and Student Affairs**

Ms. Rebecca Solomon, Director  
A411 Ellsworth Hall  
Western Michigan University  
Kalamazoo MI 49008-5176  
Telephone: (269) 387-5865; FAX (269) 387-5899  
http://www.wmich.edu/oiss

The Office of International Services and Student Affairs handles admissions and special needs for international students. Services include:

- Processing of applications for admission
- Immigration advising
- Orientation program for newly arrived international students
- Assistance with housing arrangements
- Coordination of international student organizations and activities
- Liaison between international students and financial sponsors
- Personal and social counseling

International students interested in seeking admission to Western Michigan University should contact the Office of International Student Scholar Services for application materials. (Application forms and an application status inquiry procedure also are available online.)

**Career English Language Center for International Students (CELCIS)**

Director  
B0021 Ellsworth Hall  
Western Michigan University  
Kalamazoo MI 49008-5182  
Telephone: (269) 387-4800; FAX (269) 387-4806  
http://www.wmich.edu/oia/celcis

The Career English Language Center for International Students provides intensive English language instruction for prospective students who need further training in order to qualify for admission to Western Michigan University. Holders of F-1 visas in the CELCIS program must be enrolled full-time; resident aliens and holders of F-2 visas may attend CELCIS programs on a part-time basis.

CELCIS classes at various levels include: speaking and listening comprehension, grammar, academic reading and vocabulary building, academic writing, and research paper writing. Extra-curricular activities include monthly social hours, conversation partners, home visits, and various social, sport, and cultural programs.
CELCIS operates four terms per year: two fifteen-week terms (fall and winter), and two seven-week terms (spring and summer). The University Counseling and Testing Center offers the institutional TOEFL at the conclusion of each term. CELCIS issues the Certificate of Eligibility for a visa (Form I-20 or IAP-66) specifically for admission to CELCIS programs. Admission to CELCIS does not imply admission to the Graduate College or to a degree program.

Contact the CELCIS office for application materials. (Materials also are available online.)

**Office of Study Abroad (OSA)**

Ms. Joyce Lew, Director  
B200 Ellsworth Hall  
Western Michigan University  
Kalamazoo MI 49008-5245  
Telephone: (269) 387-5890; FAX (269) 387-0630  
[http://www.wmich.edu/studyabroad](http://www.wmich.edu/studyabroad)

The Office of Study Abroad (OSA) operates a large number of foreign study programs varying in length from a few weeks to a full academic year. These programs include a growing number of graduate internship and field study programs. OSA offers financial assistance for studying abroad at advanced levels in foreign languages offered at WMU, and for beginning study of languages not available at WMU as part of programs of study at institutions outside the United States.

Graduate students who undertake study abroad programs, or conduct individualized research, field studies, internships or other experiences outside the United States that carry WMU academic credit, and/or under the direct auspices of WMU faculty, must register with the Office of Study Abroad.

In addition to competitive financial aid programs, OSA provides a number of important services to WMU students preparing to study, intern, or do research outside the United States. Services include orientation programs, International Student Identity Card (ISIC), Youth Hostel Pass, insurance procedures, and current information about conditions in countries of destination. OSA maintains an extensive research and information base on programs offered by other colleges and universities. The office also serves as a contact point between WMU students overseas and the university.

**Diether H. Haenicke Institute for Global Education**

W. Wilson Woods, Interim Dean  
B200 Ellsworth Hall  
Western Michigan University  
Kalamazoo MI 49008-5245  
Telephone: (269) 387-3985; FAX (269) 387-0630  
[http://international.wmich.edu](http://international.wmich.edu)

The Haenicke Institute collaborates with colleges, departments, and interdisciplinary programs to promote global, international, and area studies throughout Western Michigan University.
Multicultural Affairs, The Division of

The Division of Multicultural Affairs promotes a supportive environment for racial/ethnic minority students by providing a range of services and programs that have a positive impact on their academic success and quality of life.

To enhance diversity in the community, the Division initiates and coordinates cultural programming and facilitates opportunities for learning and personal development for all students at Western Michigan University. The Division’s activities are designed to define and positively react to minority students’ needs and impact their environment. By doing so, students are ensured the greatest opportunity for a successful and relevant educational experience.

For information, call 269-387-4420 or visit the office in Ellsworth Hall or visit the website www.multicultural.wmich.edu

Off-Campus Life

The Office of Off-Campus Life responds to the diverse needs of the 72 percent of WMU students who reside off campus. Specifically, graduate students are provided assistance in locating a place to live. To aid students searching for rental housing or roommates, a computerized data base system has been developed. Students can access rental and roommate information through the World Wide Web. Listings of apartments, houses, sleeping rooms, students in need of roommates and those available as roommates are also maintained and printed for distribution.

Recognizing the significance of an adequate housing environment for all students, the University's rental listing program is supplemented with conflict resolution and educational programs as well as tenant/landlord services. For additional information regarding off-campus housing, contact the Office of Off-Campus Life, Room 3510, Faunce Student Services Building. Telephone: 269-387-2336; Fax: 269-387-2325; World Wide Web site: http://www.ocl.wmich.edu

Parking and Vehicle Registration

Detailed regulations concerning the use of motor vehicles on campus is available from the Department of Public Safety's Parking Services. All students are eligible to park a motor vehicle on University property; however, they must first register their motor vehicle, motorcycle, and/or moped with the Parking Services and pay a registration fee. Information concerning parking regulations, parking permits, and parking violations can be obtained by visiting Parking Services located at 2507 West Michigan Avenue (at the corner of West Michigan and Knollwood) or by telephoning 387-4609 during normal University business hours.

Police

Located at 511 Monroe, off the 1300 block of West Michigan Ave., the Department of Public Safety is open 24 hours a day, providing a full range of police services through the use of a uniformed patrol

94
division, a detective division, and a communications center. The Department of Public Safety is responsible for investigating all crimes and accidents occurring on University property and is committed to providing an environment conducive to the education of the students at Western Michigan University. Towards that goal, the department's various divisions and bureaus have coordinated their efforts to create and maintain a feeling of security and safety within the University community. Information can be obtained by visiting the office, telephoning 387-5555 or 911 in an emergency.

Publications

*Western Herald*, WMU's student newspaper, is published Mondays, Tuesdays, Wednesdays, and Thursdays during the fall and spring semesters, Mondays and Thursdays during the summer I session, and Wednesdays during the summer II session. The *Western Herald* is made available to students partially through support from the general fund of Western Michigan University. All positions on the paper are filled by students with the exception of the general manager/advisor.

*Western News* is the official publication for administration, faculty, and staff members. It is published every other Thursday by the Office of University Relations, which also produces *WMU - the Western Michigan University Magazine* in association with the Office of Alumni Relations. The magazine is published four times a year for alumni, donors, and other friends of the University.

Radio

WMUK is Western's full power stereo public radio broadcasting service, operating at 102.1 on the FM dial and serves an area 80 miles in radius; this area includes most of the southwestern quarter of the state.

WMUK(FM) provides a cultural extension of the University through its broadcasts of campus, community, and area events. Through the satellite-linked National Public Radio network of stations, WMUK provides listeners with outstanding programming in the fine and popular arts, news, and information from around the world. WMUK has built an enviable reputation in classical, bluegrass, and jazz music programming, as well as programming for Spanish-speaking audiences.

WMUK(FM) is a charter member of NPR, the National Public Radio network of over 500 non-commercial radio stations.

WIDR(FM), a 100-watt station operated by students, broadcasts on 89.1. Facilities of WIDR(FM) are located in the L. Dale Faunce Student Services Building. WIDR(FM) offers a unique opportunity for Western Michigan University students to gain experience in programming, promotion, and station operation.

Sindecuse Health Center

The Sindecuse Health Center is a student-oriented medical facility that exists to assist the University community members to achieve and maintain their optimal health status. As a student attending Western Michigan University, you have access to high-quality, convenient health care through our many
professional services. Our entire staff works as a team to assist you with your health care and health education needs. For a complete explanation of services, visit the Center’s website at www.wmich.edu/~shc/

Important Phone Numbers
Appointments 387-3290
Information 387-3287
Insurance Information 387-3266
Pharmacy 387-3301
Health Promotion/Health Info 387-3263
Sports Medicine Clinic 387-3248
HIV Antibody Testing 387-4HIV

Speech, Language, and Hearing Services

The Van Riper Language, Speech, and Hearing Clinic is a service program provided by the Department of Speech Pathology and Audiology for persons with communication disorders. It is located in the University Medical and Health Sciences Center, 1000 Oakland Drive. Students may take advantage of diagnostic and therapeutic services by contacting the Clinic for an appointment. Telephone: 387-8047.

Student Activities and Leadership Programs

The mission of the Student Activities and Leadership Programs is to enhance student learning and personal development by engaging students in educationally purposeful academic and social activities.

Student Activities and Leadership Programs has registered over 300 student organizations at WMU representing a diverse range of interests. We welcome you as a valued member of our community and are excited to be a part of your learning and personal development.

For detailed information, visit the website at www.salp.wmich.edu or visit the office, 2420 Faunce Student Services Building.

Student Directory

The WMU Faculty/Staff/Student Telephone Directory is published annually by the Office of Information Technology of the University. It is distributed during early November, without charge, to all students in residence halls and family housing units, and is available at the Information Center in the Seibert Administration Building.

Individual listings in the WMU Student Directory contain the following information:

1. Name
2. Curriculum
3. Local address and telephone number
4. Home address
Students wishing to exclude any or all of the above information from the WMU Student Directory (printed and electronic) must fill out a Directory Exclusion Form in Room 3210, Seibert Administration Building, during the first five days of classes fall semester. During spring, summer I, and summer II terms, students may restrict this information to academic use by filling out the Directory Exclusion Form during the first five days of classes.

Substance Abuse Services

University Substance Abuse Services, located in the Sindecuse Health Center, provides an outpatient treatment and prevention program for Western Michigan University students concerned with their use, misuse, or abuse of alcohol and other mood-altering substances. Under the auspices of the University Counseling and Testing Center, Division of Student Affairs, the program offers information, assessment, training, counseling and supportive therapy, referral and follow-up services to individuals and groups. Also offered are didactic groups to those students seriously interested in exploring their relationship with mood altering drugs (alcohol, marijuana, stimulants, narcotics, depressants and barbiturates) as well as groups for adult children of alcoholics.

University Substance Abuse Services is licensed by the State of Michigan Department of Consumer Resources and is directed by a nationally certified substance abuse therapist and professor of counseling. All services are free, unless they are court ordered, and completely confidential as required by state and federal law. Students are encouraged to make an appointment through the Sindecuse Health Center reception area or by calling 387-3257.

University Counseling and Testing Center

Many important decisions and situations will confront students while they are at Western Michigan University. They will need to make decisions regarding courses, curricula, and career exploration. They may become involved in social and personal situations that leave them feeling confused and upset. In addition, it may be likely that the inherent stresses of university life will, at some time, interfere with academic achievement and personal growth. The University Counseling and Testing Center, located on the main floor of the Faunce Student Services Building, exists to help students deal effectively with such concerns.

The Center is staffed with professionally licensed counselors and psychologists and is accredited by the International Association of Counseling Services.

Counseling and Testing Center services consist of the following:

Personal Counseling to assist individuals in better understanding themselves and the emotional conflicts that may interfere with their everyday lives as students, to help them become more aware of alternative means of coping with conflicts, and to aid them in developing more satisfying and fulfilling lifestyles.

Educational Counseling to help students deal with conflicts concerning vocational planning and educational goals.
Career Counseling and Testing to provide students with the resources, skills, and experiences necessary for reasonable educational and career choices. Individual and group activities are offered to (1) increase self-understanding, including insights into one's interests, values, abilities, and skills; (2) learn how to acquire information about careers; (3) review choices, make decisions, and establish plans of action; and (4) test the feasibility of individual plans by experiencing the reality of the working world.

The Career Exploration/Media Center contains a wide and varied selection of printed materials with an emphasis on self-understanding, career exploration and preparation, occupational information, and job trends. Included is a section of college and university catalogs, educational guides, and computer-aided guidance and information pertinent to career awareness. An extensive collection of professional test material is also available for student/faculty review.

Training and Internship Programs for graduate students and interns from the Department of Counselor Education and Counseling Psychology, School of Social Work, and Department of Psychology are available. Included in the training experience are case consultations, supervision of treatment sessions, didactic presentations and professional growth opportunities. The American Psychological Association has accredited the Center’s predoctoral internship program in professional psychology.

National Standardized Testing is conducted by the University Counseling and Testing Center. The following tests are regularly offered: ACT, LSAT, GRE (subject exam), MCAT, IIAu/CPCU, CLEP, TOEFL, and academic skills exams are offered as needed. Standardized testing information is available at the Center; call 387-1872.

Test Scanning Services (optical scanning) for classroom exams and research data analysis is provided to the University community and greater Kalamazoo area. Information about scanning services is available; call 387-3910.

The Counseling and Testing Center is committed to the need for confidentiality in client/counselor communications. Therefore, confidentiality of client information is maintained in a manner consistent with professional standards of ethical practice and conduct and legislative requirements in the state of Michigan. Copies of the Counseling and Testing Center Policy on Confidentiality may be obtained at the Center's reception desk.

Appointments may be requested by telephone (387-1850) or by stopping at the Counseling and Testing Center (2513 Faunce Student Services Building) reception desk between 8 a.m. and 5 p.m., Monday through Friday. Students unable to utilize the Center's services during regular hours may make requests for evening appointments. Website: www.uctc.wmich.edu

The Center attempts to service as many students as possible within staffing limitations.

University Libraries

Waldo Library, the main library at Western Michigan University, was built in 1958, expanded in 1967, and then extensively renovated and expanded in 1991. The Library is named after Dwight B. Waldo, the University's first president. In addition to Waldo Library, the University Libraries includes four branch libraries. The Education Library, in Sangren Hall, has over 688,000 items and receives more than 600
periodical titles. The Music and Dance Library, in the Dalton Center, houses over 38,000 books, musical scores, and periodicals, as well as over 19,400 audio and video recordings. The Archives and Regional History Collections Library, in East Hall on the East Campus, collects unique materials about the history of Southwest Michigan and the official records of the University. The Visual Resources Library, located in Sangren Hall, houses a collection of over 100,000 slides, most of which relate to the fine arts.

Each of these libraries supports teaching and research in disciplines related to the materials collected. Thus Waldo Library has resources and services supporting the University's undergraduate and graduate programs in the arts, fine arts, business, health and human services, social sciences, science, and engineering. University Libraries as a whole holds more than 3,920,000 volumes.

The major purpose of the University Libraries is to take an active role in the educational process at the University, and to provide facilities, materials, and an environment which will not only support the students' educational progress but also will encourage them to develop the habit of self-education.

Visit the Libraries' web page (http://www.wmich.edu/library) for more information about services and a listing of available databases and electronic resources.

University Recreation Programs and Facilities

**Student Recreation Center**
(269) 387-3760

The Student Recreation Center (SRC) is a student-oriented, multi-use facility programmed, staffed, and financed by Western Michigan University Students. Recreational, educational, and health promotion programs are provided for the benefit of all WMU students, faculty, staff, spouses, emeriti and alumni facility members. The facility includes an 8,000 square foot fitness/weight room with over 100 pieces of state-of-the-art equipment, a recreational pool with attached swirl pool and saunas, a 45’ climbing wall, indoor jogging track, basketball courts, volleyball and badminton courts, indoor tennis courts, 10 racquetball courts, aerobics room, multipurpose gyms, fitness testing laboratory, and much more.

The SRC is equipped with a state-of-the-art electronic security system to help protect our student-funded facility from vandalism and to ensure that all users are properly authorized. Only ID cards belonging to individuals who have paid the facility fee may gain access and take advantage of programs and services.

**Informal Recreation**
Informal recreation permits individual choice of activity. Various facilities are available on a drop-in or reservation basis including basketball courts, volleyball courts, racquetball courts, tennis courts, squash court, indoor and outdoor tracks, fitness/weight room, and swimming pool. Other open recreation opportunities include badminton, table tennis, climbing wall, and wallyball. Equipment for various activities may be checked out with a valid ID card from Equipment Issue located in the SRC.

**Outdoor Recreation**
University Recreation also provides a lighted, competition-style outdoor track, tennis courts, soccer fields, intramural fields and a sand volleyball court. Selected outdoor equipment may be available for checkout with a valid ID card from the SRC Equipment Issue.
Intramural Sports
Intramural Sports are available for students, faculty, staff, and members of the SRC who are interested in competitive activities. The program offers both team and individual sports, including basketball, volleyball, soccer, softball, ice hockey, flag football, tennis, racquetball, in-line hockey, and much more. Intramurals provide opportunities for individuals to participate in sports experiences that will help them to develop team building and leadership skills. These experiences permit participants to set goals, relate to others, participate in physical activity, and enrich their lives. Opportunities for leadership are available for students who wish to officiate contests.

Fitness Programs
Fitness classes are available for individuals interested in improving their health and physical development through safe and effective exercise programs. A variety of instructor-led classes are offered, including water exercise, high/low aerobics, step aerobics, stretch and tone classes, kickboxing, jumprope classes, and yoga.

PhytStyles is a fitness-testing program designed exclusively for WMU students. The program offers free-of-charge fitness assessments and individual exercise program development for students who wish to develop and maintain healthy levels of physical fitness. The testing package includes health screening, blood pressure analysis, body composition, and physical assessments for flexibility, muscular strength and endurance, and cardiovascular endurance. A consultation is available to obtain personal exercise recommendations and guidelines based on current levels of physical fitness and personal goals.

Fitness Weight Room
Located in the SRC, the 8,000 square foot fitness/weight room contains a full line of variable resistance weight machines and free weights, computerized exercise bicycles, stair climbers, rowers, and elliptical machines. Student Exercise Specialists are available to instruct on proper use of the equipment and to provide exercise training guidelines to meet personal goals.

Climbing Wall
The WMU Climbing Wall is designed to challenge and teach participants about the unique sport of indoor climbing. The wall is a top-rope system where climbers are harnessed in for safety. SRC members can come feel the excitement of scaling a 45-foot wall. Participants may also complete a climbing clinic to learn proper harnessing and belaying techniques.

Special Events
The SRC conducts one or two special events each semester. These events may coincide with other University events or reflect a seasonal holiday theme. Games, activities, and contests are offered in an informal, celebrative atmosphere designed to provide interaction and tradition among the participants.

For more information on services and specific days and times of programs, pick up a SRC brochure or call 387-4REC. Current information may also be found on the web at <www.src.wmu.edu>.
Veterans’ Assistance

The Office of the Registrar, on the third floor of the Administration Building certifies students under the G.I. Bill and its extensions. The Veterans’ Certification Officer will assist any person who seeks certification, or application, to the Veterans Administration under applicable programs.

Students who wish to receive V.A. benefits must annually file a "V.A. Certification Information Card" outlining plans for enrollment for the coming year. Students are certified on the basis of attendance and academic progress toward a declared degree. Address changes are also to be reported to the Veterans’ Certification Officer as soon as possible.

In addition to normal scholarship standards, students receiving benefits from the Veterans Administration are advised of their additional rights and responsibilities.

The Veterans’ Certification Officer may be reached in the Office of the Registrar at (269) 387-4115.

Writing Center

The Writing Center is part of the Center for Academic Support Programs. It provides writing assistance for students, faculty, staff, and other members of the WMU community.

The Writing Center exists for all WMU students (graduate and undergraduate) who choose to work on their writing. Because writing is such a complex act, students often concentrate on particular aspects of writing with each visit. They may work with a tutor on organization or focus; they may want to hone their style or find new ways to come up with topics or ideas for development; they may also work on the conventions of English.

To accommodate the needs of many students, the Writing Center offers three different types of appointments. Most popular is the drop-in appointment, which allows students to see a tutor immediately. Students may also choose to schedule appointments in advance or set up a regular weekly appointment with the same tutor. Students may choose to have a report sent to their instructors detailing their visit. The Writing Center tutors are glad to work with students on their papers; however, they will not copyedit or proofread papers for educational purposes.

The Writing Center also provides workshops on writing with sources and on proofreading techniques, and offers writing-related computer software. For answers to quick questions about writing, call the Writers' Hotline at 387-4615 or send e-mail to writing-center@wmich.edu.

The Writing Center is located in Room 2075 Moore Hall; telephone 387-4615.
Extended University Programs

Darrell Johnson
Dean

Main Office: 1260 Ellsworth Hall
Telephone: (269) 387-4200
Fax: (269) 387-4204
URL: http://www.eup.wmich.edu

Extended University Programs extends the University's educational resources throughout Michigan and beyond by partnering with academic departments to deliver undergraduate and graduate degree and certificate programs and non-credit conferences and workshops. These programs are delivered through branch campuses and other locations in a time, place, and format oriented toward the needs of the adult, part-time learner. Seven branch campuses (Battle Creek, Grand Rapids, Lansing, Muskegon, Southwest, and Traverse City), one regional site (Holland), and the Office of Lifelong Learning and Education comprise the University's extension organization.

The mission of Extended University Programs (EUP) is to provide access to higher education for a greater constituency than could otherwise attend a central campus. In doing so we:

- facilitate student learning in multiple settings
- provide a strong link between campus units and students
- deliver high quality graduate, undergraduate and noncredit programs
- develop and maintain community partnerships, serving as an effective entrepreneur on behalf of the University
- collaborate with and support faculty in course development, program delivery, outreach and scholarship

Graduate Programs and Courses Offers in Branch Campuses

Extended University Programs offers undergraduate and graduate programs as well as certificates, delivering the same high-quality education available on the Kalamazoo campus, only closer to where you work and live. In addition, branch campuses have environments that are tailored to the busy, working adult, including comfortable seating, computer labs, wireless internet access, and courses scheduled on evenings and weekends. Branch campus program offerings fall into the following disciplines:

- Educational
- Management
- Wellness
- Engineering

Please visit http://www.eup.wmich.edu/programs for a complete list of offerings.
In addition to academic programming, branch campuses also offer financial aid information, care counseling, library access, and other University services.

**Office of Lifelong Learning and Education (OLLE)**

A division of WMU-Extended University Programs, the Office of Lifelong Learning and Education (OLLE) is dedicated to providing an increased selection and availability of educational opportunities to individuals pursuing personal and professional goals. OLLE is committed to providing a level of service that reflects WMU's high standard of educational quality and excellence.

OLLE has four areas of concentration

- *Continuing Educational Opportunities*: OLLE offers high quality certificate programs, credit and non-credit workshops, professional seminars, and Continuing Education Units approved by the State of Michigan (SB CEUs) and is WMU's official CEU provider.
- *Degree Completion*: OLLE offers academic advising to a selected group of adult learners returning to the university to complete their baccalaureate degree (General University Studies).
- *Academic Program Development and Outreach*: OLLE assists Academic Departments and area businesses in developing new academic programs designed to meet untapped educational demands and community needs.
- *Conference Services*: OLLE provides conference development, planning, and management services.

For more information, call (269) 387-4174 or click on [http://www.eup.wmich.edu/olle](http://www.eup.wmich.edu/olle)

**Branch Campuses**

Battle Creek  
Ms. Sharon Russell, Director  
Kendall Center  
50 W. Jackson  
Battle Creek, MI 49017-3505  
(269) 965-5380 or (269) 387-6293  
[www.bc.wmich.edu](http://www.bc.wmich.edu)

Grand Rapids  
Dr. James Schultz, Director  
The Graduate Center - Beltline  
2333 East Beltline, S.E.  
Grand Rapids, MI 49546-5936  
(616) 771-9470  
[www.gr.wmich.edu](http://www.gr.wmich.edu)  

and
The Graduate Center - Downtown
200 Ionia Avenue, S.W.
Grand Rapids, MI 49503
(616) 771-4100

Holland Regional Site at Hope College
Ms. Deborah N. Newson, Director
100 E. 8th St.
Holland, MI 49423
(231) 777-0500
www.ho.wmich.edu

Lansing
Ms. Sharon Russell, Director
Verndale Office Park
6105 W. Saint Joseph Hwy., Suite 205
Lansing, MI 48917
(517) 327-1480 or (269) 387-6291
www.lg.wmich.edu

Muskegon
Ms. Deborah N. Newson, Director
Stevenson Center for Higher Education
221 S. Quarterline Road
Muskegon, MI 49442-1742
(231) 777-0500
www.mu.wmich.edu

South Haven
Dr. Leonard Seawood, Director
125 Veterans Boulevard
South Haven, MI 49090
(269) 637-7506
www.sh.wmich.edu

Southwest
Dr. Leonard Seawood, Director
2785 E. Napier Drive
Benton Harbor, MI 49022
(616) 934-1500
www.sw.wmich.edu

Traverse City at NMC University Center
Ms. Mary Swartz, Director
2200 Dendrinos Dr., Suite 200-S
Traverse City, MI 49684
Glossary of Terms

Academic advisor
A faculty or professional staff member trained to help students select courses and plan programs of study for degree or program completion.

Academic dismissal
Dismissal from an academic unit or program for not maintaining the required grade point average. Dismissal indicates that a student is no longer admitted to the University and may not register.

Academic Forgiveness
Students who are readmitted into graduate study will not have grades and credit hours count in the computation of their grade point average that were earned more than seven years prior to their new entrance date. In such cases, the transcript will read, “Grades and credit hours earned more than seven years prior to current entrance date were not included in the computation of the grade point average.” The request for academic forgiveness must occur at the time of readmission.

Academic standing
The academic standing of a student is determined by the student's grade point average (GPA). All graduate students must have a 3.0 or better grade point average to maintain "good standing." A "warning" will be issued to a student whose GPA falls below a 3.0 in any semester or session even though the overall GPA is 3.0 or better. A student will be placed on "probation" if the overall GPA falls below 3.0, and will receive a "dismissal" notice if the overall GPA is not raised to or above 3.0 at the end of a semester or session on "probation," except when the academic unit housing the student’s program grants an “Extended Probation” for an additional enrollment period.

Assistantship
A University-administered stipend awarded by an academic or service unit to an appointed graduate student who is enrolled in a program leading to a graduate degree. Assistants are apprentices in the profession and assist in doing part of the work of the department, teaching or research or service.

Associateship
A specially designated assistantship awarded to an appointed doctoral student.

Audit
A registration category in which a student registers for and attends class(es) regularly without being held responsible for the work required for credit. A student who registers for a course in this way is not eligible to sit for examinations, earns no credit hours for the registration, and pays full tuition. The designation "AU" appears on the transcript if the auditor attends at least three-fourths of the class or laboratory sessions and gives evidence to the course instructor that the role as auditor has been satisfactory. See also Graduation audit below.

Bell & Howell
All doctoral dissertations written at Western Michigan University are required to be published and available to a public audience. The common method of publication is to have Bell & Howell [formerly
named University Microfilms, Inc. (UMI) microfilm the dissertation and have it available for dissemination to scholars and researchers around the world.

**Capstone course or experience**
A culminating holistic experience (e.g., thesis, dissertation, comprehensive examination) designed to review and more broadly understand the major issues, themes, theories, and research findings of the student's discipline, often to enable the student to examine the relationship of the discipline to other areas.

**Center**
An organizational unit formed for purposes of linkage and visibility, focused on a theme, issue, or set of skills. A Center will frequently be interdisciplinary in nature. A Center does not offer degree programs but may, on rare occasions, offer a course or courses.

**CELCIS**
The Career English Language Center for International Students (CELCIS) provides intensive English language instruction for those prospective students who need further training in English in order to qualify for regular admission to the University. Classes at various levels include: Speaking and Listening Comprehension, Grammar, Reading and Vocabulary, Writing, Research Paper Writing, and work in the Language Laboratory. For further information and application forms, contact the Center by telephone, (269) 387-4800, or by Fax, (269) 387-4806.

**Certificate program**
A graduate certificate is awarded for the satisfactory completion of a nondegree graduate program designed around a narrow, applied, and coordinated curriculum with a professional focus. A graduate certificate program may be either multidisciplinary or unidisciplinary in organization and may be taken separately or in conjunction with a graduate degree program. The graduate certificate is not an award of license, accreditation, or certification to render professional services; rather, it signifies that a student has satisfactorily completed an approved graduate certificate program curriculum.

**Class or credit hour load**
For all graduate students taking courses for a stated degree or certificate program, six hours constitutes full-time status, and three hours constitutes half-time status in Fall and Spring semesters. In the Summer I and Summer II sessions, three hours in either session constitutes full-time status for that session and two hours constitutes half-time status.

Students who have completed all the course work for their master’s or doctoral level program and who have only the thesis or dissertation to complete are required by Western Michigan University to enroll for a minimum of one-hour in thesis or dissertation credits. An enrollment of one-hour for thesis or dissertation will satisfy WMU’s continuous enrollment requirement.

However, students must be aware that FICA regulations and some federal loan deferment regulations require at least half-time enrollment, which at WMU is now at least three hours of enrollment. Graduate students, even those enrolled for thesis or dissertation hours, must be enrolled at least half-time (3 hours at WMU) in order to qualify for FICA tax exemption or to be eligible for loan deferments.
Since enrollment fees are determined by hours enrolled, and not by full- or part-time status, students (whether graduate or undergraduate) who enroll for four or fewer hours are charged a lesser enrollment fee than those who enroll for five or more hours, and consequently they will be required to pay an additional fee for unlimited use of the recreation center. Students enrolling for four or fewer hours will have access to the recreation center for 10 visits without extra fee charges.

**Closed class**
A term used during the registration process to indicate that a course has reached its maximum enrollment limit and is therefore "closed" to further registrations.

**Cognate**
A course, or courses, related in some way to the major area of study for the master's, specialist, or doctoral degree. Cognates may be, and often are, courses outside the department of the degree program.

**Concentration**
A concentration (or option or emphasis) is a thematically coherent block of courses that are more similar to one another than to others in the degree program. A concentration has a title and constitutes a significant percentage (e.g., 10%) of courses in the degree program. Concentrations (or options or emphases) may be recorded on the student transcript.

**Conditional admission**
Conditional Admission is granted to the student who meets some of the admission requirements of the University. Continued enrollment in courses at WMU is conditional upon the applicant completing academic course work at a performance level specified at the time of “Conditional Admission” status is granted. Examples of specific performance could include, but are not restricted to: completion of a specified number of graduate credits with a “B” or better grade, completion of specific prerequisite courses with specified grades, or completion of the a program’s core requirements with specified grades. The time period for any “Conditional Admission” status may not exceed two semesters and one summer session, with ineligibility for further enrollment after that period unless the specified conditions have been met and the applicant qualifies for “General Admission” status.

**Continuing education courses and programs**
Graduate courses and programs offered through Extended University Programs in the Branch Campuses of Battle Creek, Benton Harbor/St. Joseph, Grand Rapids, Holland, Lansing, Muskegon, South Haven, Traverse City, or elsewhere away from the Kalamazoo campus.

**Continuing education unit (CEU)**
Documented acknowledgement of participation in a non-credit program or workshop.

**Continuous enrollment**
Following a student's first enrollment in 7000 (Master's Thesis) or 7200 (Specialist Project) or 7300 (Dissertation), the student must have continuous enrollment in 7000/7200/7300 until all thesis/project/dissertation requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the thesis/project/dissertation within the program-stipulated hours of registration will be required to continue to enroll in 7000/7200/7300; however, only the program-stipulated hours will count toward meeting the program requirements for the degree. For students not
enrolled in the Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session.

Corequisite
A course that must be taken at the same time as another course. See also Prerequisite below.

Course numbering system
Undergraduate courses are numbered from 1000 through 4990. Courses numbered 5000 through 5990 are for upperclass and graduate students. (Graduate students register for graduate credit in 5000-level courses; undergraduate students register for undergraduate credit in 5000-level courses.) Courses for graduate students only are numbered 6000 through 7990.

Course syllabus
Each instructor is required to make available to students a course syllabus that shall contain a basic course description, course objectives, course requirements and policies, grading criteria, and instructor contact information. Instructors are encouraged to include a tentative schedule indicating when various topics will be addressed, and when quizzes, exams, and due dates for assignments shall occur. Instructors are further encouraged to include in their syllabi basic University policies regarding academic conduct, human rights, diversity, and students with disabilities.

Credit
Western Michigan University will consider graduate credit as that earned in an accredited, postsecondary educational institution in which the course was approved by that institution for graduate credit and was supervised by that institution. Western Michigan University will also consider graduate credit as that earned in an examination program recognized and approved by the Graduate Studies Council.

Credit toward a degree program will be granted only for graduate courses in which a grade of "C" or better is earned.

Graduate credit may not be earned in a 5000-level or 6000-level course by attendance in an undergraduate course in a related area.

Credit/No Credit
A method, separate from the letter grade system, used to evaluate performance in courses. "Credit" is earned for grades of "B" or better; grades of "CB" or below earn "No Credit." Credit/No Credit courses are not computed into the student's overall grade point average.

Credit hour
A unit of academic credit. One credit hour usually represents one hour of class time per week. See also semester hour and quarter hour below.
Credit load
See Class or credit hour load above.

Deadline
The date by which certain forms or information or payment must be received by an office or unit.

Degree student
A student formally admitted to a master's, specialist, or doctoral degree program and pursuing a planned program of study to earn that degree. See also Program of study below.

Dissertation committee
For each doctoral student a doctoral dissertation committee shall be appointed to review the dissertation proposal, procedures, and results; to make suggestions relative to these concerns to the student; and to decide whether to approve the dissertation and the oral defense as fulfilling these requirements for the doctoral degree. All members of this committee must approve the dissertation and its oral defense, and the dissertation must be in a form acceptable to the unit and to The Graduate College before the student may be awarded the doctoral degree.

Each doctoral dissertation committee shall consist of at least three members. The student's major dissertation advisor shall serve as chairperson of the committee. At least one member shall be from outside the student's department (this person may be from a related cognate discipline, from outside the student's college, or from outside WMU) who shall serve as a bona fide, fully participating member of the committee. The committee shall be approved and recommended by the unit, approved by the office of the appropriate academic dean, and approved and appointed by the graduate dean. Each member of the committee must be either a member or an associate member of the graduate faculty.

Each unit offering a doctoral program shall approve and publish its policies concerning doctoral dissertation committees, including the qualifications for membership on doctoral dissertation committees, the procedures used to select who should serve on these committees, and the specific functions and responsibilities that the members of these committees have. The chairperson of each student's doctoral dissertation committee shall indicate in writing the specific responsibilities that individual members of that committee have.

Drop
An official procedure for withdrawing from individual classes without removing registration from all classes. The deadline for the last day to drop a course without academic penalty (grade of “W” is on the transcript) is noted each semester or session in the Schedule of Course Offerings. Students who do not follow the official procedure when dropping a class will earn the grade of “X” for that course; the “X” grade carries no honor points and affects the grade point average in the same manner as an "E" or failing grade. See also Late drop below.

Dual enrollment
Dual enrollment admission (that is, admission to a master’s program while yet enrolled in a baccalaureate program) may be granted to any WMU senior who has an acceptable academic record (with a grade point average of 3.0 or better for the two years prior to admission date) and who has no more than 15 credit hours remaining for completion of the bachelor’s degree.
Once granted dual enrollment status, the student may enroll in a maximum of 12 credit hours of graduate course work that has been approved by the appropriate departmental advisor in addition to those undergraduate courses required to complete the bachelor’s degree.

Dual enrollment is permitted for the calendar year only, and no graduate credit earned in this way may be used to meet undergraduate requirements. If the bachelor’s degree is not completed in the period of one calendar year, the student may not continue on dual enrollment.

A student must request dual enrollment status on the application for admission to a master’s degree program; however, official entry is not immediate. Graduate credits earned accumulate but the official entry date must follow the semesters or sessions of dual enrollment status and the completion of the bachelor’s degree.

**Elective**
A course which will count as credit toward a degree, if approved by the advisor, but is not specified in the program's course requirements.

**Emphasis**
See **Concentration** above.

**Fellowship**
A University-administered stipend awarded by an academic or service unit within the University or by another donor to an appointed graduate student who is enrolled in a program leading to a graduate degree. The fellowship stipend is a gift to help the Fellow achieve an educational goal, rather than a payment for services.

**Field experience, practicum, work experience, co-op**
*Field experience:* actual practice, often away from the college campus, in a practical or service situation. In a teacher education program, it is usually conducted in schools. *Practicum:* 1) a course of instruction aimed at closely relating the study of theory and practical experience, both usually carried on simultaneously; 2) an academic exercise consisting of study and practical work; and 3) supervised experience in counseling or a similar activity through such procedures as role-playing, recorded interviews, abstraction analysis, and supervisory evaluation with interviewing techniques. *Work experience, co-op, or internship:* a sponsored learning experience in an occupational area for persons preparing for full-time employment, conducted in connection with a course of study, where the students spend a part of their time on an actual job in a school, business, or industry.

**Full-time student**
See **Class or credit hour load** above.

**GAPDAC**
The Grade and Program Dismissal Appeals Committee (GAPDAC) renders the final decision on student grade and program dismissal appeals. The complete policy is contained in this catalog in the section entitled Student Rights and Responsibilities.
**Gate course**
A course in fundamentals in which a student must achieve a specified grade or "Credit" in order to qualify for enrollment in more advanced courses.

**Good standing**
See Academic standing above.

**Grade Appeal**
See GAPDAC above.

**Grade point**
The numerical value given to letter grades. "A" is equivalent to 4 points; "BA" to 3.5 points; "B" to 3 points; "CB" to 2.5 points; "C" to 2.0 points; "DC" to 1.5 points; and "D" to 1.0 point. An "E" or "X" is equivalent to zero points.

**Grade point average (GPA)**
A scholastic average of letter grades computed by dividing total honor points by total credit hours attempted. See also Honor points below.

**Graduate certificate program**
See Certificate program above.

**Graduate credit**
See Credit above.

**Graduate faculty**
Faculty who are approved to perform the functions of graduate education, to include teaching graduate courses, advising graduate students, and serving on graduate student committees. Only members of the graduate faculty may serve on thesis, specialist project, and dissertation committees.

**Graduate Research and Creative Scholars Award**
The Graduate Studies Council and The Graduate College annually present recognition awards in two categories to graduate students: the Department Graduate Research and Creative Scholars Award and the University Graduate Research and Creative Scholars Award. These awards acknowledge graduate students' contributions to the scholarly and artistic productivity of Western Michigan University. Each department with a graduate program may nominate one graduate student for each level of degree offered by the department; by virtue of this nomination, the student will be designated as a Department Graduate Research and Creative Scholar. From among the Department awardees, a faculty committee will select those students whose research or creative activity has exceptional merit to be designated as University Graduate Research and Creative Scholars.

**Graduate Student Advisory Committee**
The Graduate Student Advisory Committee (GSAC) is a standing committee of the Graduate Studies Council. It reviews services and needs of graduate students; makes recommendations to appropriate officials and offices; recommends graduate students for appointments to University councils and
committees; and serves as liaison between departmental graduate student organizations, the Graduate Studies Council, and the dean of The Graduate College.

**Graduate Student Permanent Program of Study**
A Graduate Student Permanent Program of Study is a document composed by a graduate student's program advisor, listing all courses and other requirements necessary for completion of the degree program to which the student was admitted. The program of study is approved by the program advisor and the graduate dean, filed in the student's academic folder in the Records Office, and used to audit the student's eligibility for the degree at the time the student applies for graduation.

**Graduate Student Teaching Effectiveness Award**
Award recognizing designated graduate student teaching assistants for superior effectiveness in teaching.

**Graduate Studies Council**
The Graduate Studies Council of the Faculty Senate reviews, develops, and recommends policy regarding graduate education at Western Michigan University.

**Graduation audit**
A formal, required evaluation of the student's academic record and program of study to determine the student's eligibility for graduation. The audit, initiated by a student's application for graduation, determines whether all University, degree, and program requirements have been met satisfactorily. See also Audit above.

Deadlines for all degree recipients to apply for graduation are August 1 for December graduation, December 1 for April graduation, February 1 for June graduation, and February 1 for August graduation.

Students who change a graduation date need to complete a new application for graduation. No fee for the change is required. The Records Office will not change a student's graduation date unless the student submits this new application for graduation.

**Grant**
Financial assistance, usually based on need and not required to be repaid, awarded to a student.

**Guest student**
An applicant with a bachelor's degree who wishes to enroll in graduate courses, but does not plan to pursue a degree program or is not eligible for admission to a degree program, may enroll in certain classes with Guest Status. This status also is granted to a visiting student from another university. Guest Status does not constitute admission to a degree or certificate program, and the courses taken under this status might not apply to a particular degree or certificate program. See also MIGS below.

**Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations**
The University's official formatting guide for master's theses, specialist projects, and doctoral dissertations, published by The Graduate College. This publication is available for purchase in Western's Campus Bookstore, or for free downloading at [http://www.wmich.edu/grad/guidelines.PM.pdf](http://www.wmich.edu/grad/guidelines.PM.pdf).
**Hold**
A restraint placed on a student's ability to register for classes as a result of an unfulfilled monetary obligation or other action by the University.

**Honor points**
A numerical value of the letter grade and credit earned in a course, determined by multiplying the grade point earned in the course by the number of credit hours for the course. See also **Grade point** above.

**Human Subjects Institutional Review Board of Western Michigan University (HSIRB)**
All research involving contact with human research subjects requires *prior* approval by the Human Subjects Institutional Review Board of Western Michigan University. No research involving human subjects is exempt from review by this Board. For more information, telephone the Research Compliance Officer in the Office of the Vice President for Research, 387-8298.

**Incomplete**
A temporary course grade ("I") granted by an instructor when illness, necessary absence, or other reasons beyond the control of the student prevent completion of course requirements by the end of the semester or session. An "I" may not be given as a substitute for a failing or low grade. Incomplete grades for graduate students will convert to an "X" if not removed within one calendar year, or sooner if so stipulated by the instructor.

The instructor assigning the grade of "I" will complete an official Report of Incomplete Work form indicating the remaining requirement(s) for the student to complete and the time allowed, if less than on full year. The instructor will keep a copy of this form, and the student will receive another copy along with the grade report issued by the Registrar's Office.

**Independent study**
Enrollment in an appropriately designated, variable credit course for a specific plan of study, authorized and supervised by a designated, consenting faculty member. Normally, it is a project designed to allow students to investigate areas of interest not within the scope of a regular course or to obtain an educational experience outside that normally offered by a regular course. A contract is developed between a faculty member and a student to explain the means by which the student will complete the research on a specific topic.

A student is on his/her own in Independent Study in that it involves no class meetings or formal lectures, but the faculty member is the responsible custodian of the project, obliged to provide guidance, assistance, criticism, suggestion, and evaluation, and shall be the instructor of record who is responsible for turning a grade to the Registrar’s Office. See also **Readings course** below.

**Institute**
An organizational unit similar in nature to a Center, as defined above, but which may be degree-granting. Typically an Institute will be interdisciplinary. Course work for a degree offered through an Institute may include some offered by the Institute itself, but will be primarily comprised of courses in various disciplines/departments already in existence.
Institutional Animal Care and Use Committee of Western Michigan University (IACUC)
The use of any vertebrate animals in research, testing, or instructional projects requires prior approval by the Institutional Animal Care and Use Committee of Western Michigan University. For more information, telephone the Research Compliance Officer in the Office of the Vice President for Research, 387-8298.

Institutional Biosafety Committee of Western Michigan University (IBC)
Any activity involving the construction or handling of recombinant DNA molecules or organisms and viruses containing recombinant DNA molecules requires prior notification or approval from the Institutional Biosafety Committee of Western Michigan University. For more information, telephone the Office of the Vice President for Research, 387-8298.

Interdisciplinary
Designating a combination of subject matter from two or more disciplines within a course or program.

Internship
Work in a firm or agency related to a student's degree program and/or career plans. Usually involves earning college credit and may involve receiving payment. See also Field experience, practicum, work experience, co-op above.

Late drop
An official procedure for withdrawing from individual classes without removing registration from all classes that takes place after the last day to drop a course without academic penalty.

Leave of Absence
WMU supports a leave of absence policy to assist graduate students who are temporarily unable to continue their programs. The leave of absence may extend consecutively for up to two semesters and two sessions. Students may request information about the application process from their advisor.

Michigan Intercollegiate Graduate Studies (MIGS) Program
An admissions category for guest graduate students from all Michigan institutions offering graduate degree programs to take advantage of unique educational opportunities on the campuses of other institutions. Western Michigan University participates in this program. Contact the MIGS liaison in the Graduate College for further information.

Michigan residence requirements
The requirements for identifying or establishing permanent residence in Michigan for tuition assessment purposes. For more information, see the “Student Rights and Responsibilities” section in this catalog.

Multiple topic or umbrella course
A variable topic, variable credit course that focuses on a current or a special interest in a specific field or academic area. The course may be repeated for credit with different topics.

Nondegree admission
Nondegree Admission is granted to the student who is eligible for enrollment in courses with the understanding that course work taken with this status is specifically for (a) a graduate certificate
program, (b) SCOPE registrations, (c) enrollment as a guest student. Such course work usually will not apply to a WMU degree program. If the nondegree admitted student subsequently decides to apply to a specific WMU degree program after his or her nondegree enrollment, the applicant will be expected to meet all University and program-specific admission requirements. The time period for any “Nondegree Admission” status may not exceed four years from the time such admission status is granted.

Nondegree student
A nondegree student is one who has been admitted to a nondegree category (usually to a certificate program only or to Guest Status) and is not otherwise seeking a master's, specialist, or doctoral degree.

Part-time student
See Class or credit hour load above.

Permission to Elect
A student who intends to register for Master's Thesis (7000), Specialist Project (7200), or Doctoral Dissertation (7300) for the first time is required to file a completed Permission to Elect form with the Graduate College before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials

Portfolio
A portfolio is a collection of work (e.g., paintings, writings, etc.) that may be used to demonstrate competency in an academic area.

Practicum
See Field experience, practicum, work experience, co-op above.

Prerequisite
A requirement, often the completion of a prescribed course or courses, which must be met before a student may register for another specific course. See also Corequisite above.

Probation
As a condition of academic standing: A student will be placed on probation if the student's overall grade point average falls below 3.0. See also Academic standing above.

Program Dismissal Appeal
See GAPDAC above.

Program of study (Graduate Student Permanent Program)
A program of study is a document listing the course and other requirements necessary to earn a graduate degree in a specific discipline. The program of study is composed by the advisor and the student, and approved by the graduate dean as meeting all University, program, and degree requirements. The program of study is used to conduct the graduation audit, and therefore must be filed well in advance of the student's application for graduation: Master’s and Specialist programs of study must be filed prior to the student’s completion of 12 hours; Doctoral programs of study must be filed prior to the student’s completion of 18 hours or by the end of the second semester of enrollment.
**Project committee**

A specialist project committee shall be appointed for each student undertaking a project as partial fulfillment of the requirements for a specialist degree. The purpose of the project committee is twofold: a) to provide the range of expertise necessary to advise a student in the conduct of the specialist project, and b) to ensure that evaluation of the project represents a consensus of professionals in the student's chosen discipline.

The specialist project committee is charged with the supervision and evaluation of the specialist project, a task that includes but is not limited to the following responsibilities: a) advise the student on selection and/or development of a specialist project topic; b) review and approve a proposal for the specialist project; c) provide consultation regarding progress on the project; d) evaluate the final document; and e) in those departments requiring an oral defense, evaluate the oral defense of the project.

In addition to the previously described responsibilities that are generic to all project committee members, the chairperson of the committee assumes the following additional responsibilities: a) in those departments where this responsibility is not discharged through other mechanisms, advise the student regarding selection of project committee members; b) routinely monitor student progress on the project; c) call project committee meetings; d) evaluate the readiness of the project proposal and of the project for committee review and action; and e) inform the student of the need to adhere to the *Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations*.

Each project committee shall consist of a minimum of three members or associate members of the graduate faculty of Western Michigan University. Two of the committee members must be from the department or academic program in which the student is pursuing the specialist degree. The appointment of a specialist committee is a three-stage process requiring, first, a mutual agreement between the specialist student and the prospective committee members; second, a formal appointment by the chairperson of the department (or the chairperson's designee); and third, notification of and approval by the office of the dean of The Graduate College regarding this appointment.

Each unit offering a specialist degree in which the project is either required or optional may approve and disseminate additional guidelines concerning specialist project committees, including the qualifications for committee membership, the procedures used to select and appoint committee members, and the specific functions and responsibilities that the members of these committees have. Additionally, each unit is encouraged to disseminate an updated list of faculty who qualify to serve on specialist project committees and their respective areas of expertise.

**Provisional Admission**

Provisional Admission is granted to the student who meets many of the admission requirements to the University and is expected to be formally admissible. Enrollment status is provisional until additional documents or materials for acceptance in the “General Admission” category are provided. Examples of missing documentation could be a final transcript from another institution where a degree was recently completed or a completion record of a specific placement examination. The time period for any “Provisional Admission” may not exceed one year from the time of initial status with ineligibility for further enrollment after that year.
Quarter or Term hour
A unit of academic credit, usually representing one hour of class time per week for one quarter or term. A "quarter" or "term" is a unit of time, usually 10 to 12 weeks long, in the academic calendar of an institution. Western Michigan University uses the semester calendar. See also Semester hour below.

Radiation Safety Committee (RSC)
All uses of radioactive material, including research-related uses, must be approved by the Radiation Safety Committee prior to initiation. For more information, telephone the Radiation Safety Officer in the Office of the Vice President for Research, 387-8298.

Readings course
A form of independent study, designed to provide a graduate student with an opportunity to read intensively within an area in which further knowledge would be appropriate. Enrollment in the appropriately designated course (5980, in most departments) requires a specific plan of study, authorized and supervised by a consenting faculty member, which includes the amount of reading, a description of the student's reporting method(s), and the number of credit hours to be earned by the completion of the plan of study. The maximum number of credits able to be earned and applied to a degree program is four, whether the readings course credits are all taken in one department or more than one, and the grade earned will be a letter grade.

Readmission
An appeal procedure for a student who has been dismissed or who seeks to be continued on probation. Readmission must be sought from the academic program's admission body in order for the student to register. See also Academic standards above.

Recombinant DNA Biosafety Committee (RDBC)
All research that involves recombinant DNA molecules must be reviewed and approved by the Recombinant DNA Biosafety Committee prior to initiation. For more information, telephone the Research Compliance Officer in the Office of the Vice President for Research, 387-8298.

Re-entry
An enrollment procedure administered by the Office of Admissions that is followed by a student who was previously enrolled in good standing at Western Michigan University but whose active admission status had lapsed.

Registration
The process of enrolling in and paying tuition and fees for courses each semester or session. For a full explanation of the registration procedures and regulations, consult the Schedule of Course Offerings available in the Registrar's Office.

Repeated course
With the exception of courses that are approved by the University Curriculum Review Policy as repeatable for credit (e.g., multi-topic or umbrella courses), no more than two courses may be retaken and no course may be repeated more than once during the student’s graduate career (inclusive of both master’s and doctoral programs) at WMU. This number may be further limited by individual departments. Permission to retake a course must be obtained from the program advisor and graduate
dean before registration for the course to be repeated takes place. The original grade for the course will remain on the student’s transcript, and both the original and repeated course grade will be computed into the degree program grade point average.

**Research tool**
An acquired ability that serves in the manner of a tool that assists in one's research. Doctoral students are expected to acquire the ability to use two research tools, at minimum. Normally, the research tools are selected from among foreign language, statistics, research methodology, and computer programming, although other tools are acceptable in some doctoral programs. Consult the program advisor for a full explanation.

**Residency requirement**
*Specialist program:* Unless otherwise approved by the University for an individual academic unit, the general residency requirement for specialist students is one academic semester of full-time study on campus or enrollment in two sessions in consecutive years and the intervening semesters. Consult the program advisor for complete information.

*Doctoral program:* The general residency requirement for doctoral students is one academic year (two consecutive semesters) of full-time study on campus. Each doctoral program may, however, with approval of the University through the curriculum review process establish its own residency requirement. Students must meet the residency requirement prior to approval for candidacy. Students should consult with their advisor regarding the residency requirement for the specific program of interest.

**School**
A single-discipline organizational unit which is identified in the public mind as an organizational unit beyond that of a department in its complexity of parts. Schools may have significant subdivisions such that students will apply for admission and take degrees through the subdivision rather than through the central unit as a whole.

**Semester**
A unit of time, 15 weeks long, in the academic calendar of Western Michigan University. The semesters occur in the Fall and the Spring. See also **Session** below.

**Semester hour**
A unit of academic credit, usually representing one hour of class time per week for one semester (15 weeks) or two hours of class time per week for one session (7 ½). See also **Quarter or Term hour** above.

**Senior citizen, SCOPE admission status**
A special nondegree admission status for persons sixty-two years of age or older that provides senior citizens with opportunities for nondegree study at Western Michigan University.

**Session**
A unit of time, 7 ½ weeks long, in the academic calendar of Western Michigan University. The sessions occur in Summer I and Summer II. See also **Semester** above.
**Thesis committee**

A master's thesis committee shall be appointed for each student undertaking a thesis as partial fulfillment of the requirements for a master's degree. The purpose of the thesis committee is twofold: a) to provide the range of expertise necessary to advise a student in the conduct of the master's thesis, and b) to ensure that evaluation of the thesis represents a consensus of professionals in the student's chosen discipline.

The master's thesis committee is charged with the supervision and evaluation of the master's thesis, a task that includes but is not limited to the following responsibilities: a) advise the student on selection and/or development of a master's thesis topic; b) review and approve a proposal for the master's thesis; c) provide consultation regarding progress on the thesis; d) evaluate the final document; and e) in those departments requiring an oral defense, evaluate the oral defense of the thesis.

In addition to the previously described responsibilities that are generic to all thesis committee members, the chairperson of the committee assumes the following additional responsibilities: a) in those department where this responsibility is not discharged through other mechanisms, advise the student regarding selection of thesis committee members; b) routinely monitor student progress on the thesis; c) call thesis committee meetings; d) evaluate the readiness of the thesis proposal and of the thesis for committee review and action; and e) inform the student of the need to adhere to the Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations.

Each thesis committee shall consist of a minimum of three members or associate members of the graduate faculty of Western Michigan University. At least two of the committee members must be from the department or academic program in which the student is pursuing the master's degree. The appointment of a master's thesis committee is a three-stage process requiring, first, a mutual agreement between the master's student and the prospective committee members; second, a formal appointment by the chairperson of the department (or the chairperson's designee); and third, notification of and approval by the office of the dean of The Graduate College regarding this appointment.

Each unit offering a master's degree in which the thesis is either required or optional may approve and disseminate additional guidelines concerning master's thesis committees, including the qualifications for committee membership, the procedures used to select and appoint committee members, and the specific functions and responsibilities that the members of these committees have. Additionally, each unit is encouraged to disseminate an updated list of faculty who qualify to serve on master's thesis committees and their respective areas of expertise.

**Time limit for completion of a degree**

Master's students must elect and complete all work for the degree, including transfer work, within six years preceding the date on which the master’s degree is conferred; specialist students entering with a master’s degree, within five years preceding the date on which the specialist degree is conferred; specialist students entering with a bachelor’s degree, within six years preceding the date on which the specialist degree is conferred; doctoral students, within seven years preceding the date on which the doctoral degree is conferred. Students whose degrees are taken primarily through part-time study have the option of requesting an extension from the graduate dean; extensions may also be granted for other students by the graduate dean for such legitimate reasons as illness, injury, or hardship.
Transcript
A transcript is a printed copy of a student's permanent academic record at a particular institution. The transcript, at minimum, lists all courses taken and credit hours and grades earned, and degrees received.

Transfer credit (graduate)
Credit (graduate) that is earned at another accredited institution and accepted toward a Western Michigan University graduate degree, if approved by the program advisor and if the earned grade in the course is "B" or better. The credit, moreover, must be earned within a six-year period prior to graduation from Western Michigan University. No grades nor honor points earned at another institution transfer to WMU and hence do not affect the WMU grade point average (with the exception of the MIGS program; see MIGS above).

Transfer credit evaluation form
An official form which indicates approval of a request to transfer credit and which states the number and type of transfer credit awarded. Credit is not transferred nor applied to a program of study unless the transfer credit evaluation form is completed and approved by the program advisor and the credit evaluator in the Registrar's Office.

Tuition
The amount of money paid for courses based on the number of credits for which the student registers.

Umbrella course
See Multiple topic course above.

University Microfilms, Inc. (UMI)
See Bell & Howell above.

Variable credit course
Some courses list a range of credit hours (e.g., 1-4 hrs.) for which the course may be elected, and as such are called "variable credit" courses. Students will determine, in prior consultation with the course instructor or the program advisor, the specific number of course credit hours to elect during the registration period.

Withdrawal
An official procedure for withdrawing from the University for at least the remainder of the current semester or longer. The deadline for the last day to withdraw from all courses without academic penalty (grade of “W” is on the transcript) is noted each semester or session in the Schedule of Course Offerings. Students who do not follow the official procedure when withdrawing from the University will earn the grade of “X” for all courses; the “X” grade carries no honor points and affects the grade point average in the same manner as an "E" or failing grade.

"X" grade
The symbol "X" on a student's transcript indicates that the student has never attended the class or has discontinued attendance and does not qualify for any other grade, including an "I" grade. The "X" will be computed into the student's grade point average as hours attempted with zero honor points.
Colleges and Programs

College of Arts and Sciences

Thomas Kent,
Dean

Alex Enyedi,
Associate Dean

Wendy Ford,
Associate Dean

Bassam Harik,
Associate Dean

Academic Units:
Africana Studies
Anthropology
Arts and Sciences
Biological Sciences
Chemistry
Communication
Comparative Religion
Economics
English
Environmental Studies
Foreign Languages
Geography
Geosciences
History
Mathematics
Medieval Institute
Philosophy
Physics
Political Science
Psychology
Public Affairs and Administration
Science Education, Mallinson Institute for Sociology
Spanish
Statistics
Women’s Studies

Vision
The College of Arts and Sciences seeks to create a challenging and intellectually vital learning community. Such a community engages students and faculty alike in a continuing discourse, providing
focus for being active, informed, productive, creative, open-minded, and ethically responsible citizens in a complex, multicultural, and rapidly changing world.

The College of Arts and Sciences is committed to the support and enhancement of graduate education, undergraduate education, research, and public/professional service; informed in all dimensions by commitment to diversity, to collaboration, to social responsibility and to civility; and sustained by continuous development and recognition of the efforts of faculty, advising personnel, support staff, emeriti and alumni.

Mission
The College of Arts and Sciences, as a key component in a student-centered research university, integrates research, teaching, and service in a manner that supports the College’s vision by fostering the discovery, extension, dissemination, preservation, and application of knowledge.

The College:

- Supports the personal and professional growth of students and faculty.
- Provides high quality teaching for the full range of the College’s educational responsibilities.
- Pursues basic and applied research in and across disciplines.
- Develops critical thinking, communication, research, aesthetic and creative abilities, problem solving, and multiple learning skills.
- Fosters the development of disciplinary, core knowledge.
- Provides students with the skills to communicate effectively across disciplines and cultures.
- Raises awareness about the social, cultural, environmental, and international contexts of knowledge to help students develop the skills to address the most pressing social, scientific, and moral problems of our society.
- Promotes high levels of professional integrity and general civility among faculty, staff, and students.
- Commits to diversity in the recruitment and retention of students and faculty.
- Serves as a resource to the university and local, state, national and global communities.
- Generates enthusiasm for lifelong learning.

Programs
Africana Studies

Director
Main Office: 3070 Moore Hall
Telephone: 387-2668

Deborah H. Barnes
Amos Beyan
William F. Santiago-Valles
Anthropology

Dr. Robert Ulin, Chair
Main Office: 1006 Moore Hall
Telephone: 387-2753
FAX: 387-3970

Robert Anemone
William Cremin
Sarah Hill
Charles Hilton
Jon Holtzman
Vincent Lyon-Callo
Ann Miles
Michael Nassaney
Laura Spielvogel
Bilinda Straight
Kristina Wirtz
Allen Zagarell

Master of Arts in Anthropology
Advisor: Laura Spielvogel
Room 1021, Moore Hall

The Master of Arts in Anthropology is designed to provide the students with a critical understanding of the major theories and methods of the discipline as a whole. Students have the opportunity to specialize in one of four subdisciplines of anthropology: archaeology, cultural anthropology, linguistic anthropology, or biological anthropology. Graduate seminars are available on such specialized topics as Nationalism, Gender, Ethnicity, Medical Anthropology, Archaeological Theory and Method (Processual and Post-Processual), Great Lakes, Eastern U. S., Central Asia, Human Biology, Paleoanthropology, and Research Methods. In addition to course work, students are encouraged to pursue original and independent research. Several research opportunities are available through organized field schools in the U.S. and abroad. The M.A. program in anthropology prepares graduates for Ph.D. programs in anthropology or other related disciplines, as well as establishing the foundation for careers in cultural resources management, education, industry, government, or non-profit organizations.

Admission Requirements
1. Students should have completed a major or minor in Anthropology. Other students will be considered but may be required to enroll in undergraduate prerequisite course work or to complete reading lists in subfields in which they have no background.
2. Accumulation of a grade point average of at least 3.0 during the final two years of undergraduate work.
3. Three letters of recommendation are required from persons able to assess the applicant's academic record, potential for success in a Master of Arts program in Anthropology, and suitability for an assistantship in this discipline. These letters should be submitted directly to the graduate advisor.
Each applicant must submit to the graduate advisor a one-page statement outlining his or her career goals and interests in anthropology.

Program Requirements
Students have the option of either a Thesis or a Non-Thesis Track

Thesis Track
1. Complete at least thirty-six hours in anthropology. Cognate courses may be substituted with approval from the graduate advisor.

2. The following are required
   ANTH 6010 - Seminar in Cultural Anthropology Credits: 3-4 hrs.
   ANTH 6020 - Seminar in Archaeology Credits: 3-4 hrs.
   ANTH 6030 - Seminar in Biological Anthropology Credits: 3-4 hrs.
   ANTH 6040 - Integrating Anthropology Credits: 3 hrs.

3. Either are required
   ANTH 5300 - Research Methods Credits: 3 hrs. or
   ANTH 5400 - Ethnographic Research Methods Credits: 3 hrs.

4. Complete an acceptable master’s thesis
   ANTH 7000 - Master's Thesis Credits: 6 hrs.

Non-Thesis Track
1. Complete at least thirty-six hours in anthropology Cognate courses may be substituted with approval from the graduate advisor. Thirty-six hours: 10 classes and 6 hours of Internship.

2. The following are required
   ANTH 6010 - Seminar in Cultural Anthropology Credits: 3-4 hrs.
   ANTH 6020 - Seminar in Archaeology Credits: 3-4 hrs.
   ANTH 6030 - Seminar in Biological Anthropology Credits: 3-4 hrs.
   ANTH 6040 - Integrating Anthropology Credits: 3 hrs.

3. Six hours of Internship or Practicum is required
   ANTH 6990 - Independent Research in Anthropology Credits: 1-3 hrs.

Graduate Certificate Program in Ethnohistory
Ethnohistory is the study of cultures, combining research techniques and theoretical approaches from the fields of history and anthropology. The core of ethnohistory lies in the realization shared by practitioners of the benefits obtained through the use of multiple lines of evidence to study history and culture. Ethnohistorians recognize that documents, archaeological findings, oral histories, and ethnographies can be profitably compared, contrasted, and integrated to elucidate the histories and cultural contexts of groups that have been ignored in conventional historical accounts. By juxtaposing multiple lines of
evidence in an interdisciplinary manner, ethnohistorians can at once examine the distant and the local, the general and the particular, bringing human experience into better focus.

Western Michigan University is a center for ethnohistorical research on a global level, including the United States, Canada, Mexico, the Caribbean, Central and South America, West Africa, South Asia, and Europe. Particular areas of expertise include culture contact, colonialism, material analysis, historiography, oral history, gender, historical archaeology, ethnography, tribalization, globalization, and modernization. These topics are not restricted to any particular geographic area nor any particular societal structure.

Admission Requirements
This certificate program is open to any student admitted to a graduate degree program at Western Michigan University.

Program Requirements
Each student will complete satisfactorily five courses (fifteen credit hours). Students will be required to take three courses from the list of recommended courses below, at least one of which will be outside of their home department; and take the Ethnohistory Seminar (HIST/ANTH 6090) two times, which will be alternately taught each year by faculty from History and Anthropology.

Recommended Courses
The courses below count for the Ethnohistory program only when taught by an affiliate faculty of the Ethnohistory program. Please see an advisor for more complete information.
ANTH 5000 - Topics in Archaeology Credits: 3 hrs.
ANTH 5050 - Social Archaeology Credits: 3 hrs.
ANTH 5060 - The Archaeology of Gender Credits: 3 hrs.
ANTH 5200 - Anthropological Theory Credits: 3 hrs.
ANTH 5830 - Anthropology and History Credits: 3 hrs.
ANTH 6020 - Seminar in Archaeology Credits: 3-4 hrs.
ANTH 6900 - Archaeological Field School Credits: 3-6 hrs.
HIST 6000 - Historical Method Credits: 3 hrs.
HIST 6010 - Historiography Credits: 3 hrs.
HIST 6250 - Problems in Cultural Resource Management Credits: 1-3 hrs.
HIST 6420 - Oral History Credits: 3 hrs.
HIST 6440 - Material Culture and the Built Environment Credits: 3 hrs.
HIST 6460 - Historical Archaeology Credits: 3 hrs.
HIST 6890 - Seminar in Public History Credits: 3 hrs.
Biological Sciences

Dr. David Cowan, Chair
Main Office: 3443 Wood Hall
Telephone: 387-5600
FAX: 387-5609

Todd Barkman
Bruce Bejcek
Christine Byrd
William Cobern
Alexander J. Enyedi
Karim Essani
Robert Eversole
John R. Geiser
Leonard C. Ginsberg
Pamela Hoppe
Charles Ide
John A. Jellies
Donald A. Kane
David Karowe
Steve Kohler
Cindy L. Linn
David Linn
Stephen B. Malcolm
Charles Mackenzie
Jay C. Means
Kathy Onderline
Hector D. Quemada
Wendy Ransom-Hodgkins
David Reinhold
Silvia Rossbach
David W. Rudge
Reneé Schwartz
Maria Scott
John Spitsbergen
Susan Stapleton
Brian Tripp
Maarten Vonhof

Master of Science in Biological Sciences
Advisor: John Spitsbergen,
Room 3052, Haenicke Hall

The Master of Science in Biological Sciences enhances students' ability to plan, conduct, analyze, and report original research. Course work increases students' scientific preparation and supports their
research. Through the advice of the students' major advisor, efforts are made to choose courses to meet individual needs and interests. The degree may serve as preparation for continued graduate or professional study or for positions in the private or public sector. Thesis and non-thesis options are offered.

**Admission Requirements**
To be admitted in the master’s program, both departmental and University requirements must be met. Application materials must be obtained from both the Department of Biological Sciences at (269) 387-5600 and the Office of Admissions and Orientation at (269) 387-2000 for domestic students or Office of International Student and Scholar Services (269) 387-5865 for international students. To be considered, an application must contain:
1. Completed University and Departmental application forms;
2. Official transcripts from all colleges and universities previously attended, indicating that the applicant has earned a Bachelor’s degree from an accredited institution with an overall grade point average of at least 3.2, and taken appropriate courses in biology, chemistry, physics, and mathematics;
3. Official scores for the verbal, quantitative, and analytical sections of the Graduate Record Exam (these must be submitted to the Office of Admissions and Orientation);
4. Three letters of recommendation; and A cover letter highlighting the student’s most important accomplishments to date and indicating how graduate work at Western Michigan University will further the applicant’s career goals. Although not required for admission, applicants are encouraged to contact individual faculty to discuss their research interests. Students with academic deficiencies may be provisionally admitted and required to address their deficiencies during the first year in the graduate program.

**Program Requirements**
The Master of Science in Biological Sciences (Thesis Option) requires 33 hours of course work, including preparing and defending a thesis in an oral examination and presenting research results at a departmental seminar.

The Master of Science in Biological Sciences (Non-Thesis Option) requires 33 hours of course work, including presentation of research results at a departmental seminar, defense of research results in an oral examination, and preparation of a manuscript suitable for publication in a refereed journal (in consultation with the student’s thesis committee).

1. Required Courses (11 hrs.)
There are 6 graduate core courses:
BIOS 6110 - Eukaryotic Cell Biology Credits: 3 hrs
BIOS 6120 - Prokaryotic Cell Biology Credits: 3 hrs
BIOS 6130 - Animal Physiology Credits: 3 hrs
BIOS 6140 - Plant Physiology Credits: 3 hrs
BIOS 6150 - Ecology Credits: 3 hrs
BIOS 6160 - Evolution Credits: 3 hrs

Master's students are required to take 3 of these 6, 1 from each of three pairs:
BIOS 6110 - Eukaryotic Cell Biology Credits: 3 hrs or
BIOS 6120 - Prokaryotic Cell Biology Credits: 3 hrs
and
BIOS 6130 - Animal Physiology Credits: 3 hrs or
BIOS 6140 - Plant Physiology Credits: 3 hrs
and
BIOS 6150 - Ecology Credits: 3 hrs or
BIOS 6160 - Evolution Credits: 3 hrs

In addition, each student is required to take 2 hours of:
BIOS 6050 - Biological Sciences Colloquium Credits: 1 hr

2. Elective Courses (16 hrs.)
Elective courses are selected with the advice and approval of the student's advisory committee. Electives are selected from Biological Sciences or approved cognate courses.

3. Research Requirement (6 hrs.)

*Thesis Option:*
BIOS 7000 - Master's Thesis Credits: 6 hrs

*Non-Thesis Option:*
BIOS 7100 - Independent Research Credits: 2-6 hrs

**Doctor of Philosophy in Biological Sciences**
Advisor: John Spitsbergen,
Room 3052, Haenicke Hall

The Doctor of Philosophy in Biological Sciences at Western Michigan University offers a unique combination of traditional research experience, breadth of course work, and training in effective communication of scientific concepts. This program is specifically designed for students who wish to pursue careers in the biological sciences that require excellence in both teaching and research. In addition, the pedagogy requirements also provide excellent training for careers in government and industry. Additional information may be obtained from the Departmental Graduate Secretary or Graduate Advisor.

**Admission Requirements**
To be admitted in the master’s program, both departmental and University requirements must be met. Application materials must be obtained from both the Department of Biological Sciences at (269) 387-5600 and the Office of Admissions and Orientation at (269) 387-2000 for domestic students or Office of International Student and Scholar Services (269) 387-5865 for international students.

Conditions stated under 1 or 2 below must be met for regular admission to the Biological Sciences Ph.D. program.

For persons possessing a bachelor's degree from an accredited college or university:
1. Grade point average of 3.2 or higher.
2. Scores on the verbal, analytical, and quantitative sections of the Graduate Record Examination.
3. College courses as follows:
   a. Appropriate courses in the biological sciences as determined by the Graduate Advisor.
   b. Organic chemistry
   c. Two mathematics courses, including calculus.
4. Three letters of recommendation.
5. Availability of a potential dissertation advisor in an area of planned specialization.

For persons possessing a master's degree in one of the biological sciences from an accredited university:
1. Grade point average of 3.25 or higher in graduate level courses.
2. Scores on the verbal, analytical, and quantitative sections of the Graduate Record Examination.
3. Three letters of recommendation.
5. Cognate course work as given in 1c i-iv above.

Note: Some course deficiencies in admission requirements may be completed after “admission with reservations.” These deficiencies must be completed in addition to the minimum credit hours required for the Ph.D. All reservations, including course deficiencies, must be removed before advancement to candidacy.

Applicancy
Applicancy requirements are those of The Graduate College.

Committee Structure: By the end of the first year, or before taking the first independent research hours (BIOS 7350), a Dissertation Committee should be constituted. The Dissertation Committee will be composed of at least four members, including the major professor, two or more members of the Department of Biological Sciences, and one or more outside examiners.

Candidacy
No later than the end of the third calendar year after enrollment in the Ph.D. program, doctoral students must seek candidacy. By this time the student should have completed the research tools requirement. To be admitted to candidacy, the student must submit and defend, in an oral examination administered by the proposed Dissertation Committee, his/her dissertation research proposal. This proposal will be in the format of an NIH or NSF grant application. Student will be given a grade of pass or fail by the Dissertation Committee. In the event of failure, the proposal may be revised and re-defended once, and this must be done within one calendar year of failure.

Candidacy will be approved or denied by the Graduate Advisor based upon submission of an acceptable dissertation proposal, successful completion of the defense of that proposal, positive recommendations from a majority of the student’s Dissertation Committee, satisfactory performance in course work, and successful performance in all other professional activities, including teaching assignments.

General Plan and Sequence of the Program

Students will satisfy any curricular deficiencies beginning with the first semester in residence.
Core courses should be taken, after consultation with the Dissertation Committee, early in the program to assist in preparation of the research proposal. Course work pertaining to teaching and Teaching Experiences should be initiated no later than the second year of graduate study.

Financial Assistance
The Department of Biological Sciences offers opportunities for financial support of doctoral students through Graduate Assistantships and Fellowships. Individuals desiring further information about such opportunities, or about the graduate program, should contact the Graduate Advisor and The Graduate College.

Program Requirements

1. A minimum of 61 graduate semester hours. These hours shall consist of the following:
   a. At least 12 hours of distribution courses from the following list as approved by the Dissertation Committee.
      BIOS 6110 - Eukaryotic Cell Biology Credits: 3 hrs
      BIOS 6120 - Prokaryotic Cell Biology Credits: 3 hrs
      BIOS 6130 - Animal Physiology Credits: 3 hrs
      BIOS 6140 - Plant Physiology Credits: 3 hrs
      BIOS 6150 - Ecology Credits: 3 hrs
      BIOS 6160 - Evolution Credits: 3 hrs
   b. At least 9 hours of electives chosen from:
      The graduate offerings of Biological Sciences or other departments appropriate to the student's career and research interests as agreed upon by the student and the Dissertation Committee.
   c. Three hours of:
      BIOS 6050 - Biological Sciences Colloquium Credits: 1 hr
   d. Three hours of:
      Taken during three laboratory rotations.
      BIOS 6990 - Laboratory Rotations Credits: 1-4 hrs
   e. Four hours of the following:
      Including a formal course and three Teaching Experiences.
      BIOS 6100 - Teaching of Biological Sciences Credits: 1-4 hrs
   f. Doctoral Research composed of at least 15 hours of the following:
      BIOS 7300 - Doctoral Dissertation Credits: 15 hrs
      BIOS 7350 - Graduate Research Credits: 2-10 hrs

2. Satisfaction of the research tools requirement.

3. Successful completion and defense of the research proposal.

4. Successful oral defense of dissertation and approval of:
The dissertation by the Dissertation Committee.

5. Any other requirements as specified by The Graduate College.
Chemistry

Dr. Michael Barcelona, Chair
Main Office: 3446 McCracken Hall
Telephone: 387-2845
FAX: 387-2909

Steven B. Bertman
Brian Buffin
John E. Chateauneuf
Herb Fynewever
David L. Huffman
James Kiddle
Dongil Lee
Jay C. Means
John B. Miller
Yirong Mo
Subra Muralidharan
Sherine Obare
David S. Reinhold
Elke Schoffers
Donald R. Schreiber
Susan R. Stapleton
Brian Tripp

Financial Assistance
The Department of Chemistry offers opportunities for financial support of graduate students through several departmental, University, and grant-funded fellowships and teaching or research assistantships. Information and applications are available from the Department of Chemistry.

Master of Science in Chemistry

Advisors: John B. Miller,
Room 3156, Wood Hall

Steven Bertman,
Room 3440, Wood Hall

The Master of Science in Chemistry is a research degree planned to provide a broad background in the various fields of chemistry with concentration in one.

Admission Requirements
Entrance requirements are those of The Graduate College. Students may be asked to take a test of spoken English proficiency based upon application materials and references. Application must be made both to the Office of Admissions, Graduate Admissions, and to the Department. Prospective students are
required to take the Graduate Record Examination General Test. Three letters of recommendation from academic or professional sources should accompany the application. Application material, including grade point average, transcripts, performance on GRE, and letters of recommendation will all be used in the determination of admission and financial support.

**Program Requirements**

After admission students will be required to take placement examinations covering any three of the fields of Analytical, Inorganic, Organic, Physical Chemistry, and Biochemistry before they start classes. The entrance examinations are scheduled during the week preceding each semester. Students who fail an examination are required to attend the corresponding undergraduate course, if available, or make specific arrangements with the appropriate division. Enrollment in a 6000-level Chemistry course is not permitted unless the appropriate entrance requirement has been satisfied.

The student is required to elect twenty hours in the field of Chemistry, including the Master's Thesis. The Chemistry hours may be more than twenty depending on the student's background. The remaining hours up to at least thirty hours may be in a related field or fields. The course sequence will include (if not previously elected):

1. CHEM 5070 - Ethical Chemical Practice Credits: 3 hrs
2. CHEM 5200 - Instrumental Methods in Chemistry Credits: 3 hrs
3. One of the following:
   CHEM 5150 - Inorganic Chemistry Credits: 3 hrs
   CHEM 5500 - Biochemistry I Credits: 3 hrs
   CHEM 5510 - Biochemistry I Laboratory Credits: 4 hrs
4. CHEM 6010 - Graduate Seminar Credits: 1 hr
5. Three 6000-level courses from three different divisions (Analytical, Biochemistry, Inorganic, Organic, and Physical), including one course in the division of the Master's Thesis
6. CHEM 7000 - Master's Thesis Credits: 6 hrs

**Additional Requirements**

The requirement for any of the above 5000-level courses is waived if the student has taken a corresponding course as an undergraduate.

The student is required to pass a final oral defense of his or her thesis administered by the student's graduate committee. The student is also required, as part of the graduate training in chemistry, to attend departmental seminars, colloquia, and symposia, and to participate in research within the department.

**Doctor of Philosophy in Chemistry**

The Doctor of Philosophy in Chemistry, with emphasis in environmental chemistry, is a research degree designed for persons intending to take a leadership role in teaching and/or research in applied areas of
environmental chemistry. The program takes an innovative approach, using the skills and expertise provided by the traditional areas of chemical study as the foundation for addressing chemical processes occurring in the atmosphere, biosphere, hydrosphere, and lithosphere. The program is designed to offer flexibility so that a full-time student may complete the degree in four years and a nontraditional student may be accommodated around full-time employment. The educational goals of the program stress a well-rounded expertise in chemistry, as well as a literate acquaintance with another environmentally related discipline such as biological science, hydrogeology, or paper science. These educational goals provide scientific breadth not often found in traditional chemistry degrees. Combining formal education with a research endeavor encompassing a chemical discipline will provide students with the high quality education necessary to contribute to the resolution of the expected and unexpected environmental issues of the future.

Admission Requirements
Applicants to the program will be expected to meet the entrance requirements of The Graduate College and hold a bachelor’s degree in chemistry or an equivalent amount of experience or training. Application must be made both to the Office of Admissions and Orientation—Graduate Admissions and to the department. Prospective students are required to take the Graduate Record Examination General Test and the Chemistry or Biochemistry Subject Test. Three letters of recommendation from academic or professional sources should accompany the application. Application material, including grade point average, transcripts, performance on GRE’s, and letters of recommendation will all be used in the determination of admission and financial support.

Program Requirements
After admission, the student will be required to take standardized placement examinations covering any four of the fields of Analytical, Inorganic, Organic, Physical, or Biochemistry. The entrance examinations are scheduled during the week preceding each semester. Identified deficiencies, if any, will be remedied with appropriate course work determined by an academic advisor. Enrollment in a 6000-level Chemistry course is not permitted unless the appropriate entrance requirement has been satisfied.

Within the first academic year, students will select a research advisor and a major area of study. Selection of the research advisor will be by mutual consent of the faculty member and student. Selection of the student’s major area of study will be determined in conjunction with the research advisor. Major areas of study currently include analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. Shortly after selecting a research advisor, a dissertation committee should be established. The committee should be comprised of the advisor serving as chair and at least two other faculty from the department and one member from outside the department. No more than two of the departmental committee members should be from the student’s major area of study. Emeritus faculty may serve on the committee. Removal of a committee member will require mutual consent of the student and the dissertation committee or a majority vote of the department faculty.

The student will complete at least sixty (60) semester hours of credit for the degree, with no more than half the credits as course work. A minimum of nine (9) graduate level courses must be completed satisfactorily. Fifteen (15) hours of doctoral dissertation research is required. The remaining hours will be completed through a combination of coop/internship experiences and/or special research problems and investigations in chemistry. The coop/internship option should be especially attractive to individuals
who are considering an industrial career or who are already employed by industry and wish to set up a
new scientific initiative. The student must maintain an overall grade point average of 3.0/4.00 to meet
graduation requirements. The following describes the distribution of credit hours for the degree.
Chemistry course
• Three (3) courses with environmental application (9 hrs.)
• Four (4) chemistry courses that emphasize major field (12 hrs.)
Cognate courses
• Two (2) courses from outside the department (6 hrs.)
Other
• Seminar credit (1 hr.)
• Chemical literature (2 hrs.)
Special research problems or coop/internships (15 hrs.)
Doctoral dissertation (15 hrs.)

Beginning in the first year and concurrent with course work, the student will be required to take
cumulative examinations (CUME) that cover all of the major areas of study in chemistry. The purpose
of the cumulative examination is to ensure that the student has, and can demonstrate and apply,
knowledge of current, advanced chemical principles. The following describes the cumulative
examination process.

Eight (8) cumulative examinations (CUME) will be given in each academic year.
On each examination, there will be offered a question from three of the five major areas of study:
analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. The
student will choose any two (2) questions to answer.

The student must pass twelve (12) CUME questions by the time the student has completed the chemistry
courses (generally within the first three years of the program). At least three (3) of the twelve (12)
questions passed must be from an area outside the student’s concentration.
The student must pass at least two (2) CUME questions by the end of the first year.

The student must pass a least four (4) CUME questions before standing for the research proposal
defense.

Within the first two years, the student will be required to present a critique seminar on a paper or papers
from the current literature. Upon successful completion of the seminar, a passing grade will be received
for seminar credit.

The student, after successful completion of no less than four (4) CUME questions, will be required to
defend a written proposal for a unique research topic. The proposal topic must be unrelated to the
student’s current dissertation research project and must be approved by the student’s dissertation
committee.

To be considered a candidate for the degree and to ensure a timely completion of the program, a full-
time student should have completed the following by the end of the third year:
Any deficiencies identified by the entrance examinations.
At least five (5) of the seven (7) required chemistry courses with a minimum course grade point average of 3.0.

Twelve (12) cumulative examination questions.

The proposal defense.

The program is designed to allow the flexibility of tailoring the curriculum to the needs of the student. Thus, the research tools requirement includes professional tools that facilitate successful academic, government, or industrial careers. Where necessary, satisfaction of the research tools requirement, including approval of appropriate courses, shall be determined by the dissertation committee. The committee can be petitioned regarding significant experience or expertise in these areas, which generally implies the use of a research tool in the context of current or prior employment or internships. The research tools component shall be met when a student satisfactorily accomplishes two of the following tasks:

- Demonstrates competence in computer programming and use by receiving a grade of “B” or better in an approved elective computer science course, or by sufficient previous course work, or by applying programming to a research problem. Such application could be through design and use of a program subroutine to analyze data acquired from a scientific instrument, computer modeling and simulation, design and analysis of algorithms or database management.

- Achieves a working knowledge of statistics by receiving a grade of “B” or better in an approved elective statistics course or by showing the ability to apply advanced statistical analysis such as multivariate analysis to a scientific research problem.

- Shows proficiency in the design or manufacture of electronic circuits and devices by construction of an instrument used in a research project or by receiving a grade of “B” or better in an appropriate course. Masters the design, repair, and development of chemical instrumentation used as part of an upper-level course or in a research project.

- Demonstrates a reading knowledge of one of the foreign languages important in the chemical literature or chemical industry (French, German, Russian, Japanese) by receiving a grade of “B” or better in a 4010 course in one of the languages, by passing a standardized examination, or by successfully translating a technical article assigned by the department.

The Ph.D. candidate must complete and successfully defend a dissertation on a research topic approved by the dissertation committee.
Communication

Dr. Steven Rhodes, Director
Main Office: Third Floor, Sprau Tower
Telephone: 387-3130
FAX: 387-3990
URL: http://www.wmich.edu/communication

Heather Addison
Julie Apker
Sandra Borden
Sue Ellen Christian
Autumn Edwards
Chad Edwards
Rebekah Farrugia
Leigh A. Ford
Wendy S. Ford
Richard Gershon
James Gilchrist
Keith Hearit
Richard Junger
Joseph Kayany
Michael Kent
Marilyn Kritzman
Steven Lipkin
Jennifer Machiorlatti
Peter Northouse
Paul Nwulu
Mark Orbe
Kathleen Propp
Jocelyn Steinke
Maureen Taylor
Kathleen Wong
Paul Yelsma

Master of Arts in Communication

Advisor and Director, Graduate Program: Dr. Leigh Ford,
Room 318, Sprau Tower

The Master of Arts in Communication provides a foundation in communication theory and research and emphasizes intra/interdisciplinary connections in applied contexts. Thirty semester hours of graduate credit and completion of a capstone experience are required for graduation.
Admission Requirements
Students must satisfy the general admission requirements of The Graduate College. Students applying to the Communication master’s degree program must have completed undergraduate work in communication, speech, or allied disciplines and have achieved at least a 3.0 grade point average in their last two years of course work. Additional course work may be required at the time of admission into the program, as deemed necessary by the director of graduate studies. Undergraduate transcripts, graduate transcripts where applicable, Graduate Record Examination (GRE) scores, three letters of recommendation (on WMU Graduate Reference Forms), and evidence of academic interest and ability are required.

Program Requirements

Communication Foundations (6 hrs.)
Select two of the following:
COM 6450 - Mass Communication Credits: 3 hrs
COM 6740 - Interpersonal Communication Credits: 3 hrs
COM 6820 - Organizational Communication Credits: 3 hrs

Research Foundations (6 hrs.)
COM 6010 - Introduction to Communication Inquiry Credits: 3 hrs

Select one of the following:
COM 6020 - Quantitative Communication Research Credits: 3 hrs
COM 6050 - Qualitative Communication Research Credits: 3 hrs

Communication Electives (18 hrs.)
Students will develop an individualized program of study reflecting a focused area of concentration, in consultation with a faculty advisor. A program of study may incorporate up to 6 hours of course work outside the department with the written approval of the graduate director.

Capstone Experience
Master’s degree students must complete a capstone experience in partial fulfillment of their requirements for graduation. The capstone experience shall consist of completion of a Master’s thesis or completion of comprehensive examinations.

Thesis Option
The thesis project consists of completion of a research paper in which the student proposes and tests new ideas, replicates an existing study, or advances theoretical understanding of an issue. The thesis must demonstrate scholarly abilities, including solid conceptualization, analysis, and writing. The thesis must clearly define the problem to be investigated, demonstrate mastery of relevant academic literature, and show competence in the relevant methodology and analysis techniques. The thesis shall consist of six credit hours and shall be considered part of the communication electives

Comprehensive Examination Option
The comprehensive examination option requires the student to demonstrate knowledge of a substantive area within communication and to demonstrate a capacity to integrate theory, research, and practice in response to comprehensive questions developed by the faculty of the School of Communication.
Comparative Religion

Dr. Brian C. Wilson, Chair
Main Office: 2011 Moore Hall
Telephone: 387-4367
FAX: 387-4914

Stephen G. Covell
David Ede
Mustafa Mirzeler
Rudolf Siebert
Kevin Wanner

Master of Arts in Comparative Religion
Advisor: David Ede
Room 2005, Moore Hall

The Master of Arts in Comparative Religion is designed to provide students with a strong foundation of knowledge of at least two religious traditions, the principal classical works in the field of Comparative Religion, and the central issues of theory and method that underlie the discipline of the study of religion.

Admission Requirements
1. The completion of a baccalaureate degree from an accredited institution.
2. The submission of a letter of intent stating specific areas of interest and academic and professional goals.
3. Two letters of recommendation from persons able to evaluate the applicant's potential for graduate study.
4. Submission of Graduate Record Examination scores.

Program Requirements
The Department of Comparative Religion offers course work leading to a Master of Arts in Comparative Religion, with two options:

Option I
Required Courses (12 hours)
REL 6000 - Classics in Comparative Religion Credits: 3 hrs.
REL 6100 - Theory and Method I Credits: 3 hrs.
REL 6150 - Survey of Religions of the World Credits: 3 hrs.
REL 6200 - Advanced Seminar in Comparative Religion Credits: 3 hrs.

Electives (15 hours)
15 hours of electives chosen from approved courses.

Master's Thesis (6 hours)
Prepare and defend, in oral examination, a master's thesis under the direction of a thesis advisor.
REL 7000 - Master's Thesis Credits: 6 hrs.
Foreign Language Proficiency
Demonstrate reading proficiency in one foreign language relevant to the research area.

Option II
This option does not require the preparation of a thesis.
Required Courses (12 hours)
REL 6000 - Classics in Comparative Religion Credits: 3 hrs.
REL 6100 - Theory and Method I Credits: 3 hrs.
REL 6150 - Survey of Religions of the World Credits: 3 hrs.
REL 6200 - Advanced Seminar in Comparative Religion Credits: 3 hrs.

Electives (21 hours)
21 hours of electives chosen from approved courses.

Comprehensive Examination
Satisfactorily complete a comprehensive examination in the area or areas of concentration.

Foreign Language Proficiency
Demonstrate reading proficiency in one foreign language relevant to the research area.
Economics

Dr. William S. Kern, Chair
Main Office: 5307 Friedmann Hall
Telephone: 387-5535
FAX: 387-3999

Donald L. Alexander
Eskander Alvi
Sisay Asefa
Bassam E. Harik
Matthew L. Higgins
Emily P. Hoffman
Kevin M. Hollenbeck
Wei-Chiao Huang
James Hueng
Jean Kimmel
Donald J. Meyer
Christine Moser
Debasri Mukherjee
Jon R. Neill
Susan Pozo
Michael Ryan
Edward Van Wesep
Mark V. Wheeler
Huizhong Zhou

Master of Arts in Applied Economics
Advisor: Mark Wheeler,
Room 5453, Friedmann Hall

The M.A. in Applied Economics is designed for those who expect to pursue a career in business or government and prefer a course of study leading to a terminal degree that emphasizes the applications of economics to the problems of these areas. The degree is awarded on the basis of the satisfactory completion of thirty hours in a planned program prepared in consultation with the graduate advisor. Some graduates continue their formal training in economics, pursuing the Ph.D. degree at WMU or at another university.

Admission Requirements
Satisfactory completion of a minimum of twelve undergraduate hours in economics or in equivalents approved by the graduate advisor.
Satisfactory completion of intermediate level courses in microeconomic and macroeconomic theory. Students not meeting this requirement will be admitted with reservation and be required to complete satisfactorily ECON 4030 and 4060.
Satisfactory completion of at least one course in calculus.
Program Requirements
1. The satisfactory completion of either twenty-four hours of courses plus a master’s thesis or thirty hours, if additional courses are submitted lieu of the thesis, in a planned program prepared in consultation with the graduate advisor.

2. At least an overall “B” average in the Economics courses that the student takes in an advisor-approved program of study.

3. ECON 5030 - Economic Computing Credits: 3 hrs.
ECON 5040 - Mathematics for Economists Credits: 3 hrs.
ECON 6030 - Advanced Price Theory Credits: 3 hrs.
ECON 6070 - Uncertainty and Information Credits: 3 hrs.
ECON 6190 - Introduction to Econometrics Credits: 3 hrs.
ECON 6220 - Economic Statistics Credits: 3 hrs.
ECON 6620 - National Income Analysis Credits: 3 hrs.

Doctor of Philosophy in Applied Economics
Advisor: Mark Wheeler,
Room 5453, Friedmann Hall

The Doctor of Philosophy in Applied Economics is designed to meet the needs of future high-level practicing economists, primarily in non-academic settings.

Recent studies have found that non-academic employers of Ph.D.-level economists are concerned about the training that existing programs give their graduates. In an early 1990's report commissioned by the American Economic Association, Dr. Anne O. Krueger reported that the proportion of new economics doctorates taking their first job in academia has significantly declined and that universities are not adequately serving the non-academic portion of the market. She wrote that “. . . our major concern focuses on the extent to which graduate education in economics may have become too removed from real economic problems. . . and that the focus on developing skills required for applied research should be stronger. . . .” The Ph.D. program offered by the WMU Economics Department is designed to address this need.

The Applied Economics Ph.D. program retains a core curriculum as is required by traditional Ph.D. programs in economics, but requires that students participate in a series of applied economics workshops. Students may complete a one-year internship in a non-academic organization. Doctoral students intern with organizations such as city, county, or state government agencies; consulting or research firms and institutes; financial institutions; businesses; and hospitals. This internship is conducted under the aegis of an employee of the organization as well as a Department of Economics faculty member. The purpose of this internship is to give students the incentive and opportunity to apply their knowledge of economic theory and empirical methods to actual problems faced by organizations. The internship is also intended to provide the subject of the student's dissertation and therefore send the Department's graduates into the job market with a somewhat different orientation than that of graduates from traditional economics Ph.D. programs. Students not electing the internship option are required to
add a field of specialization in economics or a related field by completing a two-course sequence approved by the Graduate Programs Committee.

The Applied Economics Ph.D. program is designed to be completed within four years by a student entering with good undergraduate economics and quantitative methods (mathematics and statistics) training or a Master of Arts in Economics.

**Admission Requirements**

Admission to the Ph.D. program in Applied Economics requires:
1. GRE scores (verbal, quantitative, analytical).
2. Satisfactory completion of high-level undergraduate or M.A.-level microeconomic and macroeconomic theory courses.
3. Satisfactory completion of undergraduate calculus and statistics courses.
4. A personal statement discussing your career plans
5. Three letters of reference from persons in a position to assess your qualifications for doctoral-level study and likelihood of successful completion of the Ph.D. degree.

**Financial Assistance**

A number of doctoral assistantships are awarded each year. Recipients are selected by the Department’s Graduate Programs Committee on a competitive basis. Financial assistance is limited to four years. Graduate minority financial assistance is available to eligible students.

**Program Requirements**

A minimum of 75 credit hours at the 6000-level or higher is required in this program. This includes up to eighteen hours of workshops, up to twelve hours of internship, and twelve hours of doctoral dissertation.

**Required Core Courses:**

ECON 6040 - Introduction to Mathematical Economics Credits: 3 hrs.
ECON 6190 - Introduction to Econometrics Credits: 3 hrs.
ECON 6220 - Economic Statistics Credits: 3 hrs.
ECON 6650 - Microeconomic Theory I Credits: 3 hrs.
ECON 6660 - Microeconomic Theory II Credits: 3 hrs.
ECON 6700 - Advanced Econometrics I Credits: 3 hrs.
ECON 6710 - Advanced Econometrics II Credits: 3 hrs.
ECON 6750 - Macroeconomic Theory I Credits: 3 hrs.
ECON 6760 - Macroeconomic Theory II Credits: 3 hrs.

**Additional Program Information**

At or near the beginning of the fall semester of the second year, students are administered a qualifying examination in economic theory. Upon passing this examination, the student is considered a candidate for the Ph.D. degree.

Each student is required to specialize in econometrics and in two of the following fields: Economic Development, Human Resource Economics, Business/Industrial Organization, Monetary Economics, and International Economics. (Not all of these five fields will be offered in any particular year.) To
specialize in a field, students take a sequence of two courses. Students are also required to pass a field qualifying examination in econometrics and in the two fields they have selected.

In the third year, candidates may intern (ECON 7120) at a non-academic organization or acquire an additional field of specialization. The internship provides students who seek non-academic careers the opportunity to put what they have learned into practice and to gain practical experience. However, the internship is normally within commuting distance of the University. Interns are typically unpaid and are expected to work approximately twenty hours per week on the internship project. Advisors and students are matched on the basis of mutual interest in the internship project.

Students who intend to seek academic careers are required to acquire an additional field of specialization either in economics or a related discipline in their third year as an alternative to the internship. To specialize in this field the student must take at least two courses in the field approved by the Department’s Graduate Programs Committee. No qualifying examination is required.

Beginning in the third year, doctoral candidates are required to participate in workshops designed to deepen their understanding of theoretical and empirical economics by giving them the opportunity to discuss the research being conducted by the Department's faculty, economists at other institutions, and fellow graduate students. An Applied Economics Workshop (ECON 699) is offered each semester and during the Summer I session.

The fourth year is devoted to the writing of the doctoral dissertation and continued participation in economics workshops. The dissertation is the culminating experience for each student. It is expected that the dissertation will be an outgrowth of a student's internship project. A satisfactory oral defense of the dissertation completes all the requirements of the Ph.D. degree.
English

Dr. Arnold Johnston, Chair
Main Office: 620 Sprau Tower
Telephone: 387-2572
FAX: 387-2562

Thomas Bailey
Patricia Bills
Ellen Brinkley
Jonathan E. Bush
JD Dolan
Margaret Dupuis
Stuart Dybek
Philip Egan
Nancy Eimers
Anthony Ellis
Eileen Evans
Jaimy Gordon
Paul Johnston
Katherine Joslin
Thomas Kent
Cynthia Klekar
Jil Larson
Casey McKittrick
Christopher C. Nagle
Ilana Nash
William Olsen
Gwen Raaberg
Eve Salisbury
John Saillant
Jana Schulman
Gwen Tarbox
Larry tenHarmsel
Grace Tiffany
Karen Vocke
Daneen Wardrop
Allen Webb
Nicolas Witschi

Master of Arts in English
Advisor: Gwen Tarbox,
Room 618, Sprau Tower
The Master of Arts in English provides advanced study of literature, literary history, literary theory, and other literary concerns. A student desiring to enter the program should present a thirty-hour undergraduate major with a grade-point average of at least 3.0 and a sample of critical writing about literature. Applicants must take the Graduate Record Examinations, both the General Test and the Subject Test in Literature in English, and forward their scores to the Department of English.

For more detailed information and for an application form, write to the graduate director or see the department's pages on the World Wide Web at the following URL: http://www.wmich.edu/english.

Program Requirements
At least twenty hours of the undergraduate major must be in courses in literature; no more than fifteen of the thirty should be at the freshman-sophomore level. Applicants lacking an undergraduate major but who have at least 20 hours of work in English with a substantial number of courses in literature and who are otherwise judged eligible may be granted admission to the program on condition that they remedy perceived deficiencies in preparation by taking some undergraduate courses as prerequisites.

Required courses in the program are the following:
ENGL 6150 - Literary Criticism Credits: 3 hrs.
ENGL 6300 - Introduction to Graduate Studies Credits: 3 hrs.
ENGL 6400 - The Nature of Poetry Credits: 3 hrs.
ENGL 6900 - Scholarship and Writing in the Profession Credits: 3 hrs.

Additional Courses
The additional courses needed to complete a coherent thirty-three hour program are selected in consultation with the graduate director. On admission, students should consult with the advisor at the earliest opportunity concerning their program of study.

Master of Arts in English with an Emphasis on Professional Writing
The Master of Arts in English with an Emphasis on Professional Writing is a thirty-eight hour degree program designed to meet the increasing demand for people with liberal arts education and with a particular skill in writing non-fiction prose.

On admission, students should consult with the advisor at the earliest opportunity concerning their program of study.

For more detailed information and for an application form, write to the department's graduate director or see the department's pages on the World Wide Web at the following URL: http://www.wmich.edu/english.

Program Requirements
A student desiring to enter the program should present a thirty-hour undergraduate major with a grade-point average of at least 3.0 and samples both of critical writing about literature and of other expository writing. At least twenty hours of the major must be in courses in literature; no more than fifteen of the thirty should be at the freshman-sophomore level. Applicants lacking an undergraduate major but who
have at least 20 hours of work in English with a substantial number of courses in literature and who are otherwise judged eligible may be granted admission to the program on condition that they remedy deficiencies in preparation by taking some undergraduate courses as prerequisites. Applicants must take the Graduate Record Examinations, both the General Test and the Subject Test in Literature in English, and forward their scores to the Department of English.

Required courses in the program are:
(a) three writing courses:
ENGL 6310 - Essay Writing Credits: 3 hrs.
ENGL 6320 - Article Writing Credits: 3 hrs.
ENGL 6330 - Professional Writing: Form and Technique Credits: 3 hrs.

(b) several courses in a field other than English (8-12 hours).

Additional Courses
The additional courses needed to complete a coherent thirty-eight hour program are selected in consultation with the graduate director.

Master of Arts in English with an Emphasis on Teaching
The Master of Arts in English with an Emphasis on Teaching is designed to meet the needs of English teachers, most especially those teaching in secondary schools, but also those teaching English and the language arts in middle and elementary schools. (Note: The degree does not provide teacher certification.)

For more detailed information and for an application form, write to the department's graduate director or see the department's pages on the World Wide Web at the following URL:
http://www.wmich.edu/english.

Program Requirements
A student desiring to enter the program should present a thirty-hour undergraduate major with a grade-point average of at least 3.0 and a sample of critical writing about literature. At least twenty hours of the major must be in courses in literature; no more than fifteen of the thirty should be at the freshman-sophomore level. Applicants lacking an undergraduate major but who have at least 20 hours of work in English with a substantial number of courses in literature and who are otherwise judged eligible may be granted admission to the program on condition that they remedy perceived deficiencies in preparation by taking some undergraduate courses as prerequisites. Applicants must take the Graduate Record Examinations, both the General Test and the Subject Test in Literature in English, and forward their scores to the Department of English.

Required courses in the program are:
(a) two courses chosen from:
ENGL 6150 - Literary Criticism Credits: 3 hrs.
ENGL 6300 - Introduction to Graduate Studies Credits: 3 hrs.
ENGL 6400 - The Nature of Poetry Credits: 3 hrs.
(b) two courses in English pedagogy, including the pedagogy of writing;
(c) one course in the study of multicultural literature;
(d) one course in the English language; and
(e) ENGL 6910 Research and Scholarship in English Education.

ENGL 6910 - Research and Scholarship in English Education Credits: 3 hrs.

Additional Courses
Of the additional graduate level courses needed to complete the thirty-three hours, at least nine hours
must be in literature (exclusive of ENGL 5820 and 5830). On admission, students should consult with
the advisor at the earliest opportunity concerning their program of study.

Master of Fine Arts in Creative Writing
The Master of Fine Arts in Creative Writing is a 48-hour degree program for students who wish to
become professional writers of poetry, fiction, or drama. It is the minimal academic qualification
appropriate for those who wish to teach the craft of writing at the college or university level.

A student desiring to enter the program should present a thirty-hour undergraduate major with a grade-
point average of at least 3.0 and samples both of writing in the genre in which he or she expects to
specialize (fiction, creative non-fiction, and drama from 15 to 30 pages, poetry from 10 to 15 pages) and
of critical writing about literature. Applicants must take the General Test on the Graduate Record
Examinations and forward their score to the Department of English. At least twenty hours of the major
must be in courses in literature; no more than fifteen of the thirty should be at the freshman-sophomore
level.

Applicants lacking an undergraduate major but who have at least 20 hours of work in English with a
substantial number of courses in literature and who are otherwise judged eligible may be granted
admission to the program on condition that they remedy deficiencies in preparation by taking some
undergraduate courses as prerequisites.

On admission, students should consult with the advisor at the earliest opportunity concerning their
program of study.

For more detailed information and for an application form, write to the department's graduate director or
see the department's pages on the World Wide Web at the following URL:
http://www.wmich.edu/english.

Required courses in the program are:
(a) 12 hours of creative writing workshops
In the area of specialization and 3-6 hours of creative writing workshops in a genre or genres outside the
area of specialization;
(b) one section of:
ENGL 6110 - Literary Forms Credits: 3 hrs.
(c) one of the following:
a section of ENGL 6110 - Literary Forms Credits: 3 hrs. in another genre
ENGL 6400 - The Nature of Poetry Credits: 3 hrs.
ENGL 6420 - Studies in Drama Credits: 3 hrs. or
ENGL 6440 - Studies in the Novel Credits: 3 hrs.
   (d) 6-8 hours in literature from among 5000- and 6000-level courses;
   (e) ENGL 6990 - M.F.A. Project Credits: 3-6 hrs.

Additional Course
Another course in English and cognate fields will bring the total to 48 hours.

Doctor of Philosophy in English
The Doctor of Philosophy in English is designed to meet the needs of future scholars and writers, particularly those who intend to teach at undergraduate institutions. The program requires all candidates to have broad knowledge of English and American literature, acquaintance with non-traditional literature, practical and/or theoretical background in the teaching of English, and a specialization in one or more of the discipline's fields—literature, English language, creative writing, and pedagogy. Whatever their specialization, all candidates will receive essential experience in scholarship, teaching, and writing in the profession, and will develop the breadth required of teachers in relatively small English departments.

Applicants must take the Graduate Record Examinations, both the General Test and the Subject Test in Literature in English, and forward their scores to the Department of English.

On admission, students should consult with the advisor at the earliest opportunity concerning their program of study.

For more detailed information and for an application form, write to the graduate director or see the department's pages on the World Wide Web at the following URL: http://www.wmich.edu/english.

Financial Assistance
A small number of doctoral fellowships are awarded each year, together with a number of doctoral teaching assistantships.

Program Requirements
Candidates entering with an MA or an MFA are credited with 30 hours (or more if their transcripts warrant it). Those entering directly from a baccalaureate program will be expected to complete the courses designated as “prerequisites” as early as possible in their studies.

1. Prerequisites (equivalent courses from other institutions are accepted) - Hours: 12
   a. For candidates in literature, language, or pedagogy:
      Literary Criticism; Introduction to Graduate Studies; The Nature of Poetry; and an approved English language course.
   
   b. For candidates in creative writing:
      Literary Criticism; an approved course in modern literary forms; a genre-specific course; an approved English language course.
2. Distribution requirement - Hours: 18
Six graduate level courses from the following list of areas, selected so that no two contiguous periods are skipped. Candidates in creative writing must choose Contemporary Literature as one area.

American literature before 1865
American literature 1865-1945
British literature to 1500
Renaissance British literature (through Milton)
Restoration and 18th-century British literature
Nineteenth-century British literature
Modern British literature
Contemporary literature

3. Non-traditional literature - Hours: 3
At least one course in literature in English by an ethnic minority group, by post-colonial writers, or by other groups not traditionally included in the canon.

4. Teaching component - Hours: 6
Six hours of credit elected from courses or practica in the teaching of composition, literature, English language, or creative writing.

5. Area of specialization - Hours: 12
At least 12 credit hours in an area (or for creative writing students, a genre) chosen in preparation for the dissertation. The areas include the periods listed in the Distribution Requirement as well as English Language, and the Theory and Practice of Teaching English at the college level.

6. Cognate or support area - Hours: 6 to 9
An optional area to complement the specialization. May include courses from other departments.

7. Candidacy Examination
After satisfying the distribution requirement, students will take four three-hour written examinations over their chosen areas, including an exercise in practical criticism. These examinations should be completed within three years of admission. May be repeated once.

8. Foreign Language Requirement
Students must demonstrate by examination or by completion of two 4000-level courses basic reading competence in at least one foreign language.

9. Doctoral Readings and Oral Examination - Hours: 3 to 6
Near the completion of course work and before beginning the dissertation, students will take the following course, a course of readings designed by the candidate in conjunction with a faculty supervisor.

An oral examination over the chosen books will follow.
ENGL 7110 - Readings in Doctoral Specialization Credits: 3-6 hrs.
10. Dissertation - Hours: 15
The dissertation is to be a book-length manuscript of scholarship, criticism, research, or creative writing comprised of either a single piece of work or a coherent collection of shorter pieces that are methodologically, structurally, or thematically related.
Environmental Studies

Dr. Steven Kohler, Director
Main Office: 3900 Moore Hall
Telephone: 387-2716

Thomas Bailey
Michael Chiarappa
Harold Glasser
Johnson Haas
Lynne Heasley
Sarah Hill
Carla Koretsky
Maarten Vonhof
Foreign Language

Dr. Cynthia Running-Johnson, Chair
411 Sprau Tower
Telephone: 387-3021
FAX: 387-6333
http://www.wmich.edu/languages

Jeffrey Angles
Peter Blickle
Vincent Desroches
Olivia Gabor
Rand H. Johnson
Peter W. Krawutschke
David Kutzko
Mustafa Mughazy
Dasha Nisula
Molly Recchia
Viviane Ruellot
Xiaojun Wang
Lindsey Wilhite


Geography

Dr. David G. Dickason, Chair
Main Office: Room 3244, Wood Hall
Telephone: 387-3410
FAX: 387-3442

David G. Dickason, Chair
Kathleen Baker
James Biles
Deborah Che
Elen M. C. Cutrim
Lisa M. DeChano
Charles Emerson
Chansheng He
David S. Lemberg, Associate Chair
Eldor C. Quandt
Joseph P. Stoltman
Gregory Veeck
Jordan Yin

Master of Arts in Geography

Advisor: Gregory Veeck,
Room 2114, Wood Hall

The goals of the Master of Arts in Geography are: 1) to assist students in acquiring the skills needed for independent geographic research, including organizational and communication skills; and 2) to enable the student to develop a concentration in a particular aspect of the field.

At the same time, each program is individually designed to suit career or personal objectives. Students may prepare for a geographic career in government, business and industry, or for pursuit of a higher degree. A minimum of 30 graduate hours is required.

Admission Requirements

Experience indicates that geography majors/minors, or social/biological/physical science majors with some geography normally can meet program requirements. Prior to the successful completion of ten graduate hours, the following admission requirements must be met or the student will not be admitted to further 6000- or 7000-level courses.

The attainment of passing scores on the comprehensive qualifying examinations in physical and human geography, and map, chart, and air photo reading. If unsuccessful the student may retake an examination. If a passing score is still not obtained, the student must receive a “B” or better in a course with comparable subject matter (GEOG 1050, 2050, 2650).

Successful completion (“C” grade or better) of (GEOG 5010) Introduction to Geographic Information Systems or approved equivalent.
Program Requirements
1. Completion of a minimum of three courses in one of the three following areas of concentration:
   Community Development and Planning
   Environmental and Resource Analysis
   Geographic Techniques

2. Completion of 30 hours of approved graduate credits in all concentrations
   Except Community Development and Planning, where 36 hours are required; at least 20 hours to be
   completed in the Geography Department.

3. Completion of the following:
   GEOG 5560 - Studies in Urban and Regional Planning Credits: 3 hrs. GEOG 5560-1 (Urban Planning
   and Zoning)
   Required for the Community Development and Planning concentration.
   GEOG 5670 - Geodata Handling and Mapping Credits: 4 hrs.
   GEOG 6610 - Geographic Research Credits: 4 hrs.
   GEOG 6660 - Professional Development Seminar Credits: 1 hr. (with re-enrollment once for 2 credit
   hours total)

4. Completion of 6 hours of:
   GEOG 7000 - Master's Thesis Credits: 6 hrs.
   Or two to six hours of:
   GEOG 7100 - Independent Research Credits: 2-6 hrs.

Additional Courses
In addition, students may enroll in the following course, and students with the Community Development
and Planning concentration must complete a six-hour internship (enrolling in GEOG 7120).
GEOG 7120 - Professional Field Experience Credits: 2-12 hrs.

Master of Arts in the Teaching of Geography
Advisor: Joseph Stoltman,
Room 3610, Wood Hall

The 34-hour Master of Arts in the Teaching of Geography is designed to improve the classroom
teacher's competencies. There are two major objectives: to provide elementary and secondary teachers
with a graduate degree option which combines the content of geography and related disciplines with
professional development, and to provide elementary and secondary teachers with the skills and
knowledge necessary for providing educationally sound learning experiences for their students.

Admission Requirements
The prospective candidate should examine state teacher certification requirements if those have not been
fulfilled in an undergraduate program. Before the completion of ten graduate hours, all students must
meet the following requirements:
1. Completion of GEOG 4600, Concepts and Strategies in the Teaching of Geography, or an approved equivalent with a grade of “B” or better.
2. The attainment of passing scores on the comprehensive qualifying examinations in physical and human geography.

Program Requirements
The minimal requirements for the Master of Arts in the Teaching of Geography include the following:
1. Completion of 34 hours of graduate-level courses
   At least one half of which at the 6000-level or higher

2. Completion of at least 20 hours of 5000- and 6000- level geography courses.

3. Completion of one of the following:
   ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs. or
   GEOG 6610 - Geographic Research Credits: 4 hrs.

4. Completion of at least six hours of graduate-level education courses (not including ED 6010).

5. Completion of the following:
   GEOG 6660 - Professional Development Seminar Credits: 1 hr.

6. Completion of a two- or three-hour capstone experience, consisting of either:
   GEOG 7100 - Independent Research Credits: 2-6 hrs. or
   GEOG 7120 - Professional Field Experience Credits: 2-12 hrs.
Geosciences

Dr. Mohamed Sultan, Chair
Main Office: 1183 Rood Hall
Telephone: 387-5487
FAX: 387-5513

David Barnes
Daniel Cassidy
Ronald B. Chase
G. Michael Grammer
Johnson Haas
Duane Hampton
Alan E. Kehew
Michelle Kominz
Carla M. Koretsky
R. V. Krishnamurthy
Heather Petcovic
William A. Sauck
Christopher J. Schmidt

The Department of Geosciences offers the Master of Science in Geosciences, the Master of Arts in Earth Science, and the Doctor of Philosophy in Geosciences.

Master of Science in Geosciences
Advisor: Carla Koretsky,
Room 1121, Rood Hall

The Master of Science in Geosciences is designed to prepare the student for professional work in geology and for further graduate study. Departmental areas of specialization include: Hydrogeology, Geochemistry and Petrology, Geophysics and Tectonics, Stratigraphy and Sedimentary Geology.

Please note: Under exceptional circumstances, a student may request that their advisor petition the faculty for approval of modifications to the timelines stated below.

Admission Requirements
Undergraduate major in geology or related field. Students must have completed, or will be required to complete as soon as possible upon enrollment in the program, GEOS 1300, 1310, 3010, or 3350 and a field experience such as 4390 or equivalent. Any remedial course work completed upon enrollment in the graduate program must be completed with grade of “B” or better to satisfy this requirement. For students who enter the program with course work deficiencies, program requirement timelines (see below) will begin once remedial work has been satisfactorily completed, rather than upon matriculation in the program.
Grade point average of at least 3.0 (of 4.0) for the previous two years of undergraduate work is strongly recommended and is required for full consideration for financial support via teaching assistantships. Three letters of recommendation are required of all applicants from persons well situated to evaluate his/her qualifications for graduate study. Applicants should have the original recommendation sent to WMU directly by the recommender and if they are coming from a faculty member at a college or university, the letter should be on that school’s letterhead. Letters sent directly (i.e., not in sealed/signed envelope) by the applicant or not issued on appropriate letterhead are not considered official and will not be accepted.

Applicants must submit the results of the Verbal, Analytical and Quantitative portions of the Graduate Record Examination (GRE).

Program Requirements

1. Choose a graduate advisor by the end of the first semester after matriculation. The student should complete three (3) hours of research (GEOS 6340) with this advisor, choose an M.S. committee composed of the primary advisor and at least two other Geosciences department faculty, and file the appropriate paperwork identifying the M.S. committee, by the end of the second academic semester.

2. Qualifying Requirement. This requirement must be completed no later than the end of the second full year in residence. Students must achieve a grade of “BA” in two of four core graduate courses. One graduate course in each of the four areas (Hydrology, Geochemistry and Petrology, Geophysics and Tectonics, Stratigraphy and Sedimentary Geology) will be designated as a “core” course (see graduate advisor for details). In some cases, students may enter the program with a strong background in one or more of the core areas. Such students may be excused from enrolling in one or more core courses by achieving a grade of “BA” on the final examination for the course(s). Students who do not achieve a “BA” in a core area on their first attempt will be given one additional opportunity to either pass the course or the final examination with a grade of “BA.”

3. Proposal Examination. By the end of the second academic semester in residence, students must develop a written proposal describing their planned research. This proposal will be presented in a public 15-20 minute talk and will be followed by a closed-door oral examination covering both the proposal and related aspects of Geosciences, to be conducted by the student’s chosen committee. Students who do not pass the proposal exam may be given one additional opportunity to repeat the examination. A second attempt must be made within a timeframe to be determined by the student’s M.S. committee, and must occur no later than the end of the next academic semester.

4. Complete at least thirty (30) total graduate credit hours in Geosciences and related areas (mathematics, physical sciences); at least fifteen (15) credit hours must be at the 6000-level or above, and at least twenty-one (21) of the total credits must be completed in Geosciences.

5. Attend weekly departmental seminars. In the second and each subsequent year in residence, the student must give a 12-minute seminar presentation. The thesis defense presentation, if completed during the academic year, will fulfill this
requirement in the final year of study. Formal enrollment in GEOS 6600 during one semester is recommended.

6. Satisfactory completion of the following:
   GEOS 7000 - Master's Thesis Credits: 6 hrs.

7. At least one first-authored paper must be submitted for publication
   In an approved refereed journal prior to graduation or at least on scientific presentation must be given in an approved external venue prior to graduation. Journals and venues must be approved by the student’s M.S. committee. See the graduate advisor for examples of approved journals and presentation venues.

   The student will give a 30-45 minute public presentation describing the results of his/her research. This will be followed by a closed-door defense to be conducted by the members of the student’s M.S. committee. See the appropriate section of the Graduate Catalog for policies and procedures in the event of an unsuccessful defense. The final written thesis must conform to the requirements explained in the University’s Guidelines for the Preparation of Theses, Projects, and Dissertations and may be written according to one of the following options:

   a. Option 1:
      The student will present a traditional comprehensive thesis based on the master’s research. The thesis must include an introduction, review of relevant literature, description of methodology used in the thesis research, presentation of the results (including appendices of data where appropriate), and discussion of the significance of the research.

   b. Option 2:
      The student will present at least one first-authored journal paper based on the thesis research that has been submitted for publication and is deemed to be publishable by the student’s M.S. committee. A separately written introduction including a brief literature review, summary of the significance of the work, and appendices of data (where appropriate) must also be submitted.

Master of Arts in Earth Science
The Master of Arts in Earth Science is a non-thesis program that permits students to design programs of study, in consultation with the program advisor, that are compatible with the individual's goals. The program is intentionally flexible; course work may be drawn from geosciences, biological sciences, chemistry, anthropology, economics, political science, communication, and physics, among others.

Admission Requirements
Grade-point average of at least 3.0 (of 4.0) for previous two years of undergraduate work is strongly recommended and is required for full consideration for financial support via teaching assistantships. However, teaching assistantships will be awarded preferentially to students enrolled in the M.S. in Geosciences program.
Students must have successfully completed GEOS 1300, 1310, 3010 or 3350, and a field experience such as 4380 or 4390, or equivalent, or must complete these courses prior to finishing the degree.
Program Requirements
1. Complete a minimum of thirty-five hours of graduate course work
With at least eighteen hours at the 6000-level or above.

2. A core of eighteen semester hours in Geosciences is required.

3. May include satisfactory completion of up to four hours of:
GEOS 7100 - Independent Research Credits: 2-6 hrs.
Or up to three hours of:
GEOS 7120 - Professional Field Experience Credits: 2-12 hrs. or both.

4. Students are strongly encouraged to attend weekly departmental seminars.
Enrollment for credit in GEOS 6600 for one semester is encouraged, but not required

Doctor of Philosophy in Geosciences
Advisor: Alan E. Kehew,
Room 3325, Rood Hall

The Doctor of Philosophy in Geosciences is a research degree designed for persons intending to take
leadership roles in teaching and research in one of four core areas of the Geosciences: Hydrogeology;
Geochemistry and Petrology; Geophysics and Tectonics; Stratigraphy and Sedimentary Geology.
Applicants will be expected to meet the minimum entrance requirements of The Graduate College and
must demonstrate an interest in, and aptitude for, conducting high quality research.

Within one year following matriculation, the student must choose a primary graduate advisor. Within
one and a half years following matriculation, the student must choose a doctoral committee. This
committee will be chaired by the student’s primary advisor, and must include two other faculty from
within the Geosciences Department, as well as a fourth committee member from outside the
Geosciences Department. It is strongly recommended that the fourth committee member be chosen from
an outside research facility or university, although members may also be chosen from other programs at
WMU, if appropriate. The committee should be chosen to reflect the doctoral student’s expressed
research interests. The committee will facilitate and guide the student’s development within the
academic and research programs of the Department and University.

Please note: Under exceptional circumstances, a student may request that the primary advisor petition
the faculty for approval of modifications to the timelines stated below.

Admission Requirements
Bachelor’s or master's degree in geology or related field is required; an M.S. degree is strongly
recommended. Students must have completed, or must complete as soon as possible upon enrollment,
GEOS 1300, 1310, 3010 or 3350, and a field experience such as 4390 or its equivalent. Any remedial
course work completed upon enrollment in the graduate program must be completed with grade of “B”
or better to satisfy this requirement. For students who enter the program with course work deficiencies,
program requirement timelines (see below) will begin once remedial work has been satisfactorily completed, rather than upon matriculation in the program.

1. Grade-point average of 3.25 (of 4.0) for prior graduate work. To be admitted without an M.S. degree, a GPA of at least 3.25 (of 4.0) during the previous two years of undergraduate work is required.

2. Three letters of recommendation are required of all applicants from persons well situated to evaluate his/her qualifications for graduate study. Applicants should have the original recommendation sent to WMU directly by the recommender and if they are coming from a faculty member at a college or university, the letter should be on that school’s letterhead. Letters sent directly (i.e., not in sealed/signed envelope) by the applicant or not issued on appropriate letterhead are not considered official and will not be accepted.

3. Applicants must submit the results of the Verbal, Analytical, and Quantitative portions of the Graduate Record Examination (GRE).

Financial Assistance
Several departmental, University and grant-funded fellowships, teaching assistantships, and research assistantships are available. Application forms and additional information are available from the Department of Geology and from The Graduate College.

Program Requirements
1. Complete at least sixty (60) total credit hours
   Of which thirty (30) credit hours must be at the 6000-level or above.

2. Attend weekly departmental seminars.
   In the second and each subsequent year in residence, the student must give a 12-minute seminar presentation. The proposal presentation, if completed during the academic year, will fulfill this requirement in the final year of study. The dissertation defense presentation, if completed during the academic year, will fulfill this requirement in the final year of study.

3. Students must enroll in the following course for at least one semester.
   GEOS 6600 - Seminar in Geology and Earth Science Credits: 1 hr.

4. Demonstrate proficiency in two appropriate research tools.
   At least one of the research tools must be completed outside of the student’s declared core area of study. Students are strongly encouraged to complete at least one tool via course work or other training outside of the Geosciences Department. For details regarding acceptable research skills, consult with the graduate advisor. Research tools may include:

   Achieving a working knowledge of statistics by receiving a grade of “B” or better in an approved course or by showing the ability to apply advanced statistical analysis to the doctoral research.
   Demonstrating competence in computer science or programming by receiving a grade of “B” or better in an approved course or by applying computer programming to the doctoral research.
   Demonstrating proficiency in areas relevant to the doctoral research, including mathematics, biological sciences, chemistry, geography, remote sensing, physics, or engineering. Proficiency will be demonstrated by achieving a grade of “B” or better in an approved graduate course.
   Mastering the design, repair or development of instrumentation used as part of an approved Geosciences course or in the doctoral research.
Acquiring appropriate research skill(s) in the Geosciences. This will be demonstrated by achieving a grade of “B” or better in an approved Geosciences graduate course.

Demonstrating development, while enrolled in the doctoral program, of reading competency in a foreign language relevant (as deemed by the student’s primary advisor) to the student’s dissertation research. This skill will be demonstrated by receiving a grade of “B” or better in a 4010 course in the language, by passing a standardized examination, or by successfully translating one or more technical articles assigned by the student’s primary advisor.

5. Complete at least three research credit hours
With primary graduate advisor by the end of the first full year of residence.
GEOS 6340 - Research in Geology and Earth Science Credits: 1-4 hrs.

6. Qualifying Requirement.
This requirement must be completed no later than the end of the second full year in residence. Students must achieve a grade of “A” in three of four core graduate courses. One graduate course in each of the four areas (Hydrology, Geochemistry and Petrology, Geophysics and Tectonics, Stratigraphy and Sedimentary Geology) will be designated as a “core” course (see graduate advisor for details). In some cases, students may enter the program with a strong background in one or more of the core areas. Such students may be excused from enrolling in one or more core courses by achieving a grade of “A” on the final examination for the course(s). Students who do not achieve an “A” in a core area on their first attempt will be given one additional opportunity to either pass either the course or the final examination with a grade of “A.”

7. Proposal Examination:
By the end of the second year, students must develop a written proposal describing their planned doctoral research. This proposal will be presented in a public 20-minute talk. The talk will be followed by a closed-door oral examination, to be conducted by the student’s doctoral committee. Students who do not pass the proposal exam will be given one additional opportunity to repeat the examination. A second attempt must be made within a timeframe to be determined by the student’s doctoral committee, and must occur within one year of the first attempt. If the external committee member cannot be present on campus for the proposal examination, they may submit written comments or questions.

8. At least one first-authored paper must be accepted for publication in a peer-reviewed journal.

Prior to graduation
9. Students must give at least one scientific presentation
In an approved (by the student’s doctoral committee) external venue prior to graduation.

10. Complete 15 hours of the following:
GEOS 7300 - Doctoral Dissertation Credits: 15 hrs.

The student will give a 50-minute public presentation. This will be followed by a closed-door defense to be conducted by the members of the student’s doctoral committee. See the Graduate Catalog for policies and procedures in the event of an unsuccessful defense. The final written dissertation must conform to
the requirements explained in the University’s Guidelines for the Preparation of Theses, Projects, and Dissertations and may be written according to one of the following two options:

a. Option 1:
The student will write a traditional comprehensive dissertation based on the doctoral research. The dissertation should include an introduction, review of the relevant literature, description of methodology used in the dissertation research, presentation of the results (including appendices of data where appropriate), and discussion of the significance of the research.

b. Option 2:
The student will present at least two first-authored journal papers, which may include the paper written to fulfill program requirement #8, that have been accepted for publication in appropriate peer-reviewed journals. A separately written introduction including a brief literature review, summary of the relevance/conclusions of the studies and an appendix of data (where appropriate) must also be submitted.
History

Dr. Marion Gray, Chair
Main Office: 4301 Friedmann Hall
Telephone: 387-4650
FAX: 387-4651

Robert F. Berkhofer, III
Amos Beyan
Linda Borish
José Brandao
Andrew Carlson
Michael Chiarappa
Janet Coryell
Ronald Davis
Frederick J. Dobney
Howard Dooley
E. Rozanne Elder
Nora Faires
Ralph Gordon
Bruce Haight
Barbara Havira
Lynne Heasley
Catherine Julien
Mitch A. Kachun
Cheryl H. Lyon-Jenness
Paul Maier
Edwin Martini
John Norman
R. Patrick Norris
James Palmitessa
Lewis R. Pyenson
Francis Ramos
Eli Rubin
John Salliant
Peter Schmitt
Larry Simon
Judith F. Stone
Kristin Szylvian
Luis Toledo Pereyra
Wilson Warren
Victor Xiong
Takashi Yoshida
Director of Graduate Studies
The Director of Graduate Studies is the central application, admissions, and advising source in the department. Upon arrival, all students must meet with the Director to register for classes, to be advised regarding a supervising professor, and to plan an overall course of study. Upon completion of 12 hours of course work, all M.A. students must meet with their supervising professor to complete their permanent plan of study to file with The Graduate College.

Annual Review of All Master’s and Doctoral Students
The Graduate Studies Committee (GSC) reviews all student files once a year. The review process, conducted by the GSC and the supervising professor, has two aims: 1) to advise students regarding the construction and development of their program of study, and 2) to address problems of incompletes, failing grades or difficulties completing course work or theses. The GSC can shift students from one master’s option to another, will warn students if they are in jeopardy of being dismissed, and can set conditions for students to meet to avoid dismissal.

Waiver of a Requirement
Any waiver from a requirement must be requested in writing to the Director of Graduate Studies and the Graduate Studies Committee for decision. Requests must be supported in writing by the student’s supervising professor.

Master of Arts in History
Advisor: Judith F. Stone,
Room 4352, Friedmann Hall

The Master of Arts in History serves both as preparation for doctoral study and as a professional degree in many fields of research, teaching, and public history.

Admission Requirements
1. Substantial undergraduate course work in history and related social sciences and humanities. (Students with strong academic records but deficient in undergraduate course work in history may be admitted with a stipulation to complete appropriate undergraduate courses.)
2. Graduate Record Examination (GRE) general aptitude test scores.
3. Three letters of recommendation from individuals familiar with the applicant’s academic work.
4. A brief essay concerning applicant's academic and professional objectives, and a writing sample. Students whose native language is other than English must achieve a TOEFL score of 600 or above, or otherwise demonstrate a command of English judged adequate by the department to pursue graduate study in the discipline.

Program Requirements
Three options for completing the degree are available.

Thesis Option (30 hrs.)
1. History
HIST 6010 - Historiography Credits: 3 hrs.
2. A broad field of specialization built around readings courses and research seminars. At least two readings courses (HIST 6050-6200) are required and additional course work in this area is strongly recommended. At least one research seminar (HIST 6700, 6750-6880) is required. Specific research emphases are developed in consultation with the Graduate Advisor and department faculty. Consult the department's Graduate Handbook for further information.

3. Students must take at least two courses (one at the 6000-level) which focus as a major part of the course work on the tools that historians use, such as cartography, paleography, oral history, anthropology, ethnohistory, ethnography, material culture, art, architecture, archeology, etc. These courses are designated by the Graduate Studies Committee and a list of courses which meet this requirement each semester will be available from the Director of Graduate Studies at registration.

4. Department requirements
The department requires at least one course covering theory and/or research practices in an allied social science or humanities discipline. (Up to 6 hrs. of appropriate course work may be chosen outside the department, and up to 6 hrs. of appropriate course work in history at the 4000-level, exclusive of 4960-4990, may be elected with the approval of the supervising professor and the Director of Graduate Studies.

5. Foreign language requirement:
Proficiency in a foreign language demonstrated by satisfactory completion of a 2010-level or 4010-level foreign language course, or by a translation examination.

6. Thesis: a major research investigation in the field of specialization.
Candidates with an advanced record of research and/or publication may substitute a second research seminar (HIST 6700, 6750-6880) with the prior approval of the Graduate Advisor.

7. Students who fail to produce a satisfactory thesis
May count course work taken (except thesis hours) toward a general option degree. If they are students in the doctoral program, they will be dismissed from that program, but will be allowed to continue course work until they have completed enough hours for a general option master’s degree. See the department graduate handbook for additional information regarding the thesis.

**General Option (33 hrs.)**
1. History
HIST 6010 - Historiography Credits: 3 hrs.

2. At least one research seminar
Research seminars have prerequisite readings courses.
HIST 6700 - Seminar in History Credits: 3 hrs.
HIST 6750 - Seminar in Early United States History Credits: 3 hrs.
HIST 6760 - Seminar in African American History Credits: 3 hrs.
HIST 6780 - Seminar in Recent United States History Credits: 3 hrs.
HIST 6810 - Byzantium and the West, 900—1400: Research Seminar Credits: 3 hrs.
HIST 6820 - Seminar in Medieval History Credits: 3 hrs.
HIST 6840 - Readings in Atlantic History Credits: 3 hrs.
HIST 6850 - Seminar in Atlantic History Credits: 3 hrs.
HIST 6860 - Seminar in Modern European History Credits: 3 hrs.
HIST 6880 - Seminar in Global and Contemporary History Credits: 3 hrs.

3. Students must take at least one course which focus as a major part of the course work on the tools that historians use, such as cartography, paleography, oral history, anthropology, ethnohistory, ethnography, material culture, art, architecture, archeology, etc. These courses are designated by the Graduate Studies Committee and a list of courses which meet this requirement each semester will be available from the Director of Graduate Studies at registration.

4. Up to 12 hrs. of course work may be taken outside the department in an advisor-approved program of study, and up to 6 hrs. of appropriate course work in history at the 4000-level, exclusive of 4960-4990, may be elected with the approval of the supervising professor and Director of Graduate Studies.

5. Comprehensive examination:
A course-based written examination following completion of at least 24 hrs. of course work including required core courses and a research seminar. An oral examination may also be required by the student’s exam committee.

Public History Option (39 hrs.)
1. History
HIST 6010 - Historiography Credits: 3 hrs.

2. At least one research seminar
Research seminars have prerequisite readings courses.
HIST 6700 - Seminar in History Credits: 3 hrs.
HIST 6750 - Seminar in Early United States History Credits: 3 hrs.
HIST 6760 - Seminar in African American History Credits: 3 hrs.
HIST 6780 - Seminar in Recent United States History Credits: 3 hrs.
HIST 6810 - Byzantium and the West, 900—1400: Research Seminar Credits: 3 hrs.
HIST 6820 - Seminar in Medieval History Credits: 3 hrs.
HIST 6840 - Readings in Atlantic History Credits: 3 hrs.
HIST 6850 - Seminar in Atlantic History Credits: 3 hrs.
HIST 6860 - Seminar in Modern European History Credits: 3 hrs.
HIST 6880 - Seminar in Global and Contemporary History Credits: 3 hrs.

3. Students must take at least three courses (two at the 6000-level) which focus as a major part of the course work on the tools that historians, particularly public historians use or courses which focus on tools of particular importance to public historians. These courses are designated by the Graduate Studies Committee and a list of courses which meet this requirement each semester will be available from the Director of Graduate Studies at registration.

4. Up to 12 hrs. of course work may be taken outside the department
In an advisor-approved program of study, and up to 6 hrs. of appropriate course work in history at the 400-level, exclusive of 4960-4990, may be elected with the approval of the supervising professor and Director of Graduate Studies.

5. An internship/field experience
HIST 6400 - Museums Practicum Credits: 3-6 hrs.
HIST 7120 - Professional Field Experience Credits: 2-12 hrs.

6. Comprehensive examination:
A course-based written examination following completion of at least 24 hrs. of course work including required core courses and a research seminar. An oral examination may also be required by the student’s exam committee.

Doctor of Philosophy in History
The Doctor of Philosophy in History is designed to prepare students for careers in higher education, public and applied history, and historical administration. Preparation extends beyond archival research techniques to include oral history and oral tradition, ethnohistory, archaeology, material culture, museum studies, historic preservation, gender studies and documentary editing. Students are provided with opportunities to teach in the undergraduate program under the direction of senior colleagues and receive training in additional professional skills.

Faculty research and instruction emphasize the social and cultural aspects of historical change. Resources include the Medieval Institute, the Institute of Cistercian Studies, the Rawlinson Centre for Anglo-Saxon and Manuscript Studies, the Kercher Center for Social Research, the Diether Haenicke Center for International Study, the Great Lakes Center for Maritime Studies, the Archives and Regional History Collection, and the holdings of the French Michilimackinac Translation Project.

Admission Requirements
1. Admission normally requires a master's degree in history or a closely related discipline, or substantial prior course work in history. Students holding baccalaureate degrees may be admitted directly to the program but must complete Master of Arts comprehensive examinations after approximately 18 hours of course work with a recommendation by the examining committee to continue doctoral studies.
2. Graduate Record Examination (GRE) general aptitude test scores.
3. Three letters of recommendation from individuals familiar with the applicant’s academic work.
4. A brief essay concerning applicant's academic and professional objectives, and a writing sample.
5. Reading proficiency in foreign languages appropriate to the proposed program of study is strongly recommended; studies to meet deficiencies in this area must be begun during the first year of doctoral study.
6. Students whose native language is other than English must achieve a TOEFL score of 600 or above, or otherwise demonstrate a command of English judged adequate by the department to pursue graduate study in the discipline.

Program Requirements
Award of the Doctor of Philosophy in History is based upon successful completion of qualifying examinations in several fields, and demonstration in seminars and the dissertation of the ability to
conduct original research. Programs of study are developed in consultation with the supervising professor and appropriate faculty. The program requires a minimum of 75 hours of credit beyond the baccalaureate degree or 45 hours beyond the master's degree. The Master of Arts thesis option and the Doctor of Philosophy program share many common structures and requirements, and may be planned as a single program of study. Candidates admitted with a master's degree from another institution or discipline may need more than the minimum of 45 hours of course work to complete the field requirements.

All students must complete two core courses in their first year of study: HIST 6010 and HIST 6980. These courses serve several roles: They provide students with the historical and theoretical underpinnings of the profession of historian in all its myriad forms and applications; they train students in the various skills needed to succeed as professional historians in various venues; and they help students become part of the graduate student community in the department. Core courses must be completed by the end of the first year of graduate course work. Each student must also complete course work in theory and research techniques in an allied social science or humanities discipline appropriate to the student’s research agenda.

**Major Field**  
The major field designates an area of study in which the student seeks to establish professional competence.

**Minor Field**  
A minor field designates an area of study that is related to, or provides skills necessary to, the major field.

**Outside Field**  
The outside field may comprise work in a series of courses within a discipline outside of, but bearing upon, the major field and dissertation topic.

**Foreign Language Requirement**  
Students must demonstrate reading proficiency in at least one foreign language appropriate for their programs of study prior to qualifying examinations. Proficiency is demonstrated by satisfactory completion of a 2010-level or 4010-level foreign language course, or by a translation examination. Many major fields have additional foreign language requirements. All required course work to achieve necessary proficiencies must be completed prior to qualifying examinations.

**Theory, Research, and Applications Course Work**  
Each student must complete approved course work in theory and research techniques in an allied social science or humanities discipline appropriate to the candidate’s research agenda. Course work is selected in consultation with the student’s examination committee and must be approved by the Director of Graduate Studies.

**Research Tools**  
Three research tools are required. Competence in one foreign language is a research tool requirement for all doctoral students in the history program. In addition, competence in quantitative, statistical, or qualitative methodology must be exhibited to meet the second and third tool requirements. Competence
in a tool is normally shown by a grade of “B” or better in approved course work, or by an advanced degree in an allied social science or humanities discipline. In some instances, a student may substitute a second foreign language for one of the tools in quantitative, statistical, or qualitative methodology. Course work is selected in consultation with the student’s examination committee and must be approved by the Director of Graduate Studies.

Qualifying Examinations
Written and oral qualifying examinations are taken after the satisfactory completion of all course work and foreign language requirements. Examinations cover the major and minor fields and in some cases the outside field.

Dissertation
The dissertation comprises from 12 to 18 hours of graduate course work depending upon other characteristics of the program of study.
International and Area Studies

Director
Room B 200, Ellsworth Hall
Telephone: (269) 387-3985
Graduate programs in science education are offered through the Mallinson Institute for Science Education, an interdisciplinary unit in the College of Arts and Sciences.

Master of Arts in Science Education

Advisor: William W. Cobern,
Room 3245, Wood Hall

The Master of Arts in Science Education is designed for students beginning their work toward a Doctor of Philosophy in science education, as well as for secondary school science teachers who wish to expand their teaching skills.

Admission Requirements

The minimum admission requirements to this degree program are: (1) an undergraduate major in science or science education and (2) teacher certification. Students lacking the above may be admitted provisionally; however, satisfactory completion of necessary undergraduate science and/or education courses will be needed before enrollment in the required graduate courses. These requirements are in addition to the general admission requirements of The Graduate College.

Program Requirements

The program consists of a minimum of thirty semester hours of graduate work. Each student's program is planned in consultation with the advisor and consists of the following:

1. Fifteen semester hours of graduate level science, to include a course in the history and philosophy of science,
2. Nine semester hours of science education, to include
SCI 6150 - Science Education: Historical and Philosophical Foundations Credits: 3 hrs.
SCI 6160 - Science Education: Models of Learning and Teaching Credits: 3 hrs.
SCI 6900 - Science Education Seminar Credits: 3 hrs.

3. Select one of the following:
Six semester hours of science content with permission of advisor.
OR
SCI 7000 - Master's Thesis Credits: 6 hrs. OR
SCI 7100 - Independent Research Credits: 2-6 hrs.

Thesis or Project
The thesis or project is completed under the direction of a major advisor and a thesis or project
committee. The major advisor is selected by the student, and the committee is selected by the student in
consultation with the major advisor. It is anticipated that teachers working in the program will choose to
do a project involving their classrooms. Students planning on further graduate study may pursue a thesis;
the thesis might be preliminary work on a doctoral dissertation. The thesis or project topics must be
approved by the committee. The committees and topics are subject to the approval of the deans of the
College of Arts and Sciences and The Graduate College.

Doctor of Philosophy in Science Education
Advisor: William W. Cobern,
Room 3245, Wood Hall

The Doctor of Philosophy in Science Education is designed for students who wish to obtain a strong
background in science and to pursue research in science education. The program requires a minimum of
seventy-two semester hours of graduate work in science and in science education. Appropriate course
work at the master's level will count toward the seventy-two semester hours.

Admission Requirements
The minimum admission requirements to this degree program are:
A master's degree in a science or science education, and
teacher certification.
Students lacking the above may be admitted provisionally; however, satisfactory completion of
undergraduate science and/or education courses will be needed before enrollment in the required
graduate courses. These requirements are in addition to the general admission requirements of The
Graduate College.

Program Requirements
The program consists of seventy-two semester hours of graduate work. Each student's program is
planned in consultation with the advisor and consists of the following:

1. Twenty-four semester hours of graduate science to include a course in the history and philosophy of
science
2. Eighteen semester hours of science education to include: (6170 and 6900 must be taken at least twice for a total of six semester hours each),
SCI 6150 - Science Education: Historical and Philosophical Foundations Credits: 3 hrs.
SCI 6160 - Science Education: Models of Learning and Teaching Credits: 3 hrs.
SCI 6170 - Science Education: Research Traditions Credits: 3 hrs.
SCI 6900 - Science Education Seminar Credits: 3 hrs.

3. Twelve semester hours of research tools and design to include two semesters of statistics and a generic research design course

4. Three semester hours of electives


**Additional Program Requirements**

All candidates for the Doctor of Philosophy in Science Education must have satisfactorily passed a comprehensive examination. The examination should be taken after the student has completed the required course work and will include material from the graduate science education "core" of courses (SCI 6150, 6160, 6170, 6900) and material from the appropriate science area selected by the student and his/her dissertation advisor. The science area material will be prepared and evaluated by faculty in the science area after consultation with the science education faculty. The dissertation advisor may recommend either a written or an oral examination.

The research and dissertation are completed under the direction of a major advisor and a Doctoral Advisory Committee. The major advisor is selected by the student and the Committee members are recommended by the student in consultation with the major advisor. The research problem is formulated by the student and must be approved by the Committee. Dissertation Committees and topics are subject to the approval of the deans of the College of Arts and Sciences and The Graduate College.

The residency requirement for this degree program is an academic year of two consecutive semesters of full-time study on the campus.

To be admitted to candidacy for the doctoral degree the student must have satisfactorily completed the course work, the research tools, the comprehensive examination, and a teaching experience in addition to the other candidacy requirements of doctoral programs in The Graduate College.
The Department of Mathematics offers graduate programs leading to the Master of Arts in Mathematics, the Master of Arts in Mathematics Education, the Master of Science in Applied Mathematics, the Master of Science in Computational Mathematics, the Master of Science in Operations Research, the Doctor of
Philosophy in Mathematics, the Doctor of Philosophy in Mathematics with a concentration in Collegiate Mathematics Education, and the Doctor of Philosophy in Mathematics Education.

Financial Assistance
The Department of Mathematics offers opportunities for financial support of graduate students through Graduate Assistantships and Fellowships. Individuals desiring further information about such opportunities, or about the graduate program as a whole, should contact the Mathematics Graduate Office (3325 Everett Tower) or the Department Office (Room 3319, Everett Tower).

Maryann Bovo
Mathematics Graduate Office
3325 Everett Tower
Telephone: 387-4512
EMAIL: maryann.bovo@wmich.edu

Master of Arts in Mathematics
Advisor: See Mathematics Office,
Room 3319, Everett Tower

The Master of Arts in Mathematics extends the student’s knowledge in the areas of algebra, real and complex analysis, applied mathematics, combinatorics, geometry, number theory, and topology. The program permits specialization in preparing for advanced study, and provides additional training for teachers of mathematics and students seeking employment in industry.

Admission Requirements
To gain admission to this program the student must have completed, with satisfactory grades, an undergraduate major in mathematics. This major must ordinarily include a course in modern algebra and a course in advanced calculus or real analysis. If the student’s undergraduate program in mathematics does not meet approved standards, the student may be required to elect additional courses or otherwise satisfy the requirements of the department.

Program Requirements
1. Complete a minimum of thirty hours of approved course work with at least twenty-four hours in mathematics, including:
   a. MATH 5220 - Introduction to Topology Credits: 3 hrs. Or have had the equivalent prior to entering the program.
   b. MATH 5300 - Linear Algebra Credits: 3 hrs. or have had the equivalent prior to entering the program.
   c. MATH 5710 - Advanced Calculus II Credits: 3 hrs. or have had the equivalent prior to entering the program.
   d. MATH 6300 - Abstract Algebra I Credits: 3 hrs.
   e. One of the following:
      MATH 6700 - Real Analysis I Credits: 3 hrs. or
      MATH 6760 - Complex Analysis Credits: 3 hrs.
   f. An approved graduate level sequence.
2. A student must get a “B” or better in the following:
   - MATH 5220 - Introduction to Topology Credits: 3 hrs.
   - MATH 5300 - Linear Algebra Credits: 3 hrs.
   - MATH 5710 - Advanced Calculus II Credits: 3 hrs.

Master of Arts in Mathematics Education
Advisor: See Mathematics Office,
Room 3319, Everett Tower

This program deepens and extends secondary school mathematics teachers’ understanding of mathematics and its learning and teaching. Through a focus on both theory and practice, this program enables teachers to strengthen their classroom effectiveness, to assume leadership roles in curriculum and instruction, and, if so desired, continue with doctoral study in mathematics education.

Admission Requirements
In addition to the general admission requirements of The Graduate College, admission to this curriculum requires a bachelor’s degree with at least a secondary teaching minor in mathematics, equivalent to that offered at Western, and fifteen hours of undergraduate work in professional education or its equivalent.

Program Requirements
In meeting these program requirements an effort is made to select courses that deal with concepts and skills related to central themes in secondary school mathematics programs. These themes are given substance in courses that deal with topics enabling students to review and build on their previous course work, to explore new areas, to develop thorough understandings of concepts that are initiated in secondary school mathematics courses, and to achieve a high level of mastery of skills associated with these concepts.

1. Complete at least fifteen approved semester hours in graduate level mathematics courses usually selected from:
   - MATH 5100 - Applied Matrix Algebra Credits: 3 hrs.
   - MATH 5300 - Linear Algebra Credits: 3 hrs.
   - MATH 5800 - Number Theory Credits: 3 hrs.
   - MATH 6110 - Mathematical Applications Credits: 3 hrs.
   - MATH 6120 - Data Analysis Credits: 3 hrs.
   - MATH 6150 - Intermediate Analysis Credits: 3 hrs.
   - MATH 6160 - Survey of Algebra Credits: 3 hrs.
   - MATH 6170 - Discrete Dynamical Systems Credits: 3 hrs.
   - MATH 6490 - Studies in Geometry Credits: 3 hrs.

2. Complete twelve semester hours of approved mathematics education courses selected from:
   - MATH 6520 - Studies in Teaching Middle School Mathematics Credits: 3 hrs.
   - MATH 6540 - Secondary School Mathematics Curriculum Studies Credits: 3 hrs.
MATH 6950 - Seminar in Mathematics Education Credits: 1-4 hrs.

3. Complete an approved three-semester-hour 6000-level elective, selected from mathematics, mathematics education, or professional education.

Master of Science in Applied Mathematics
Advisor: See Mathematics Office, Room 3319, Everett Tower

The Master of Science in Applied Mathematics emphasizes a broadly based study of the mathematical sciences, including statistics, differential equations, mathematical programming, and computer science. The use of mathematical models to study practical problems will be heavily stressed. Students receive broad training for professional employment in industry or government. Those completing this program will also be prepared to teach in the area of mathematical applications.

Admission Requirements
The entering student will be expected to have two years of calculus, including multivariate calculus and differential equations, a course in linear algebra, a course in probability, a course in advanced calculus, a knowledge of programming languages such as Pascal and FORTRAN, some experience with numerical methods, and a course in data structures. The courses at WMU which satisfy the admission requirements are: MATH 1220, 1230, 1700, 1710, 2720, (3740) or (2300 and 2740), 5700, (STAT 3620 or 5600), and CS 1110, 1120, (2010 or 3060). A promising student may be admitted with some deficiencies in these admission requirements. The missing work would then become an extra program requirement.

Program Requirements
1. Complete the following 25 or 26 semester hours of specified courses:
   With the approval of the advisor, a student may substitute approved electives listed below for any of the specified courses above that were previously taken as an undergraduate.
   MATH 5070 - Numerical Analysis I Credits: 3 hrs.
   MATH 5740 - Advanced Differential Equations Credits: 3 hrs.
   MATH 6020 - Mathematical Modeling I Credits: 3 hrs.
   MATH 6070 - Numerical Analysis II Credits: 3 hrs.
   MATH 6370 - Numerical Linear Algebra Credits: 3 hrs.
   MATH 6900 - Seminar in Applied Mathematics Credits: 1-3 hrs. This course may be repeated for credit.

   Select Either:
   IME 6100 - Linear Programming for Engineers Credits: 3 hrs. or
   MATH 6080 - Linear Programming Credits: 3 hrs.

   And Either:
   STAT 5620 - Statistical Theory Credits: 4 hrs. or
   STAT 6620 - Applied Linear Models Credits: 3 hrs.

   Or Either:
   STAT 5620 - Statistical Theory Credits: 4 hrs. or
STAT 6640 - Design of Experiments I Credits: 3 hrs.

2. Complete at least 6 semester hours of approved electives which are different from the above courses.

**Mathematics**
- MATH 5100 - Applied Matrix Algebra Credits: 3 hrs.
- MATH 5270 - Differential Geometry of Curves and Surfaces Credits: 3 hrs.
- MATH 5710 - Advanced Calculus II Credits: 3 hrs.
- MATH 5720 - Vector Calculus and Complex Variables Credits: 4 hrs.
- MATH 6050 - Optimization Credits: 3 hrs.
- MATH 6090 - Studies in Applied Math Credits: 3 hrs. This course may be repeated for credit.
- MATH 6760 - Complex Analysis Credits: 3 hrs.
- MATH 6900 - Seminar in Applied Mathematics Credits: 1-3 hrs. This course may be repeated for credit.
- MATH 6990 - Reading and Research Credits: 1-6 hrs. This course may be repeated for credit.
- MATH 7120 - Professional Field Experience Credits: 2-12 hrs. This course may be repeated for credit.
- STAT 6800 - SAS Programming Credits: 3 hrs.

**Computer Science**
- CS 5800 - Theory of Computation II: Formal Languages Credits: 3 hrs.
- CS 6310 - Advanced Data Structures Credits: 3 hrs.
- CS 6800 - Theory of Formal Computation III: Computability and Complexity Credits: 3 hrs.

**Industrial Engineering**
- IME 6110 - Deterministic Methods in Operations Research Credits: 3 hrs.

**Statistics**
- STAT 5620 - Statistical Theory Credits: 4 hrs.
- STAT 5660 - Nonparametric Statistical Methods Credits: 3 hrs.
- STAT 6600 - Statistical Inference I Credits: 4 hrs.
- STAT 6640 - Design of Experiments I Credits: 3 hrs.
- STAT 6670 - Introduction to Random Processes Credits: 3 hrs.
- STAT 6800 - SAS Programming Credits: 3 hrs.

**Master of Science in Computational Mathematics**
Advisor: See Mathematics Office,
Room 3119, Everett Tower

The Master of Science in Computational Mathematics emphasizes numerical and computer methods which have become very significant in the solution of computer intensive scientific problems, including large scale problems. The primary objective of the program is to prepare students in the development and implementation of critical computational techniques from inception to algorithm to software.

**Admission Requirements**
In addition to the general requirements of The Graduate College, the entering student will be expected to have two years of calculus, including multivariate calculus and differential equations, courses in linear
algebra, modern algebra, probability, advanced calculus, numerical analysis, a knowledge of the
programming languages FORTRAN and Pascal, and a course in data structures. The courses at WMU
which satisfy the admission requirements are: MATH 1220, 1230, 1700, 1710, 2720, (2300 and 2740) or
3740, 3300, 5070, 5700, (STAT 3620 or 5600), and CS 1110, 1120, (2010 or 3060), (alternately CS
3310 recommended).

A promising student may be admitted with some deficiencies in these admission requirements. The
missing work would then become an extra program requirement.

Program Requirements
1. Complete the following 17 semester hours of specified courses:
   CS 5800 - Theory of Computation II: Formal Languages Credits: 3 hrs.
   MATH 5710 - Advanced Calculus II Credits: 3 hrs.
   MATH 6070 - Numerical Analysis II Credits: 3 hrs.
   MATH 6370 - Numerical Linear Algebra Credits: 3 hrs.
   MATH 6900 - Seminar in Applied Mathematics Credits: 1-3 hrs. This course may be repeated for credit.
   STAT 5620 - Statistical Theory Credits: 4 hrs.

2. Complete 6 semester hours consisting of two of the following three courses:
   With the approval of the advisor, a student may substitute approved electives listed below for any of the
   specified courses in 1. or 2. above which were previously taken as an undergraduate.
   MATH 6020 - Mathematical Modeling I Credits: 3 hrs.
   MATH 6050 - Optimization Credits: 3 hrs.
   MATH 6080 - Linear Programming Credits: 3 hrs. With the approval of the advisor, a student may
   substitute approved approved electives listed below for any of the specified courses in 1. or 2. above which were
   previously taken as an undergraduate.

3. Complete at least 9 semester hours of approved electives which are different from the above courses:

   Mathematics
   MATH 5270 - Differential Geometry of Curves and Surfaces Credits: 3 hrs.
   MATH 6020 - Mathematical Modeling I Credits: 3 hrs.
   MATH 6050 - Optimization Credits: 3 hrs.
   MATH 6080 - Linear Programming Credits: 3 hrs.
   MATH 6090 - Studies in Applied Math Credits: 3 hrs. These courses may be repeated for credit.
   MATH 6760 - Complex Analysis Credits: 3 hrs.
   MATH 6900 - Seminar in Applied Mathematics Credits: 1-3 hrs. These courses may be repeated for credit.
   MATH 6990 - Reading and Research Credits: 1-6 hrs. These courses may be repeated for credit.
   MATH 7120 - Professional Field Experience Credits: 2-12 hrs. These courses may be repeated for credit.

   And Either:
   MATH 5100 - Applied Matrix Algebra Credits: 3 hrs. OR
   MATH 5300 - Linear Algebra Credits: 3 hrs.
Computer Science
CS 5270 - Theory of Computer Graphics Credits: 3 hrs.
CS 6310 - Advanced Data Structures Credits: 3 hrs.
CS 6320 - Analysis of Computer Algorithms Credits: 3 hrs.

Statistics
STAT 6600 - Statistical Inference I Credits: 4 hrs.
STAT 6620 - Applied Linear Models Credits: 3 hrs.

Doctor of Philosophy in Mathematics
Advisor: See Mathematics Office,
Room 3319, Everett Tower

Admission Requirements
A student may enter this program with a master’s degree or directly upon completion of a bachelor’s program. In addition to satisfying the general admission requirements of The Graduate College, the student must have acquired a sufficient level of mathematical background as determined by the Mathematics Faculty of the Department.

A student entering the program in Collegiate Mathematics Education must have sufficient background in mathematics and education as determined by the Collegiate Mathematics Education Committee, a joint committee of the Mathematics and Mathematics Education faculty.

Program Requirements

Mathematics
A student must complete the following requirements:

1. Take at least 60 hours beyond the bachelor’s degree - 45 hours, excluding MATH 7300.
There must be 30 hours of mathematics courses numbered 6000 or above, excluding MATH 7300. It is required by the University that the dissertation hours and 30 hours of course work be completed after admission to the doctoral program. The 60 hours will include the following courses.

A two-semester graduate sequence in Algebra (MATH 6300-6310)
A two-semester graduate sequence in Analysis (MATH 6700-6710)
A two-semester graduate sequence in Topology (MATH 6210-6240)
A course in Complex Analysis (MATH 6760)
An approved course in applied mathematics or probability/statistics

2. Take three comprehensive examinations.
A student in Algebra, Analysis, or Topology must take comprehensive examinations in each of these areas.
A student planning to do a dissertation in any other area of mathematics may, with approval of the
advisor and the Mathematics Graduate Committee, replace either the Algebra or Topology examination
with one in the student’s specialty.

3. Demonstrate competency in two research tools, including at least one foreign language.
The foreign language research tool may be satisfied by completing courses numbered 4000 in foreign
languages with a “B” or better or by demonstrating the ability to read mathematics in foreign languages
as certified by the Mathematics Graduate Committee. Competence in computer usage as a research tool
is usually demonstrated by completing 3 hours of MATH 6880 with a “B” or better.

4. Teach an undergraduate mathematics class at the 2000-level or higher.

5. Complete a dissertation that is a significant new contribution to mathematics and defend the
dissertation before the student’s doctoral committee. This requires at least 15 hours of the following
course:
MATH 7300 - Doctoral Dissertation Credits: 15 hrs.

6. The following courses may not be included in the required 60 hours.
MATH 6110 - Mathematical Applications Credits: 3 hrs.
MATH 6120 - Data Analysis Credits: 3 hrs.
MATH 6150 - Intermediate Analysis Credits: 3 hrs.
MATH 6160 - Survey of Algebra Credits: 3 hrs.
MATH 6170 - Discrete Dynamical Systems Credits: 3 hrs.

Collegiate Mathematics Education
This degree program requires a minimum of 80 hours beyond the bachelor’s degree — 65 hours,
excluding MATH 7300. The basic requirements of the program are as follows.

1. Complete at least 65 hours of course work, including the following:
   Introduction to Topology (MATH 5220), Linear Algebra (MATH 5300), and Advanced Calculus I & II
   (MATH 5700 and 5710)

   A two-semester graduate sequence in Algebra (MATH 6300-6310)

   A two-semester graduate sequence in another approved area of mathematics in which a comprehensive
   examination is offered

   A semester course in Complex Analysis (MATH 6760)

   Five additional courses, including at least one in Applied Mathematics and at least two in Probability or
   Statistics (usually STAT 5620 and 6620)
   Fifteen graduate hours in mathematics education

2. Pass three comprehensive examinations in
   Algebra
Mathematics Education
One other approved area in Mathematics

3. Demonstrate competence in two research tools.
This may be satisfied by demonstrating competence in computer usage, usually through 3 hours of MATH 6880, and in educational research methods, usually through EMR 6400 and EMR 6480.

4. Teach an undergraduate course in mathematics at the 2000-level or above.

5. Complete and successfully defend a dissertation. This requires 15 hours of:
MATH 7300 - Doctoral Dissertation Credits: 15 hrs.

 Procedures
Upon admission every student will be assigned an advisor. The advisor and student will, within the student’s first calendar year, design a tentative program for completing a Ph.D. This plan must be approved by the committee supervising the Ph.D. program in Mathematics (or Collegiate Mathematics Education for students in that program). Any changes in the student’s program must be approved by the supervising committee.

A student must take the comprehensive examinations as soon as possible. After completing a course sequence leading to a comprehensive examination, a student must take the corresponding comprehensive examination the next time it is offered. Each exam will be offered twice a year as demand requires. If a student fails a comprehensive examination, the student must retake the examination the next time it is offered. A student who fails a comprehensive examination twice will be dismissed from the program at the end of the semester when the exam was taken.

A full-time student must take all the comprehensive examinations by the beginning of the student’s fourth year and must pass the examinations by the end of the fourth year. Part-time students must follow a similar schedule adapted to the number of classes they can take each year.
A full-time student will start taking reading courses from potential dissertation advisors as soon as the student has passed one comprehensive examination. As soon as a student finds a dissertation advisor, the dissertation advisor becomes the student’s advisor.

As soon as a student passes the comprehensive examinations and completes the research tools, the student will, in consultation with the advisor, form a dissertation committee and apply for candidate status. The dissertation committee will consist of the dissertation advisor, a second reader, at least one other faculty member, and a member from outside the department. This committee must be approved by the committee supervising the Ph.D. program. A student will not be allowed to take MATH 7300 hours until these requirements are completed.

At least one year before the final oral defense of the dissertation, each student will give an open oral presentation of their proposed dissertation and answer questions on the proposal. The dissertation committee will consider the merits of the proposal and either allow the student to continue with the proposed problem, require the student to expand the scope of the research, or require the student to find a new topic.
After completing a dissertation and all other requirements for the Ph.D., a student will present an oral defense of the dissertation. This will be an open presentation with an open question period. The committee will then decide to accept or reject the dissertation and defense. All committee members must agree on acceptance for the student to pass.

Doctor of Philosophy in Mathematics Education
Advisor: See Mathematics Office, Room 3319, Everett Tower

The Doctor of Philosophy in Mathematics Education focuses on K-12 mathematics curricula, teaching and learning mathematics, and research and evaluation in mathematics education. Programs may focus on preparation for mathematics education faculty positions in colleges and universities, supervision and curriculum development positions in school systems, or evaluation positions in education-related institutions.

Admission Requirements
Although a student may enter the program with a bachelor’s degree, most candidates for admission will have completed a master’s degree in mathematics or mathematics education and have classroom teaching experience at a pre-college level. Candidates must have a mathematics and methods background at least equivalent to that provided by the secondary mathematics teaching major at Western Michigan University. Those admitted to the program without prior K-12 teaching experience or without course work in teaching and learning will be required to obtain such experiences during their program of study. Admission will be determined by review of the following: a) academic background and transcripts, b) professional experience, c) three letters of recommendation, d) resume, e) written statement of at least 500 words indicating professional goals and purpose for seeking a doctoral degree, f) an interview with the Mathematics Education Faculty (when requested), and g) satisfactory completion of the general admission requirements of The Graduate College.

Program Requirements
This degree program requires a minimum of 90 credit hours beyond the bachelor’s degree. Most students work half-time as research or teaching assistants and spend at least two years on campus. Assistantship experience is a significant part of the doctoral program. In addition to assistantships in mathematics education, other opportunities are available in mathematics and on faculty research grants and projects. Students are expected to satisfy several program requirements.

1. Complete the following course work:
   At least thirty approved graduate credit hours in mathematics and statistics, including general topology (MATH 5220), linear algebra MATH 5300), analysis (MATH 5700 or 6150), abstract algebra (MATH 6300 or 6160), graph theory (MATH 6400), geometry (MATH 6490), and statistics (MATH 6120 or STAT 6620). The remaining courses are to be selected, in consultation with program advisors, from the 5000- and 6000-level offerings in applied mathematics, pure mathematics, and statistics.
   At least six approved graduate credit hours in research methods including a course in quantitative methods (STAT 6620, PSY 6340, or EMR 6450) and a course in qualitative methods (EMR 6480). At least 21 approved graduate credit hours in research methods including issues and trends in mathematics education (MATH 6570), psychology of learning mathematics (MATH 6580), research in
mathematics education (MATH 6590), and two advanced methods courses (selected from MATH 6510, 6520, and 6530).

Additional approved graduate credit hours selected from mathematics, statistics, mathematics education, psychology, and professional education sufficient to meet the minimum program requirements.

2. Pass three comprehensive examinations in
   K-12 mathematics curriculum and instruction
   Psychological foundations and mathematical learning
   Research and design in mathematics education

3. Acquire competence in two research tools.
   This may be satisfied by demonstrating competence in computer usage, usually through 3 credit hours of MATH 6880, and in educational research methods, usually through completion of EMR 6480 and one of STAT 6620, PSY 6340, or EMR 6450.

4. Complete an internship involving the teaching of an undergraduate course in mathematics or mathematics education at the 2000-level or above.
   MATH 7120 - Professional Field Experience Credits: 2-12 hrs.

5. Complete and successfully defend a dissertation in mathematics education requiring 15 credit hours of:
   MATH 7300 - Doctoral Dissertation Credits: 15 hrs.

Procedures
Upon admission a student will, within the first year of enrollment, work with a two-member advisory committee to design a program for completing the Ph.D. At this time, any course requirements already satisfied through prior master’s level work will be determined by the advisory committee. After a tentative program has been designed, one of the advisory committee members will be assigned to serve as the student’s advisor for program matters leading up to the formulation of a dissertation proposal. Program may be reviewed for revision and continuation throughout the program.
A student will schedule comprehensive examinations in consultation with the program advisor. The examinations in curriculum and in psychology will each be three-hour written examinations. The examination in research and design will be a take-home examination written over a period of one week followed within two weeks of submission by a one-hour oral defense conducted with at least two graduate faculty in mathematics education. If a student fails a comprehensive examination, the student must retake the examination within a year of the first attempt. A student who fails a comprehensive examination twice will be dismissed from the program at the end of the semester when the exam was taken.

By the time a student has passed comprehensive examinations in curriculum and instruction and in psychological foundations, the student will take reading courses from a potential dissertation advisor with the goal of developing a proposal for dissertation research. Depending upon the nature of the proposed research, the student may be required to conduct a pilot study.
As soon as a student has passed all three comprehensive exams and shown competency in the two research tools, the student will, in consultation with a chosen dissertation advisor, form a dissertation committee. The chosen dissertation advisor will become the student’s program advisor. The dissertation committee shall consist of the dissertation advisor, a second reader, at least one other faculty member, and a member from outside the department. This committee must be approved by the doctoral committee of the Mathematics Education Area Group. At a time mutually convenient to the student and the dissertation committee, the student will give an open public presentation of the proposed dissertation research and answer questions on the proposal. A student will be allowed to take MATH 7300 credits only after a dissertation committee has been formed and the dissertation proposal is accepted by all its members.

After completing a dissertation and all other requirements for the Ph.D., a student will present an open public defense of the dissertation followed by an open question period. The dissertation committee will then meet in private to decide acceptance or rejection of the dissertation and defense. All committee members must agree on acceptance.
Master of Arts in Medieval Studies
Advisor: Paul E. Szarmach,
The Medieval Institute, Walwood Hall

The Medieval Institute of Western Michigan University offers an interdisciplinary program leading to the Master of Arts in Medieval Studies. Students may choose either Option I (Thesis) or Option II (Non-thesis), depending on their career plans, personal interests, and intellectual orientation. Either option provides a broad background in medieval history, languages, literatures, palaeography, philosophy, religion, the arts, and in research methodology.

Western Michigan University offers an academic environment appropriate for the study of the Middle Ages. The University library houses extensive holdings of books and periodicals in all areas of Medieval Studies, and the Institute of Cistercian Studies library contains unique collections of early manuscripts and rare books in the field of monastic and Renaissance history and thought. Western Michigan University is the host institution for the annual International Congress on Medieval Studies, and Medieval Institute Publications publishes various series of books and several journals in the field of Medieval Studies. The Richard Rawlinson Center for Anglo-Saxon Studies and Manuscript Research offers further opportunities for research and study.

Admission Requirements
In addition to meeting the general admission requirements of The Graduate College, an applicant must submit scores from the Graduate Record Examination General Test, two letters of recommendation, and a statement of intent.

Program Requirements

1. A total of at least 31 hours of course work, including 13 hours of required core courses and 18 hours of electives, the latter to be chosen from the list of approved courses in the Departments of Art, Comparative Religion, English, Foreign Languages, History, Music, Philosophy, and Spanish.

ENGL 5300 - Medieval Literature Credits: 3 hrs.
HIST 6350 - Research Techniques in Medieval History Credits: 3 hrs.
LAT 5600 - Medieval Latin Credits: 4 hrs. (grade of B or better required)
REL 5000 - Historical Studies in Religion Credits: 2-4 hrs. Christian Theology to 1500

2. Demonstrated reading proficiency in Latin and in either French, German, Italian, or Spanish.

3. Preparation of an acceptable Master's Thesis (6 hours) under the direction of a thesis advisory committee.

Option II, Non-Thesis, 37 hrs.
1. A total of at least 37 hours of course work, including 13 hours of required core courses and 24 hours of electives, the latter to be chosen from the list of approved courses in the Departments of Art, Comparative Religion, English, Foreign Languages, History, Music, Philosophy, and Spanish.

ENGL 5300 - Medieval Literature Credits: 3 hrs.
HIST 6350 - Research Techniques in Medieval History Credits: 3 hrs.
LAT 5600 - Medieval Latin Credits: 4 hrs. (grade of B or better required)
REL 5000 - Historical Studies in Religion Credits: 2-4 hrs. Christian Theology to 1500

2. Demonstrated reading proficiency in Latin. (Note: Option II has no modern language requirement.)

3. Option II has no thesis requirement.
Philosophy

Dr. Timothy McGrew, Chair
Main Office: 3004 Moore Hall
Telephone: 387-4389
FAX: 387-4390
EMAIL: philosophy@wmich.edu
URL: http://www.wmich.edu/philosophy

Fritz Allhoff
Marc Alspector-Kelly
Kent Baldner
John Dilworth
Patrick Lin, Adjunct
Michael Pritchard
Michael Scriven
Quentin Smith
Lynn G. Underwood, Adjunct
John Weckert, Adjunct

Master of Arts in Philosophy
Advisor: Marc Alspector-Kelly, Director of Graduate Studies
Room 3020, Moore Hall
marc.alspector-kelly@wmich.edu

The Master of Arts in Philosophy offers advanced study in the main subject areas and historical periods of philosophy.

Admission Requirements
In addition to satisfying the admission requirements of The Graduate College, applicants are expected to have completed a minimum of twelve semester hours of undergraduate work in philosophy, including a course in the history of modern philosophy, and a course in symbolic logic, and to have achieved a 3.0 or above overall grade point average in the applicant's undergraduate philosophy courses.

Program Requirements

Non-Thesis Option
To complete the Non-Thesis Option for a Master of Arts in Philosophy, students must complete at least 1 course (no less than 3 credit hours) in each of the three Concentration areas (the "breadth requirement"), at least 3 courses (no less than 9 credit hours) in one of the Concentration areas (the "depth requirement"), a minimum of 24 credit hours of 5000- or 6000-level courses in the Department of Philosophy, and a minimum of 32 graduate credit hours. (With the authorization of the Department Graduate Advisor, students may count up to 8 credit hours of courses from other departments.)
Thesis Option
To complete the Thesis Option for a Master of Arts in Philosophy, students must complete at least 1 course (no less than 3 credit hours) in each of the three Concentration areas (the “breadth requirement”), at least 3 courses (no less than 9 credit hours) in one of the Concentration areas (the “depth requirement”), a minimum of 24 credit hours of 5000- or 6000-level courses in the Department of Philosophy, a minimum of 32 graduate credit hours. (With the authorization of the Department Graduate Advisor, students may count up to 8 credit hours of courses from other departments), and 6 credit hours of PHIL 7000. Please see Graduate Advisor for details.

Concentration Areas
The department offers graduate courses in philosophy in three Concentration Areas - Metaphysics and Philosophy of Mind, Epistemology and Philosophy of Science, and Theoretical and Practical Ethics. Students must declare a concentration by the end of their first semester, but may, with departmental approval, change this at a later date. Students fulfilling their depth requirement in Metaphysics and Philosophy of Mind must take PHIL 6330 Metaphysics. Students with a Concentration in Epistemology and Philosophy of Science must take PHIL 6320 Theory of Knowledge. Students with a Concentration in Theoretical and Practical Ethics must take PHIL 6310 Ethical Theory.

a. Metaphysics and Philosophy of Mind:  
Courses that may, given the Proviso below, count for credit in Metaphysics and Philosophy of Mind are:
PHIL 5070 - The Continental Tradition in Philosophy Credits: 2-4 hrs.
PHIL 5120 - Aesthetics Credits: 3 hrs.
PHIL 5200 - Philosophical Applications of Symbolic Logic Credits: 3 hrs.
PHIL 5400 - Philosophy of Mind Credits: 2-4 hrs.
PHIL 5600 - Philosophy at Pre-College Levels Credits: 2-4 hrs.
PHIL 5700 - Philosophical Topics Credits: 1-4 hrs.
PHIL 6000 - Colloquium Credits: 2-4 hrs.
PHIL 6100 - Seminar in the History of Philosophy Credits: 2-4 hrs.
PHIL 6200 - Philosophy of Language and Logic Credits: 2-4 hrs.
PHIL 6330 - Metaphysics Credits: 2-4 hrs.
PHIL 6500 - Philosophy of Religion Credits: 2-4 hrs.

b. Epistemology and Philosophy of Science  
Courses that may, given the Proviso below, count for credit in Epistemology and Philosophy of Science are:
PHIL 5070 - The Continental Tradition in Philosophy Credits: 2-4 hrs.
PHIL 5120 - Aesthetics Credits: 3 hrs.
PHIL 5200 - Philosophical Applications of Symbolic Logic Credits: 3 hrs.
PHIL 5250 - Decision Theory Credits: 4 hrs.
PHIL 5550 - Advanced Philosophy of Science Credits: 2-4 hrs.
PHIL 5600 - Philosophy at Pre-College Levels Credits: 2-4 hrs.
PHIL 5700 - Philosophical Topics Credits: 1-4 hrs.
PHIL 6000 - Colloquium Credits: 2-4 hrs.
PHIL 6100 - Seminar in the History of Philosophy Credits: 2-4 hrs.
PHIL 6200 - Philosophy of Language and Logic Credits: 2-4 hrs.
PHIL 6320 - Theory of Knowledge Credits: 2-4 hrs.
c. Theoretical and Practical Ethics
Courses that may, given the Proviso below, count for credit in Theoretical and Practical Ethics are:
PHIL 5070 - The Continental Tradition in Philosophy Credits: 2-4 hrs.
PHIL 5120 - Aesthetics Credits: 3 hrs.
PHIL 5340 - Moral and Philosophical Foundations of Health Care Credits: 3 hrs.
PHIL 5440 - Practical Ethics Credits: 3 hrs.
PHIL 5600 - Philosophy at Pre-College Levels Credits: 2-4 hrs.
PHIL 5700 - Philosophical Topics Credits: 1-4 hrs.
PHIL 6000 - Colloquium Credits: 2-4 hrs.
PHIL 6100 - Seminar in the History of Philosophy Credits: 2-4 hrs.
PHIL 6310 - Ethical Theory Credits: 2-4 hrs.

Proviso:
For courses listed under more than one Concentration, the faculty member and student will come to an agreement concerning which concentration a given course will fall under, determined by the course topic and content. Students may count a single, given offering of a course under only one Concentration. The following courses do not count for credit under any Concentration:
PHIL 5980 - Readings in Philosophy Credits: 1-4 hrs.
PHIL 7000 - Master's Thesis Credits: 1-6 hrs.
PHIL 7100 - Independent Research Credits: 2-6 hrs.
Master of Arts in Physics
Advisor: Dean Halderson,
Room 1135, Everett Tower

The Department of Physics offers a graduate program leading to the Master of Arts in Physics. The objective of the program is to enable students to acquire the knowledge and technical skills needed in physics-related occupations and in graduate study at the doctoral level. Thirty semester hours of graduate credit are required. An additional requirement is either to pass the Doctoral Qualifying Examination at the master's degree level or to complete a Master's Thesis. Participation in research may occur in one of three areas:

1. Theoretical physics—astrophysics, atomic physics, nuclear structure, nuclear reactions, or condensed matter.
2. Experimental physics—astronomy, atomic physics, nuclear physics, condensed matter physics, or materials analysis with accelerated ions. Campus facilities available for experimental research include a Van de Graaff accelerator and laboratory, and a low-temperature physics laboratory.
3. Computer and instrumentation physics—software and hardware development for computer data acquisition and analysis, or instrumentation development for physics research.
Or any combination of these, or some interdisciplinary areas.
Admission Requirements
Students entering this program are expected to have acquired a bachelor's degree in physics or at least an equivalent amount of experience and training (including training in mathematics at the appropriate level). Prospective students are recommended to take the GRE General Test and Physics Subject Test. The departmental graduate advisor will provide assistance to students seeking admission to this program and will recommend ways of eliminating any deficiencies in course work.

Program Requirements
The thirty semester hours of graduate credit must include the following:

1. Fifteen hours of required courses in physics, namely: (Substitutions for these courses may be made only with the approval of the graduate advisor.)
   PHYS 6100 - Research Seminar Credits: 1 hr.
   PHYS 6220 - Quantum Mechanics I Credits: 3 hrs.
   PHYS 6240 - Statistical Mechanics Credits: 3 hrs.
   PHYS 6300 - Classical Mechanics Credits: 4 hrs.
   PHYS 6620 - Electricity and Magnetism I Credits: 4 hrs.

2. Doctoral Qualifying Examination
   Either successful completion of the Doctoral Qualifying Examination at the master's degree level or satisfactory completion of:
   PHYS 7000 - Master's Thesis Credits: 6 hrs.

3. Additional Hours
   Additional hours from Physics, Computer Science, Electrical Engineering, or other departments to be chosen with the consent of the graduate advisor.

   The thesis may be either theoretical or experimental in nature and is accomplished under the guidance of a committee of the graduate faculty in Physics. The topic of the thesis may be based on one of the research areas noted above, or it may be based on some other area of physics chosen by the student and approved by the thesis committee. The committee may require an oral defense of the thesis before approving it for submission to The Graduate College.

   Graduate students are required to attend the Physics Colloquium, which constitutes a program for graduate students and Physics faculty, presented by members of the WMU Physics faculty and visitors from other institutions on topics related to their research specialties. Graduate students are also expected to attend the Physics Public Lectures, a series of talks on topics of general interest in physics and related fields.

Doctor of Philosophy in Physics
Advisor: Dean Halderson,
Room 1135, Everett Tower

The Department of Physics offers a program leading to the Doctor of Philosophy in Physics. The main objective of this program is to prepare students for careers in teaching and/or research in colleges and
universities, or for research in industry. Research is an integral part of the program and may be performed in either experimental physics or theoretical physics. The area of specialization may be astrophysics, atomic physics, condensed matter physics, or nuclear physics. Special facilities available for research include a 6 MV model EN tandem Van De Graaff accelerator. The graduate advisor in the Department of Physics will counsel the student until a research advisor is selected. Afterwards the student will plan his/her doctoral program in consultation with the graduate advisor and his/her research advisor.

Admission Requirements

Students entering this program are expected to have acquired a bachelor's degree in physics or at least an equivalent amount of experience and training (including training in mathematics at the appropriate level). Prospective students are required to take the Graduate Record Examination General Test. Performance on this examination will be used as one measure in the determination of admission and financial support. It is also recommended that students take the Physics Subject Test part of the Graduate Record Examination. The departmental graduate advisor will provide assistance to students seeking admission to this program and will recommend ways of eliminating any deficiencies in course work.

Program Requirements

The Doctor of Philosophy in Physics includes a minimum of 60 hours of graduate credit. These credits are composed of course work, supervised reading, seminars, and research. The research will be performed under the guidance of the student's research advisor and must culminate in a dissertation suitable for publication. The required, minimum 60 hours of graduate credit shall consist of the following:

1. A core of basic courses listed below (28 credit hours).

2. Physics (15 credit hours).

   PHYS 7300 - Doctoral Dissertation Credits: 15 hrs.

3. Additional courses chosen from:
   a. Research courses

   PHYS 6800 - Research in Atomic Physics Credits: 1-6 hrs.
   PHYS 6810 - Research in Nuclear Physics Credits: 1-6 hrs. or
   PHYS 6820 - Research in Condensed Matter Physics Credits: 1-6 hrs.

   b. Courses mutually agreed upon by the student and the graduate advisor or the research advisor.

4. An overall grade point average of 3.25 in all graduate work.

Basic Core Courses:

   PHYS 6100 - Research Seminar Credits: 1 hr.
   PHYS 6150 - Mathematical Physics Credits: 3 hrs.
   PHYS 6220 - Quantum Mechanics I Credits: 3 hrs.
   PHYS 6230 - Quantum Mechanics II Credits: 3 hrs.
   PHYS 6240 - Statistical Mechanics Credits: 3 hrs.
   PHYS 6300 - Classical Mechanics Credits: 4 hrs.
PHYS 6620 - Electricity and Magnetism I Credits: 4 hrs.
PHYS 6630 - Electricity and Magnetism II Credits: 4 hrs.

And one (1) of the following:
PHYS 6700 - Atomic Physics Credits: 3 hrs.
PHYS 6710 - Nuclear Physics Credits: 3 hrs.
PHYS 6720 - Condensed Matter Physics Credits: 3 hrs.

Additional Requirements
The research tool requirements must be met by demonstrated competency in two of the following: (1) Programming at the level of MATH 5070 (e.g., the acquisition, analysis, modeling, or simulation of data); (2) a non-native foreign language at the level of FREN 4010, GER 4010, etc.; (3) differential equations at the level of MATH 5740; (4) or the use of physics research equipment at a level equivalent to PHYS 4660. PHYS 4660 is strongly recommended for those students who have not had an advanced laboratory course.

The courses PHYS 6150, 6220, 6300, and 6620 normally are taken during the student's first year. Upon completion of these courses the student is required to take the Qualifying Examination. The Qualifying Examination consists of four testing sessions and will cover the contents of the four courses. This examination is a written examination; however, if deemed necessary for a more precise judgment, the student may be required to take an additional oral examination. The examination must be passed before any hours of PHYS 7300 Doctoral Dissertation or PHYS 7350 Graduate Research are taken. A student is allowed to take the Qualifying Examination only twice. It is recommended that the Qualifying Examination be taken at the end of the first year. This examination must be taken for the first time no later than the beginning of the student's third year and must be passed before the beginning of the student’s fourth year.

The grade awarded on the Qualifying Examination is based not only on the student's performance on the written examination, but also on his or her performance in courses. The grade represents the faculty's judgment, based on all available evidence, on whether or not a student should become a doctoral candidate.

After successful completion of the Qualifying Examination, the student will, upon counsel with the graduate advisor and with the consent of the faculty member involved, select a research advisor. The advisor must be a member of the graduate faculty. With agreement from the research advisor, the student will select a dissertation committee. This committee will consist of the research advisor and three additional graduate faculty members, at least one of whom is from outside the Physics Department.

As soon as possible after completion of all the core courses, the student must take the Comprehensive Examination. The Doctoral Program of Study form must be approved before this examination is taken. This examination consists of questions on the doctoral dissertation proposal and, possibly, on the core courses. A student will be given a grade of pass or fail. If a student fails the Comprehensive Examination, it may be repeated only once. At the completion of the dissertation, the student will take a Final Oral Examination. During this examination, the dissertation committee will ask questions concerning the dissertation and concerning the student's research area. Members of the committee should be provided with copies of the dissertation at least one month in advance of the examination. The
dissertation and the student's knowledge of the subject areas must be deemed acceptable by the committee.

The requirements and procedures for submission of a dissertation to The Graduate College can be obtained from that College.
Political Science

Dr. J. Kevin Corder, Chair
Main Office: 3302 Friedmann Hall
Telephone: 387-5680
FAX: 387-5354

James M. Butterfield
John A. Clark
Paul Clements
Suhashni Datta-Sandhu
Emily Hauptmann
Gunther M. Hega
Susan Hoffmann
David G. Houghton
Mark Hurwitz
Alan C. Isaak
Ashlyn Kuersten
Priscilla Lambert
Mahendra Lawoti
Peter G. Renstrom
Sybil D. Rhodes
Jacinda Swanson
Peter Wielhouwer

Master of Arts in Political Science

Director of Graduate Studies: Jim Butterfield,
Room 3356, Friedmann Hall

The Master of Arts in Political Science offers the student a variety of options to prepare him/her for various career goals: (1) positions in the public service and quasipublic agencies; (2) further professional training in political science and related professions, such as law; (3) teaching positions in community colleges; and (4) general positions in the business world.

Admission Requirements
In addition to meeting the general admission requirements of The Graduate College, a student must have completed at least twenty-four hours of work in the social sciences or other relevant fields and have achieved a 3.0 grade point average. Graduate Record Exam scores for the quantitative, verbal, and analytical parts are required for all students. Additional materials to be submitted include a brief essay about the student's academic and professional objectives, a curriculum vitae, and three recommendations (on WMU Graduate Reference Forms). The department may require the student to make up deficiencies in undergraduate preparation.
Program Requirements

The program is 30 credit hours and allows students to choose between the thesis and non-thesis options. Requirements in the two options may not be interchanged. Students should meet with the Director of Graduate Studies before registering for classes their first semester.

Thesis Option

1. Thirty hours of graduate credit in Political Science.
   With the written approval of the Graduate Director, a student may substitute up to two courses with a maximum of eight hours of cognate work appropriate to his/her program.

2. Each student is required to take the following core courses (15 hours) or their equivalent:
   PSCI 6010 - Foundations of American Politics Credits: 3 hrs.
   PSCI 6410 - Foundations of Comparative Politics Credits: 3 hrs.
   PSCI 6640 - The Nature of Political Inquiry and Analysis Credits: 3 hrs.
   PSCI 6940 - Teaching Political Science Credits: 1 hr.
   PSCI 6960 - Research and Professional Skills Credits: 2 hrs.

   And one of:
   PSCI 6620 - Political Philosophy I Credits: 3 hrs.
   PSCI 6630 - Political Philosophy II Credits: 3 hrs.
   PSCI 6650 - Modern Democratic Theory Credits: 3 hrs.

3. Master's Thesis
   PSCI 7000 - Master's Thesis Credits: 6 hrs.

4. Pass an oral examination on the thesis and on the student's political science program.

Non-Thesis Option

1. Thirty hours of graduate credit in Political Science.
   With written approval of the Graduate Director, a student may substitute up to two courses with a maximum of eight hours of cognate work appropriate to his/her program.

2. Each student is required to take the following core courses (15 hours) or their equivalent:
   PSCI 6010 - Foundations of American Politics Credits: 3 hrs.
   PSCI 6410 - Foundations of Comparative Politics Credits: 3 hrs.
   PSCI 6640 - The Nature of Political Inquiry and Analysis Credits: 3 hrs.
   PSCI 6940 - Teaching Political Science Credits: 1 hr.
   PSCI 6960 - Research and Professional Skills Credits: 2 hrs.

   And one of:
   PSCI 6620 - Political Philosophy I Credits: 3 hrs.
   PSCI 6630 - Political Philosophy II Credits: 3 hrs. or
   PSCI 6650 - Modern Democratic Theory Credits: 3 hrs.

3. Pass written and oral field examinations on the student's political science program.
Master of Development Administration
MDA Director: Paul Clements,
Room 3356, Friedmann Hall

The Master of Development Administration (MDA) program is designed to prepare candidates for careers in international development and to meet the specialized needs of public administrators from the developing countries. The course of instruction has as its focus the political dimensions of development and democratization and includes a strong multidisciplinary component that draws from public administration, economics, computer science, business and management, social work, human resources and health delivery systems, and educational leadership.

The program is designed for two types of students: Public administrators and officials from developing countries who require additional training to meet new or increased responsibilities; and recent graduates from both developing and industrial countries, including the United States, who are interested in development—careers in the public sector, i.e., in government, non-governmental organization, or international organization.

The MDA program includes development administration theory and practice, exposure to development strategies, and the honing of skills. MDA students are guided in their work by established and experienced members of the academic community, all of whom are research scholars, and the majority of whom have lived and worked in the developing countries. Usually faculty have had experience with national and/or international organizations, or have worked with a variety of governments on development projects.

Two options exist—the standard MDA program and the Peace Corps option. The admission and program requirements for each option are listed below.

Standard MDA Program Option

Admission Requirements
Applicants must satisfy the requirements for admission to The Graduate College in order to be considered for admission to this program. An applicant must possess an undergraduate degree, preferably in the social sciences with either a concentration in political science or public administration, and should have some exposure to economics and/or statistics. Applicants with actual public administration experience may, under some circumstances, substitute professional attainments for undergraduate preparation.

A grade point average of 3.0 in all undergraduate work is normally a requirement for admission to the MDA program; however, where grading scales are computed differently, equivalencies will be determined. International students must obtain from and submit their applications to the WMU Office of International Student Services. American students should apply through the WMU Graduate Admissions Office. The Department of Political Science also requires three recommendations (using WMU Graduate Reference Forms), a one page statement of the student's interest in the MDA program, and any other supporting data that can assist the Department's Admissions Committee, which screens and judges all applications.
All students must demonstrate English proficiency (i.e., the ability to speak, read, and write in the English language) before entering the MDA program. A Career English Program is available for students whose English language capabilities are limited.

Students are encouraged to submit all required application materials by June 15 for the fall semester; by September 15 for the winter semester; and by February 15 for the spring session.

Program Requirements

The Master of Development Administration is a professional degree that requires forty-two semester hours of graduate courses. Up to six hours may be waived for those with extensive administration experience. To earn the MDA degree, students must maintain a minimum "B" average (GPA 3.0 on a 4.0 scale) in all courses. Students normally complete the program in 20 months. The basic requirements are as follows:

1. Prerequisites (non-credit)
   Only for those candidates without the requested academic or practical background: PSCI 3300, Introduction to Public Administration; and ECON 2010 or 2020, Principles of Economics, or other courses as determined by the MDA Director, or other courses as determined by the MDA Director.

2. Required Core Courses.
   Six courses (18 hours):
   - PADM 6080 - Organization Theory and Behavior Credits: 3 hrs.
   - PADM 6270 - Human Resources Administration Credits: 3 hrs.
   - PSCI 5320 - Administration in Developing Countries Credits: 3 hrs.
   - PSCI 6330 - The Political Environment of Public Administration Credits: 3 hrs.
   - PSCI 6360 - Seminar: Development Administration Credits: 3 hrs.
   - PSCI 6380 - Seminar: Implementing Development Policy Credits: 3 hrs.

3. Tools or Skills.
   Three courses (9 hours):
   - PADM 6120 - Principles of Public Budgeting Credits: 3 hrs.
   - PADM 6150 - State and Local Government Finance Credits: 3 hrs.
   - PSCI 6440 - Seminar: Comparative Strategies of Development Credits: 3 hrs.

4. International and Comparative Studies.
   One course (3 hours):
   - PSCI 5530 - United Nations Credits: 3 hrs.
   - PSCI 5550 - International Law Credits: 3 hrs.
   - PSCI 6500 - Third World Seminar Credits: 3 hrs.

5. Concentrations.
   Three courses within one of the five concentrations (9 hours). Most students take the Standard Concentration. Under special circumstances a mix of courses appropriate to the needs of the student may be selected with the approval of the MDA Director.
a. Leadership - the Standard Concentration:
COM 6730 - Conflict Management Credits: 3 hrs.
COM 6830 - Power and Leadership in Organizational Communication Credits: 3 hrs.
EDLD 6020 - Educational Leadership Credits: 3 hrs.
PADM 5990 - Topics in Public Administration Credits: 1-4 hrs.
PADM 6110 - Administrative Law and Governmental Regulation Credits: 3 hrs.
PADM 6140 - Managing Community Growth and Development Credits: 3 hrs.
PSCI 6440 - Seminar: Comparative Strategies of Development Credits: 3 hrs.
PSCI 6490 - Sustainable Rural Development Credits: 3 hrs.

b. Human Resource Development:
One of the following:
CECP 6400 - Principles of Human Resources Development Credits: 3 hrs.
CECP 6410 - Fundamentals of Needs Analysis Credits: 3 hrs.
CECP 6420 - Evaluation of Human Resources Development Transfer and Impact Credits: 3 hrs.
CECP 6430 - Project Management in Human Resources Development Credits: 3 hrs.
MGMT 6000 - Seminar in Management (Topic) Credits: 3 hrs. or
PADM 6290 - Supervisory Skills for Administrators Credits: 3 hrs.

c. Health and Human Services:
PADM 6510 - Health Services Delivery Credits: 3 hrs.
PADM 6550 - The Administration of Health Services Credits: 3 hrs.
PADM 6580 - Seminar: Current Issues in Health Service Management and Delivery Credits: 3 hrs.
PADM 6780 - Program Evaluation Credits: 3 hrs.
SWRK 6430 - Leadership and Management in Human Services Credits: 3 hrs.

d. Urban and Rural Studies:
GEOG 5440 - Studies in Economic Geography Credits: 2-3 hrs.
GEOG 5530 - Water Resources Management Credits: 3 hrs.
GEOG 5550 - Contemporary Issues in Resources Management Credits: 3 hrs.
GEOG 5560 - Studies in Urban and Regional Planning Credits: 3 hrs.
GEOG 5700 - Cities and Urban Systems Credits: 3-4 hrs.
PSCI 6400 - Seminar in Comparative Politics Credits: 3 hrs.
PSCI 6490 - Sustainable Rural Development Credits: 3 hrs.

e. Public Policy Analysis:
ECON 5880 - Economic Development Credits: 3 hrs. and
ECON 6880 - Economic Development I Credits: 3 hrs.
PADM 6880 - Program Planning and Proposal Writing Credits: 3 hrs.
PSCI 6460 - Comparative Public Policy Credits: 3 hrs.
PSCI 6640 - The Nature of Political Inquiry and Analysis Credits: 3 hrs.
PSCI 6910 - Political Analysis I Credits: 3 hrs.
PSCI 6920 - Political Analysis II Credits: 3 hrs.

6. Approved Elective (3 hours):
With the approval of the MDA Director choose one course from the above.
**Peace Corps Program Option**

The MDA Peace Corps Option is designed for students who wish to earn the MDA degree and to carry out two years of service as Peace Corps Volunteers. This option is only available to U.S. citizens as Peace Corps only accepts U.S. nationals. Prospective students should apply for entrance into Peace Corps and into the MDA Program concurrently. Rather than the forty-two credit hours required for a standard MDA, the Peace Corps Option requires thirty-six credit hours plus completion of Peace Corps service. Of these thirty-six credit hours, thirty are earned at Western Michigan University and six credit hours are earned for a field paper researched and written during Peace Corps service. The thirty credit hours on campus are normally earned in a rigorous ten month course of study from September through June (four three-hour courses in the fall semester, four in the winter semester, and two in the spring session).

**Admission Requirements**

The admission requirements for the Peace Corps Option are the same as those for the Standard Program Option listed above. Applicants, however, should note on the MDA application that they want the “Peace Corps Option.” On the application to Peace Corps, applicants should note that they are also applying to the Master’s International Program (MIP) in Development Administration at Western Michigan University.

**Program Requirements**

1. Prerequisites—same as for Standard MDA Program Option.

2. Required Core Courses (12 hrs.):
   - PADM 6270 - Human Resources Administration Credits: 3 hrs.
   - PSCI 5320 - Administration in Developing Countries Credits: 3 hrs.
   - PSCI 6330 - The Political Environment of Public Administration Credits: 3 hrs.
   - PSCI 6360 - Seminar: Development Administration Credits: 3 hrs.

3. Tools or Skills (3 hrs.):
   - PADM 6120 - Principles of Public Budgeting Credits: 3 hrs.

4. International and Comparative Studies (3 hrs.):
   - One of the following:
     - PSCI 5530 - United Nations Credits: 3 hrs.
     - PSCI 5550 - International Law Credits: 3 hrs.
     - PSCI 6500 - Third World Seminar Credits: 3 hrs.

5. Concentrations (9 hrs.):
   - Three courses (9 hrs.) in an area of personal concentration selected with the approval of the MDA Director.

6. Approved elective (3 hrs.):
   - One course (3 hrs.) selected with the approval of the MDA Director.
Doctor of Philosophy in Political Science
Director of Graduate Studies: Jim Butterfield,
Room 3356, Friedmann Hall

The Doctor of Philosophy in Political Science is designed to prepare students for careers in teaching and both academic and applied research. The Ph.D. program provides basic training in American politics, comparative politics, political theory and philosophy, and research methods. Students may enter with either a B.A. degree or an M.A. degree.

Admission Requirements
Students must satisfy the general admission requirements of The Graduate College. Students applying to the program with a bachelor's degree must have completed at least twenty-four hours of work in the social sciences or other relevant fields and have achieved a 3.25 grade point average in their last two years of course work. Students applying with a master's degree must have achieved a grade point average of at least 3.25 in their graduate work. Graduate Record Exam scores for the quantitative, verbal and analytical parts are required for all students. Each applicant should arrange to have three recommendations sent (using WMU Graduate Reference Forms) and submit a curriculum vitae, a brief essay concerning their academic and professional objectives, and two writing samples that indicate their ability in professional writing. All application materials for admission should be submitted by the following dates: July 1 for Fall Semester, November 1 for Spring Semester, March 1 for Summer I Session, and May 1 for Summer II Session.

Program Requirements
Students should meet with the Director of Graduate Studies before registering for classes their first semester.

The doctorate requires a minimum of 90 credit hours of work beyond the baccalaureate. After successfully completing 30 hours in the program and passing the M.A. Exam in one of three fields, students will be eligible for a Master of Arts degree. Up to 30 credit hours may be applicable from a master’s degree.

The basic requirements for the doctorate are as follows:
1. Prerequisites (non credit). Students must have completed the following course or its equivalent with a grade of “B” or better:
PSCI 3950 - Quantitative Methods for Political Scientists

2. Required core courses.
Each student is required to take the following core courses (27 hours) or their equivalent:
A.) Foundations:
- PSCI 6010 - Foundations of American Politics Credits: 3 hrs.
- PSCI 6410 - Foundations of Comparative Politics Credits: 3 hrs.
- PSCI 6640 - The Nature of Political Inquiry and Analysis Credits: 3 hrs.
- PSCI 6910 - Political Analysis I Credits: 3 hrs.
- PSCI 6920 - Political Analysis II Credits: 3 hrs.
- PSCI 6940 - Teaching Political Science Credits: 1 hr.
- PSCI 6950 - Teaching Excellence Credits: 2 hrs.
- PSCI 6960 - Research and Professional Skills Credits: 2 hrs.
- PSCI 6970 - Proposal Workshop Credits: 1 hr.

And Two of the Following:
- PSCI 6620 - Political Philosophy I Credits: 3 hrs.
- PSCI 6630 - Political Philosophy II Credits: 3 hrs.
- PSCI 6650 - Modern Democratic Theory Credits: 3 hrs.

3. Required Field Electives.
Each student must take one elective course in both American Politics and Comparative Politics

4. Other elective courses.
Students must take enough courses to prepare them for their doctoral research and approximate required hours in anticipation of dissertation credit. The precise number of elective courses should be worked out with the Graduate Director. In addition to elective courses in Political Science, students may include courses from cognate fields (with approval of the Graduate Director) and independent study.

5. Annual Reviews.
In order to continue in the program, students must receive a positive annual review.

All Ph.D. students must demonstrate proficiency in at least two research skills and/or methodology appropriate to their field of specialization, as determined in consultation with their advisor, field faculty, and the Graduate Director. As such, all students must successfully complete PSCI 6640, 6910, and 6920 or their equivalents, and are urged to do so as early in their careers as possible. In addition, all students must attain competence in a second elective research skill/methodological tool sufficient to meaningfully assist their research activities. Elective research tools may include advanced statistical methodology, foreign language skills (other than English), survey research, econometrics, Geographic Information Systems (GIS), or other alternative skills as approved by the Graduate Director and/or Graduate Committee. Students should check the specific research tools/methodology policy with the Graduate Director.

7. Comprehensive examination.
In order to continue in the program after the completion of their required core course work, students must take and pass written and oral examinations covering two of the following three fields: American Politics, Comparative Politics, and Political Theory.
As the capstone to the Ph.D. degree program, the dissertation is awarded 15-21 credit hours. The dissertation is an original and substantive research requirement and will be developed and completed under the supervision of a dissertation advisor.
The Department of Psychology has a strong scientific and behavior analytic orientation, which influences all the Department's graduate degree programs.

Graduate students receive a personal appointment to a faculty advisor and two faculty sponsors in an apprenticeship role. These arrangements facilitate the development of a personalized program to accommodate the academic and professional interests of the student and to utilize the full range of research and other facilities within the University. The student is encouraged to participate in the daily conduct of the Department's academic program and research activities.

Graduate students in all programs of the department are expected to abide by the following principles: “Ethical Principles of Psychologists” and the “Standards for Providers of Psychological Services,”
published by the American Psychological Association; “Guidelines for Human Subjects Research at
WMU” and “Humane Care and Use of Animals Policy and Procedures,” published by Western
Michigan University; and “Guide for the Care and Use of Laboratory Animals,” published by the
National Research Council. The Department expects students to be familiar with the content of these
documents and to abide by the principles contained therein as they apply to academic endeavors,
professional service, and research activities conducted in partial fulfillment of degree requirements as
well as professional service and scholarly or research activities which are not directly awarded academic
credit but are completed as part of program requirements of the Department of Psychology at Western
Michigan University.

The members of the department faculty conduct an annual review of student progress and recommend to
The Graduate College advancement from program applicant to candidacy for a degree within each
program. This evaluation includes a review of academic performance, professional responsibility, and
adherence to the accepted ethical and professional guidelines of the discipline and the profession as
published by the American Psychological Association. Failure to meet these standards and the ethical
principles of the American Psychological Association and the State or failure to abide by “The WMU
Student Code” and “Student Rights and Responsibilities” as delineated in the Graduate Catalog may
lead to disciplinary action and/or dismissal from the program. Disciplinary reviews, including a due
process hearing for the student, are conducted by the Department's Graduate Training Committee, and a
summary of the findings and a recommendation for action are sent to the Dean of The Graduate College.

The Department of Psychology offers financial assistance through Department assistantships and
program fellowships. Additional information concerning financial awards and program requirements
may be obtained from the Department office.

Master of Arts in Psychology

Admission Requirements
Applications are reviewed in terms of four sources of information, although performance related to any
one source is not sufficient to assure or deny admission. Applicants are assumed to have substantial
training in psychology at the undergraduate level with a minimum of 18 hours of credit in psychology,
including introductory statistics. Applicants may be required to complete additional courses following
matriculation in order to satisfy these basic requirements.

The application procedure includes submission of:
1. A transcript showing the completion of an undergraduate major or minor in psychology
2. Graduate Record Examination (verbal and quantitative tests)
3. Three letters of recommendation
4. An autobiography describing academic interests and professional goals
5. The Department of Psychology admission application

Students are admitted only during the Fall Semester each year. The deadline for receipt of all application
materials is January 20.
It is the policy and commitment of the Department of Psychology not to discriminate on the basis of race, sex, age, color, national origin, height, weight, marital status, sexual orientation, religion, handicap, or Veteran status in its educational programs, student programs, admissions, or employment policies. The Department of Psychology complies with all requirements of Title VII of the Civil Rights Act of 1964, Title IX of the 1972 Amendments, Executive Order 11246 as amended, and Section 504 or the Rehabilitation Act of 1973, and all other pertinent state and federal regulations.

Program Requirements

**Behavior Analysis**

Advisor: James E. Carr, Behavior Analysis Program Chair
3758 Wood Hall

This program prepares students for doctoral study or for work in applied settings.

The Behavior Analysis program requires thirty-six credit hours, including:
- Principles of Learning and Motivation (3 hrs.)
- Theoretical Issues in Behavior Analysis (3 hrs.)
- Professional Issues (3 hrs.)
- Behavioral Approaches to Individual and Systems Management (3 hrs.)
- Cognates (0-3 hrs.)
- Research Methods (6 hrs.)
- Master’s Thesis or Master’s Project (6 hrs.)
- Behavior Analysis: Theory and Application (6-9 hrs.)
- Professional Experience (0-9 hrs.)

Note: Limited license advisory:

Behavior-analysis students wishing to qualify for a Limited License to Practice as a psychologist in the State of Michigan are advised that the General Rules of the Board of Psychology of Michigan's Department of Licensing and Regulation lists the following requirements for a Rule 7 limited license at the M.A. Level:
1. one course in assessment
2. one course in treatment
3. a 500-hour practicum under supervision of a licensed psychologist
4. 2,000 hours of supervised, post-M.A. experience.

Behavior-analysis students may need to take two or more extra courses to meet these additional requirements. Students interested in qualifying for a limited license are encouraged to consult the appropriate licensing law and the Board of Psychology for further details.

**Industrial/Organizational Psychology**

Advisor: Alyce Dickinson, Industrial/Organizational Psychology Program Chair
3700 Wood Hall
The master’s program in Industrial/Organizational Psychology prepares students for human resource management positions in business, government, and human service organizations or for entry into a Ph.D. program for advanced study.

This program requires a minimum of thirty-six credit hours, including:
1. Industrial/Organization Psychology Core (9 hrs.)
2. Behavior Principles (3 hrs.)
3. Behavior Systems Analysis (6 hrs.)
4. Methodology (6 hrs.)
5. Research Methods and Applications (6 hrs.)
6. Elective Cognates (6 hrs.)
7. A master's thesis is required of persons planning to pursue a Ph.D. degree, while those with a professional orientation select a research project (3 hrs.) and a professional practicum (3 hrs.) in an industrial setting. The selection of elective courses outside the core, including the thesis option, is approved by the advisor for the industrial/organizational psychology program.

Clinical Psychology
No terminal Master of Arts is offered in Clinical Psychology. A master's degree in this area is offered only as part of the Doctor of Philosophy. See the description of the doctoral program in clinical psychology for more information.

Doctor of Philosophy in Psychology
The Doctor of Philosophy in Psychology is designed to provide intensive training in Behavior Analysis or Clinical Psychology. The Doctor of Philosophy is a research degree for persons intending to assume leadership roles in teaching, research, and service in a variety of professional and academic institutions.

In addition to meeting the entrance requirements of The Graduate College, applicants are expected to show evidence of interest in and aptitude for conducting research.

Graduate students receive a personal appointment of a doctoral committee chairperson and two faculty sponsors to facilitate the full development of the student's academic interests within the research programs of the Department and the University. The program is arranged to encourage active participation in the daily conduct of the Department's academic program and research activities.

Program Requirements
The credit hour requirements of the Ph.D. program are arranged to prepare students for teaching and research. The content areas and credit hours of the individual doctoral programs are listed below and include:

Behavior Analysis (85 hrs.)
Advisor: James E. Carr,
3758 Wood Hall
1. Applied Behavior Analysis (6 hrs.)
2. Experimental Analysis of Behavior (6 hrs.)
3. Conceptual and Theoretical Issues (6 hrs.)
4. Research Methods and Statistics (6 hrs.)
5. Professional Issues (3 hrs.)
6. Behavioral Electives (12-30 hrs.)
7. Cognates (0-12 hrs.)
8. Master's Thesis or Project (6 hrs.)
9. Professional Experience (6-12 hrs.)
10. Doctoral Dissertation (15 hrs.)

Courses count toward the Ph.D. program in Behavior Analysis only after the student has completed all courses in an M.A. program, including the M.A. thesis or M.A. project requirement.

Clinical Psychology (96 hrs.)
Advisor:
Richard Spates,
3538 Wood Hall

1. Professional Core (3 hrs.)
2. Clinical Foundations in Psychology (18 hrs.)
3. Methodology (12 hrs.)
4. Clinical Psychology Core (2-24 hrs.)
5. Clinical Practicum (18 hrs.)
6. Thesis (6 hrs.)
7. Dissertation (15 hrs.)
8. Practicum and Internship (21 hrs.)
9. Research Tools (12 hrs.)

The research activity of the doctoral student is continuous and is encouraged through participation in the apprentice research program, completion of a six credit hour Master's Thesis, the completion of approved practicum, and completion of a fifteen credit hour dissertation. The student is required to demonstrate competence in two research tools selected from foreign languages, American sign language, computer usage, research methods, or advanced statistics. Such tools may be integral to the program requirements or may be, in some instances, additional requirements. Specific tool requirements differ by program; the advisor will be able to provide complete information. The doctoral candidate will also show evidence of an ability to interpret, integrate, and discuss research data by the satisfactory completion of a comprehensive examination.

The program is arranged to provide formal evaluations of the student as he/she progresses from baccalaureate apprentice to doctoral applicant with the completion of the Master's Thesis and to doctoral degree candidate with completion of the comprehensive examination. The award of the Ph.D. degree is made following the satisfactory completion of the required hours of approved course credit, demonstration of competence in two research tools, satisfactory completion of comprehensive examination, and the oral defense of the dissertation before the student's doctoral committee at a public presentation.
The Department of Psychology offers financial assistance through Department assistantships and program fellowships. Additional information concerning financial awards and program requirements may be obtained from the Department office.
Public Affairs and Administration

Dr. Robert Peters, Director
Main Office: 220E Walwood Hall
Telephone: 387-8930
FAX: 387-8935

Robert A. Peters, Director
Barbara Liggett
L. Robert McConnell
Janice Maatman
Matthew S. Mingus
Victoria Ross
Udaya Wagle
James A. Visser

Master of Public Administration
Advisor: Robert Peters, Barbara Liggett, L. Robert McConnell, James Visser
Room 220E, Walwood Hall

The Master of Public Administration (MPA) integrates research, teaching, and service in a manner that enhances leadership skills, administrative capabilities, management practices, and an understanding of environmental constraints on policy in southwest Michigan public-serving organizations. Program content emphasizes the administration of local, regional, and state government agencies; health care organizations; and other public and nonprofit agencies. Reflecting the multi-disciplinary nature of the field, the MPA draws upon the diverse talents of academic departments throughout the University in addition to the faculty of the School of Public Affairs and Administration. The MPA is offered on the main campus in Kalamazoo, and at the University's regional campuses in Lansing, Grand Rapids, Battle Creek, and Berrien County.

Admission Requirements
Applicants to the MPA program must meet The Graduate College requirements of an undergraduate degree from an accredited college or university with an overall grade point average of at least 3.0 on a 4.0 scale. Students with an undergraduate GPA of at least 2.5, and who demonstrate a record of relevant work experience and professional advancement, may be considered for conditional admission.

The following must be submitted in order to be considered for admission:
1. The University’s Application for Graduate Admission.
2. An official transcript from each undergraduate and graduate institution attended (except WMU). Even if the applicant is a graduate of WMU, an official transcript is required from each institution attended prior to, and after, WMU.
3. The School of Public Affairs and Administration’s “Departmental Information Form” (DIF).
4. Responses to two essay questions listed on the DIF.
5. A current resume.
6. Letters of recommendation are optional.
Admission is based on undergraduate grade point average, work experience, letters of recommendation, and career goals.

The MPA Admissions Committee meets in February, June, and October of each year to consider applications for the following term.

Program Requirements (39 hours)
The MPA curriculum provides a foundation in the principles of administration, addresses the practical responsibilities of managers, and reflects on the task of administrative leadership. The 39 credit hour program includes two components: the Core Program and an Area of Concentration. Pre-career students also complete a three credit hour (300 contact hour) internship. The curriculum assumes that candidates already have basic computer literacy and a working knowledge of the American political processes at local, state, and national levels.

1. Core Program (18 hours)
The Core Program includes course work in the theoretical foundation of public management, critical areas of administrative responsibility, and research methods. Students select one course from the listed option(s) in each of the following core areas

2. Foundations (3 hours):
PADM 6000 - Foundations of Public Administration Credits: 3 hrs.

3. Political Environment (3 hours):
PADM 6020 - The Political Environment of Public Administration Credits: 3 hrs.

4. Political Economy (3 hours):
Select one:
ECON 6010 - Basic Economic Analysis Credits: 3 hrs.
PADM 6040 - Political Economy Credits: 3 hrs.
PADM 6560 - Applied Health Economics Credits: 3 hrs.

5. Applied Research Methods (3 hours):
PADM 6060 - Applied Research Methods Credits: 3 hrs.

6. Statistics and Quantitative Methods (3 hours):
PADM 6070 - Data Analysis for Administrators Credits: 3 hrs.

7. Organization Behavior and Change (3 hours):
Select one:
MGMT 6500 - Managing Change Credits: 3 hrs.
MGMT 6550 - Organization Theory Credits: 3 hrs.
PADM 6080 - Organization Theory and Behavior Credits: 3 hrs.
PADM 6090 - Organization Development Credits: 3 hrs.
SOC 6730 - Formal Organization Credits: 3 hrs.
8. Professional Field Experience/Internship (3 hours)
For pre-career students, the third major component of the MPA is a planned professional field experience, or internship, equivalent to three credit hours (300 contact hours). The goal of the internship is to provide candidates with a work experience which will afford realistic exposure to their world of professional administration and to the organizational and bureaucratic environment in which the dynamics of an agency are developed.

9. Area of Concentration (21 hours)
Each Area of Concentration includes requirements in budgeting and financial management, human resources, law, project paper, and 9-12 hours of electives. Options for the Area of Concentration are health care administration, human resources administration, law, nonprofit leadership and administration, and public management. In the event that a student’s needs are not adequately addressed by one of the five areas of concentration, he or she may, with an advisor’s assistance and approval, design his or her concentration from the wide array of courses that are offered by the School of Public Affairs and Administration or by other departments in the University.

*Health Care Administration Concentration*

The 21 credit hour Health Care Administration (HCA) Concentration in the MPA is composed of one course from each of Areas I, II, III, IV, and VI and six hours from Area V. MPA candidates completing the concentration in addition to all other degree requirements will have “Health Care Administration” noted on their official transcript.

Area I, Health Care Environment:
PADM 6510 - Health Services Delivery Credits: 3 hrs.

Area II, Budgeting And Finance:
FIN 6620 - Health Care Financial Management Credits: 3 hrs. or
PADM 6520 - Financial Management of Health Care Organizations Credits: 3 hrs.

Area III, Human Resources:
PADM 6270 - Human Resources Administration Credits: 3 hrs. or
PADM 6290 - Supervisory Skills for Administrators Credits: 3 hrs.

Area IV, Health Care Policy Development:
PADM 6530 - Health Policy Analysis Credits: 3 hrs.

Area V, Electives:
Other courses by permission of MPA Advisor.
LAW 6880 - Health Law Administration Credits: 3 hrs.
LAW 6890 - Legal Problems of Health Care Organizations Credits: 3 hrs.
PADM 6540 - Strategic Planning and Management in Health Care Organizations Credits: 3 hrs.
PADM 6550 - The Administration of Health Services Credits: 3 hrs.
PADM 6570 - Management of Managed Care Organizations Credits: 3 hrs.
PADM 6580 - Seminar: Current Issues in Health Service Management and Delivery Credits: 3 hrs.
PADM 6780 - Program Evaluation Credits: 3 hrs.
Area VI, Capstone Project:
PADM 6800 - Project Paper Seminar Credits: 3 hrs.

Human Resources Administration Concentration
The 21 credit hour Human Resources Administration (HRA) Concentration in the MPA is composed of one course from each of Areas I, II, III, and V, and three courses from Area IV. MPA candidates completing the concentration in addition to all other degree requirements will have “Human Resources Administration” noted on their official transcript, beginning with those who graduate in the fall of 2001.

Area I, Legal Dimensions:
Select one:
LAW 6820 - Managerial Aspects of Labor Law Credits: 3 hrs.
PADM 6110 - Administrative Law and Governmental Regulation Credits: 3 hrs.
PSCI 5260 - Administrative Law and Public Regulation Credits: 3 hrs.

Area II, Budgeting And Finance:
PADM 6120 - Principles of Public Budgeting Credits: 3 hrs.

Area III, Human Resources:
PADM 6270 - Human Resources Administration Credits: 3 hrs. or
PADM 6290 - Supervisory Skills for Administrators Credits: 3 hrs.

Area IV, Electives:
Other courses by permission of MPA Advisor.
CECP 6400 - Principles of Human Resources Development Credits: 3 hrs.
CECP 6410 - Fundamentals of Needs Analysis Credits: 3 hrs.
CECP 6420 - Evaluation of Human Resources Development Transfer and Impact Credits: 3 hrs.
CECP 6450 - Practicum in Human Resources Development Credits: 3 hrs.
ECON 6160 - Collective Bargaining in Public Employment Credits: 3 hrs.
EDLD 6630 - Personnel Administration Credits: 3 hrs.
MGMT 6170 - Managing Human Resources and Behavior Credits: 3 hrs.
MGMT 6520 - Strategic Human Resource Management Credits: 3 hrs.
PADM 6270 - Human Resources Administration Credits: 3 hrs.
PADM 6290 - Supervisory Skills for Administrators Credits: 3 hrs.
PSY 6430 - Personnel Selection and Placement Credits: 3 hrs.
PSY 6440 - Personnel Training and Development Credits: 3 hrs.

Area V, Capstone Project:
PADM 6800 - Project Paper Seminar Credits: 3 hrs.

Law Concentration
The 21 credit hour Law Concentration is composed of one course from each of Areas I, II, III, IV, and VI, and 6 hours from Area V. Since the Area I course (PADM 5860) and the Area II course (PADM 6440) are two-hour rather than three-hour courses, students who enroll in these courses must take an additional two hours of Nonprofit Leadership and Administration courses. MPA candidates completing
the concentration in addition to all other degree requirements will have “Law” noted on their official transcript, beginning with those who graduate in the fall of 2002. Each of the law courses will be taught by Thomas M. Cooley Law School faculty. Students must be admitted to the Thomas M. Cooley Law School JD program and complete the Introduction of Law School Online Course (www.cooleylaw.edu) prior to enrolling in any law courses and PADM 6000 Foundations of Public Administration, or other appropriate MPA core course. Students are also urged to consult their advisor before pursuing the MPA law concentration.

Area I, Legal Dimensions:
Federal Administrative Law (Thomas M. Cooley Law School course)

Area II, Budgeting And Finance:
Select one:
PADM 5860 - Budget Development for Nonprofit Organizations Credits: 2 hrs.
PADM 6120 - Principles of Public Budgeting Credits: 3 hrs.
PADM 6520 - Financial Management of Health Care Organizations Credits: 3 hrs.

Area III, Human Resources:
Select one:
PADM 6270 - Human Resources Administration Credits: 3 hrs.
PADM 6290 - Supervisory Skills for Administrators Credits: 3 hrs.
PADM 6440 - Human Resources for Nonprofit Organizations Credits: 2 hrs.

Area IV, Cognate Electives:
Other courses by permission of MPA Advisor.
BIOS 5120 - Environment and Health Problems Credits: 3 hrs.
GEOG 5560 - Studies in Urban and Regional Planning Credits: 3 hrs.
GEOG 5570 - Environmental Impact Assessment
PADM 6130 - Local Government Administration Credits: 3 hrs.
PADM 6150 - State and Local Government Finance Credits: 3 hrs.
PSCI 6010 - Foundations of American Politics Credits: 3 hrs.
PSCI 6040 - American National Politics and Public Policy Credits: 3 hrs.

Area V, Law Electives:

Area VI, Capstone Project:
PADM 6800 - Project Paper Seminar Credits: 3 hrs.

Nonprofit Leadership And Administration Concentration
The 21 credit hour Nonprofit Leadership and Administration (NLA) Concentration in the MPA is composed of one course from each of Areas I, II, III, and V, and 12 hours from Area IV. MPA candidates completing the concentration in addition to all other degree requirements will have “Nonprofit Leadership and Administration” noted on their official transcript, beginning with those who graduate in the fall of 2001.
Area I, Legal Dimensions:
LAW 6810 - Legal and Ethical Issues for Nonprofit Organizations Credits: 2 hrs.

Area II, Budgeting And Finance:
PADM 5860 - Budget Development for Nonprofit Organizations Credits: 2 hrs.

Area III, Human Resources:
PADM 6440 - Human Resources for Nonprofit Organizations Credits: 2 hrs.

Area IV, Electives:
Other courses by permission of MPA Advisor.
EDLD 6010 - Workshop Seminar Credits: 1-4 hrs.
MGMT 6520 - Strategic Human Resource Management Credits: 3 hrs.
PADM 5800 - Nonprofit Board-Staff Relations Credits: 1 hr.
PADM 5810 - Strategic Planning Credits: 1 hr.
PADM 5820 - Volunteer Recruitment and Retention Credits: 1 hr.
PADM 5830 - Grant Writing for Nonprofit Organizations Credits: 2 hrs.
PADM 5840 - Promoting Nonprofit Organizations Credits: 2 hrs.
PADM 5870 - Fund Raising for Nonprofit Organizations Credits: 2 hrs.
PADM 5880 - Endowment Development/Investments Credits: 2 hrs.
PADM 5890 - Accounting and Financial Reporting by Nonprofit Organizations Credits: 3 hrs.
SOC 6740 - The Nonprofit Sector in Society Credits: 3 hrs.
SWRK 6230 - Leadership in Nonprofit Organizations Credits: 2 hrs.
SWRK 6270 - Planning in Nonprofit Organizations Credits: 2 hrs.

Area V, Capstone Project:
PADM 6800 - Project Paper Seminar Credits: 3 hrs.

Public Management Concentration
The 21 credit hour Public Management (PM) Concentration in the MPA is composed of one course from each of Areas I, II, III, and V, and three courses from Area IV. MPA candidates completing the concentration in addition to all other degree requirements will have “Public Management” noted on their official transcript, beginning with those who graduate in the fall of 2001.

Area I, Legal Dimensions:
PADM 6110 - Administrative Law and Governmental Regulation Credits: 3 hrs. or
PSCI 5260 - Administrative Law and Public Regulation Credits: 3 hrs.

Area II, Budgeting And Finance:
PADM 6120 - Principles of Public Budgeting Credits: 3 hrs.

Area III, Human Resources:
PADM 6270 - Human Resources Administration Credits: 3 hrs. or
PADM 6290 - Supervisory Skills for Administrators Credits: 3 hrs.
Area IV, Electives:

*Local Government Administration Options:*

Other courses by permission of MPA Advisor.

- PSCI 6403 - Relations Between Subnational, National, and International Systems
- GEOG 5560 - Studies in Urban and Regional Planning Credits: 3 hrs.
- GEOG 5570 - Environmental Impact Assessment Credits: 3 hrs.
- GEOG 5690 - Intermediate Geographic Systems Credits: 4 hrs.
- GEOG 6690 - Advanced GIS Seminar Credits: 3 hrs.
- PADM 6130 - Local Government Administration Credits: 3 hrs.
- PADM 6140 - Managing Community Growth and Development Credits: 3 hrs.
- PADM 6150 - State and Local Government Finance Credits: 3 hrs.
- PADM 6170 - Intergovernmental and Interorganizational Relations Credits: 3 hrs.
- PADM 6880 - Program Planning and Proposal Writing Credits: 3 hrs.

*State Agency Administration Options:*

Other courses by permission of MPA Advisor.

- PADM 6150 - State and Local Government Finance Credits: 3 hrs.
- PADM 6170 - Intergovernmental and Interorganizational Relations Credits: 3 hrs.
- PADM 6860 - State Agency Administration Credits: 3 hrs.
- PADM 6870 - Legislative Relations for Public Administrators Credits: 3 hrs.
- PADM 6880 - Program Planning and Proposal Writing Credits: 3 hrs.

Area V, Capstone Project:

- PADM 6800 - Project Paper Seminar Credits: 3 hrs.

Joint Doctor of Laws and Master of Public Administration

Advisor: Robert Peters
Room 220E, Walwood Hall

The joint JD/MPA degree program provides advanced practitioner-oriented education in legal, administrative, and policy processes that are essential to the effective management of legal practices as well as health care, nonprofit, and public organizations. The combination of skills and theory is also ideal for pre-career and in-career students who aspire to careers in court administration, criminal justice, regulation, drafting legislation, lobbying, senior management, and politics. Law courses are offered at Western Michigan University’s Grand Rapids and Lansing Branch Campuses and the Thomas M. Cooley Law School. The remaining MPA courses are offered on the main campus in Kalamazoo and the University’s regional campuses in Battle Creek, Grand Rapids, Lansing, and Berrien County.

**Admission Requirements**

Applicants must meet the minimum requirements for each program. The Thomas M. Cooley Law School JD program and the Western Michigan University MPA program maintain independent admission requirements, processes, and committees. Consequently, admission to one degree program does not guarantee admission to the second program.

Students are urged to consult an advisor before pursuing the joint JD/MPA degree.
Program Requirements
Joint degree students must fulfill the requirements of both degrees. Thomas M. Cooley Law School students may transfer a maximum of six credit hours to the MPA law concentration and waive the MPA law requirement. The combination of transfers and waiver reduces the MPA program requirement for in-career students from 39 to 30 credit hours.

MPA students may transfer to the Thomas M. Cooley Law School JD program a maximum of six credit hours of MPA law courses and three credit hours of PADM 6000 Foundations of Public Administration or other appropriate MPA core course.

Certificate Program in Health Care Administration
Advisor: Robert Peters
Room 220E, Walwood Hall

The purpose of the Graduate Certificate in Health Care Administration is to enhance the capacity of its graduates to function effectively as managers in the health care system. The program includes the legal, financial, and policy dimensions of contemporary health care administration, critical management issues, strategic planning and evaluation, and critical issues in the delivery of health care services.

Admission Requirements
The criteria for admission to this certificate program are (a) a master's or other graduate degree or (b) current admission to a graduate degree program or (c) a bachelor's degree with 3.00 grade point average and substantial work experience in the management or delivery of health care services. Students may be admitted conditionally and later admitted to the program after evaluation of the first six credit hours. Students may transfer in a maximum of six (6) semester hours of graduate credit from another institution or from courses taken at Western Michigan University as a Guest student.

The following must be submitted in order to be considered for admission:
1. The University’s Application for Graduate Admission.
2. An official transcript from each undergraduate and graduate institution attended (except WMU). Even if the applicant is a graduate of WMU, an official transcript is required from each institution attended prior to, and after, WMU.
3. The School of Public Affairs and Administration’s “Departmental Information Form” (DIF).
4. A one-page biographical essay.
5. A current resume.

Students will be admitted to this certificate program three times per year. The Admissions Committee will review applications in October to admit students for the Spring semester; in February to admit students for the Summer session; and in June to admit students for the Fall semester.

Program Requirements
Each student will satisfactorily complete a program consisting of six three-credit-hour courses (18 hours). Students select one course from each of Areas I, II, III, IV and six hours from Area V.
Area I: Health Care Environment
PADM 6510 - Health Services Delivery Credits: 3 hrs.

Area II: Budgeting and Finance
FIN 6620 - Health Care Financial Management Credits: 3 hrs. or
PADM 6520 - Financial Management of Health Care Organizations Credits: 3 hrs.

Area III: Health Care Policy Development
PADM 6530 - Health Policy Analysis Credits: 3 hrs.

Area IV: Administrative Issues in the Delivery of Health Care Services
PADM 6550 - The Administration of Health Services Credits: 3 hrs.

Area V: Electives
Other courses by permission of MPA Advisor.
LAW 6880 - Health Law Administration Credits: 3 hrs.
LAW 6890 - Legal Problems of Health Care Organizations Credits: 3 hrs.
PADM 6540 - Strategic Planning and Management in Health Care Organizations Credits: 3 hrs.
PADM 6560 - Applied Health Economics Credits: 3 hrs.
PADM 6570 - Management of Managed Care Organizations Credits: 3 hrs.
PADM 6580 - Seminar: Current Issues in Health Service Management and Delivery Credits: 3 hrs.
PADM 6780 - Program Evaluation Credits: 3 hrs.

Certificate Program in Nonprofit Leadership and Administration
Advisor: Janice Maatman,
Room 220E, Walwood Hall

The purpose of the Graduate Certificate Program in Nonprofit Leadership and Administration is to enhance the capacity of its graduates to function effectively as leaders in nonprofit organizations. It is designed to meet the development needs of professionals currently filling administrative roles in nonprofit organizations, as well as those who plan to fill such roles in the near future.

The Nonprofit Leadership and Administration certificate program may be taken by itself or in conjunction with a graduate degree program.

Admission Requirements
The criteria for admission to this certificate program are (a) a master's or other graduate degree, or (b) current admission to a graduate degree program, or (c) a bachelor's degree with an undergraduate grade point average of 3.0 and work or voluntary experience or familiarity with nonprofit organizations. Students may be admitted conditionally and later admitted to the program after evaluation of the first six credit hours. Students may transfer in a maximum of six (6) semester hours of graduate credit from another institution or from courses taken at Western Michigan University as a Guest student.

The following must be submitted in order to be considered for admission:
1. The University’s Application for Graduate Admission.
2. An official transcript from each undergraduate and graduate institution attended (except WMU). Even if the applicant is a graduate of WMU, an official transcript is required from each institution attended prior to, and after, WMU.
3. The School of Public Affairs and Administration’s “Departmental Information Form” (DIF).
4. A one-page biographical essay.
5. A current resume.

Students will be admitted to this certificate program three times per year. The Admissions Committee will review applications in October to admit students for the Spring semester; in February to admit students for the Summer session; and in June to admit students for the Fall semester.

Program Requirements
The Graduate Certificate Program in Nonprofit Leadership and Administration is an eighteen (18) credit hour program of study. Four core courses (10 hours) are required. The remaining 8 hours may be taken as electives. The courses are organized into one of four modules of study: Core, External Relations, Finance, and Administrative Skills. Within the Core, the student is required to take four courses (10 hours); three courses are required of all students, and the student will elect one of two capstone courses. The 8 hours of electives are required to be distributed over each of the other three modules, with a minimum of 2 credit hours and a maximum of 4 credit hours selected from each of the three modules.

1. Core (10 hrs.)
   LAW 6810 - Legal and Ethical Issues for Nonprofit Organizations Credits: 2 hrs.
   PADM 5890 - Accounting and Financial Reporting by Nonprofit Organizations Credits: 3 hrs.
   PADM 6410 - Administering Arts Organizations Credits: 2 hrs. or
   PADM 6420 - Administering Human Service Organizations Credits: 2 hrs.
   SOC 6740 - The Nonprofit Sector in Society Credits: 3 hrs.

2. External Relations (2-4 hrs.)
   PADM 5830 - Grant Writing for Nonprofit Organizations Credits: 2 hrs.
   PADM 5840 - Promoting Nonprofit Organizations Credits: 2 hrs.

3. Finance (2-4 hrs.)
   PADM 5860 - Budget Development for Nonprofit Organizations Credits: 2 hrs.
   PADM 5870 - Fund Raising for Nonprofit Organizations Credits: 2 hrs.
   PADM 5880 - Endowment Development/Investments Credits: 2 hrs.

4. Administrative Skills (2-4 hrs.)
   EDLD 6010 - Workshop Seminar Credits: 1-4 hrs.
   MGMT 6520 - Strategic Human Resource Management Credits: 3 hrs.
   PADM 5800 - Nonprofit Board-Staff Relations Credits: 1 hr.
   PADM 5810 - Strategic Planning Credits: 1 hr.
   PADM 5820 - Volunteer Recruitment and Retention Credits: 1 hr.
   PADM 6440 - Human Resources for Nonprofit Organizations Credits: 2 hrs.
   SWRK 6230 - Leadership in Nonprofit Organizations Credits: 2 hrs.
   SWRK 6270 - Planning in Nonprofit Organizations Credits: 2 hrs.
Doctor of Philosophy in Public Administration
Advisor: Matthew Mingus,
Room 220E, Walwood Hall

The mission of the Doctor of Philosophy in Public Administration program is to give students a deep and pervasive knowledge of the history, theory, practice, and future of the field. The program is designed to encourage broad intellectual inquiry with a scholarly perspective. The curriculum incorporates a diversity of viewpoints, gathered from readings in the great books of the discipline, examination of the contributions of its seminal thinkers, an analysis of the institutions and processes of governance, exploration of emerging theories and trends, and an investigation of the challenges of public management in a democracy. Integral to the program is the development and refinement of the skills to conduct both qualitative and quantitative research, practice in statistical and quantitative analysis, and experience with applied skills of leadership and ethical decision-making.

The doctoral program is designed both for those who have experience in a supervisory or administrative position with a federal, state, or local government or nonprofit agency and for those wishing to teach public administration in a college or university setting. The program is structured to provide decision makers and future professors with a more sophisticated understanding of the governing process.

Completion of the degree will provide doctoral graduates with the background to perform independent research on theoretical public administration concerns and substantive issues, to analyze a wider range of alternative policies, and to weigh competing choices in the decision-making process.

Students are admitted into the doctoral program in odd-numbered years, and begin classes in the Fall semester. Each cohort moves through its sequence of courses and comprehensive examination together.

Admission Requirements
1. Master's degree in public administration or related area.
2. At least four years of experience in a supervisory or administrative position.
3. One academic reference and two letters of recommendation from persons acquainted with the applicant's professional work.
4. Completion of the Departmental Application that requires responding to several essay questions.
5. Graduate Record Examination (GRE) scores for the quantitative, verbal, and analytical parts of the examination.
6. An interview with members of the School’s faculty.

Program Requirements
The forty-two hours of credit include eight required courses, a statistics requirement, a three-hour elective, and a minimum of twelve hours of dissertation credit.

1. Required Courses (24 hours)
   PADM 6610 - Intellectual History of Public Administration Credits: 3 hrs.
   PADM 6630 - Leading the Public Organization Credits: 3 hrs.
   PADM 6640 - Research Design Credits: 3 hrs.
   PADM 6650 - Public Policy, Theory, and Research Credits: 3 hrs.
   PADM 6660 - Contemporary Issues in Public Management Credits: 3 hrs.
PADM 6840 - Management of Public Financial Resources Credits: 3 hrs.
PADM 6920 - Quantitative Data Analysis Credits: 3 hrs.
PADM 6940 - Qualitative Research Methods Credits: 3 hrs.

2. Statistics Requirement
Doctoral students are provided an opportunity to take a statistics exam. Those who choose not to take the exam or do not pass are required to take PADM 6070 Data Analysis for Administrators during their first semester. Students who pass the exam will take an elective in lieu of PADM 6070

3. Elective (3 hours)
Course selection is determined in consultation with doctoral advisor.

4. Comprehensive Examinations
Each doctoral student is required to complete successfully two comprehensive examinations. The first comprehensive examination will be taken after completion of the first year’s required courses. The second comprehensive examination will be taken after completing the second year of required courses.

5. Residency
Each student is required to enroll in two courses each Fall and Spring semester until completion of the course work. After all classes have been completed, students are required to maintain continuous enrollment in PADM 7300 Doctoral Dissertation until graduation.

6. Dissertation (12 hours)
PADM 7300 - Doctoral Dissertation Credits: 12 hrs.
Sociology

Dr. David Hartmann, Chair  
Main Office: 2420 Sangren Hall  
Telephone: 387-5270  
FAX: 387-2882  

Paula Brush  
Susan Caringella  
Susan M. Carlson  
Susan L. Caulfield  
Paul S. Ciccantell  
Laura Citrin  
Charles E. Crawford  
Douglas V. Davidson  
Thomas E. Ford  
Barry Goetz  
Gregory Howard  
Vyacheslav Karpov  
Ronald C. Kramer  
Richard R. MacDonald  
Gerald Markle  
Angela Moe  
Victoria Ross  
Zoann Snyder  
Subhash R. Sonnad  
Thomas L. Van Valey  
Robert Wait  
Rachel Whaley  
Paul L. Wienir

Master of Arts in Sociology  
Advisor: Susan Caulfield,  
Room 2509, Sangren Hall

Option I, Disciplinary Master’s  
This option of the Master of Arts in Sociology is designed to give students an advanced understanding of the significant factors and processes of human society; to further the preparation of those planning to teach in secondary or higher education; to prepare students for doctoral study in sociology; and to provide professional training for a variety of occupational opportunities in government, industry, education, research organizations, social agencies, and correctional systems. Each student's program is prepared individually in consultation with a graduate advisor.
Admission Requirements
1. Twenty-four semester hours in undergraduate social sciences, with at least fifteen semester hours in sociology, including courses in theory and research methods.
2. Grade-point average of 3.0 or better in undergraduate sociology courses. If these requirements have not been met, the student may be required to complete additional course work as a condition of admission.
3. Applicants must supply a biographical statement, GRE scores, and three letters of recommendation from academic and/or professional sources to the Graduate Admissions Committee, Department of Sociology.

Option II, Applied Master’s
This applied option of the Master of Arts in Sociology is a 47-48 hour professional degree program designed to prepare students for non-academic careers in governmental agencies, businesses, non-profit organizations, or (in special circumstances) for a doctoral program. Graduates will be well trained for such positions as data analysts, social systems and policy analysts, survey researchers, field directors, market researchers, and directors of research. This program will prepare graduates for the changing job market and the increased use of survey techniques and quantitative analysis to evaluate programs and shape decision-making in organizations.

Admission Requirements
The admission requirements for this program are the same as for Option I above.

Financial Assistance
A number of departmental, University, and governmental assistantships, fellowships, and associateships are available to qualified students. Educational opportunities and part-time employment may be available through the facilities of the Leonard C. Kercher Center for Social Research. Research through the Center includes studies of education, mental illness, marital roles, race relations, group dynamics, deviant behavior, comparative institutions, and numerous other topics. Graduate students frequently participate in these studies.

Additional information and application forms may be obtained from the department.

Option I, Disciplinary Master’s

Program Requirements
1. Complete at least thirty-six graduate credit hours Selected in consultation with the student's master's committee. At least twenty hours, including SOC 700 Master’s Thesis, must be in sociology; up to nine hours may be in an approved cognate area.

One additional research methods course in sociology, and SOC 7000 are required of all master's students.
SOC 6000 - Proseminar in Sociology Credits: 3 hrs.
SOC 6020 - Classical Sociological Theory Credits: 3 hrs.
SOC 6030 - Contemporary Theory: Culture, Social Action, and Society Credits: 3 hrs.
SOC 6040 - Contemporary Theory: Agency, Interaction, and Structure Credits: 3 hrs.
SOC 6060 - Research Design and Data Collection I Credits: 3 hrs.
SOC 6070 - Logic and Analysis of Social Research I Credits: 3 hrs.
SOC 6210 - Logic and Analysis of Social Research II Credits: 3 hrs.
SOC 7000 - Master's Thesis Credits: 6 hrs.

2. Maintain a grade point average of 3.0 or better in all course work.


Option II, Applied Master’s

Program Requirements
1. Complete 46-48 graduate credit hours:
Twenty-one hours in disciplinary core courses, twelve hours of research methods and statistics, and an additional nine hours of elective disciplinary and research courses.

2. Maintain a grade point average of 3.0 or better in all course work.

3. Complete an internship and internship report (internship essay) at the conclusion of the program. A thesis option is possible, with the addition of one credit, under special circumstances. Consult the departmental master's advisor for the exercise of this option.

Doctor of Philosophy in Sociology
Advisor: Susan Caulfield,
Room 2509, Sangren Hall

The Doctor of Philosophy in Sociology prepares students for careers in sociological research and teaching. Broad training in sociology is provided through a wide variety of courses and research experiences.

Guided individually by a doctoral committee, students are provided with core training in general sociology, theory, and research methods. Beyond this, students concentrate in two areas of sociology that are selected from important and active areas, such as applied sociology, criminology, comparative sociology, gender and feminism, social psychology, and race and ethnic relations theory.

Course work in a cognate area complements knowledge gained in selected specialties and the discipline as a whole.

Admission Requirements
1. Master's degree in sociology.
2. Grade point average of 3.25 in all graduate work, and the completion of the Graduate Record Examination.
Applicants who hold a master's degree in a related field may be admitted to the program, but may be required to make up deficiencies as a condition of admission.

3. Applicants must supply a biographical statement, a writing sample, GRE scores, and three letters of recommendation from academic and/or professional sources to: Graduate Admissions Committee, Department of Sociology.

Financial Assistance
A number of departmental, University, and governmental assistantships, fellowships, and associateships are available to qualified students. Educational opportunities and part-time employment may be available through the facilities of the Leonard C. Kercher Center for Social Research. Research through the Center includes studies of education, mental illness, marital roles, race relations, group dynamics, deviant behavior, comparative institutions, and numerous other topics. Graduate students frequently participate in these studies.

Additional information and application forms may be obtained from the department.

Program Requirements
1. Complete, beyond the master's degree, at least sixty hours of course and dissertation credits, selected in consultation with the student's doctoral committee.

Prerequisites for the doctoral program are:
SOC 6000 - Proseminar in Sociology Credits: 3 hrs.
SOC 6060 - Research Design and Data Collection I Credits: 3 hrs.
SOC 6070 - Logic and Analysis of Social Research I Credits: 3 hrs.
SOC 6210 - Logic and Analysis of Social Research II Credits: 3 hrs.

The following courses are required for all doctoral students:
SOC 6020 - Classical Sociological Theory Credits: 3 hrs.
SOC 6030 - Contemporary Theory: Culture, Social Action, and Society Credits: 3 hrs.
SOC 6040 - Contemporary Theory: Agency, Interaction, and Structure Credits: 3 hrs.
SOC 6200 - Research Design and Data Collection II Credits: 3 hrs.

And one additional research course selected from:
SOC 6800 - Studies in Research Methodology: Variable Topics Credits: 3 hrs.
SOC 6810 - Advanced Multivariate Analysis Credits: 3 hrs.
SOC 6820 - Qualitative Methods Credits: 3 hrs.
SOC 6870 - Evaluation Research I Credits: 3 hrs.
SOC 6880 - Methods of Survey Research Credits: 3 hrs.

2. Complete a minimum of six hours of cognate courses from outside the Department of Sociology. The courses selected should be in a field of knowledge related to the student’s major interest.

3. Demonstrate competence in two research tools selected from a foreign language other than English, research methods, and statistics.
4. Pass oral and written examinations in two departmental areas of concentration selected from: applied sociology
comparative sociology
 criminology
 gender and feminism
 race and ethnic relations theory and
 social psychology.

5. Complete 15 credit hours of the following course and submit a dissertation that is acceptable to the Department’s graduate faculty and shows evidence of competence to design, carry out, and report an original sociological investigation.
SOC 7300 - Doctoral Dissertation Credits: 15 hrs.

6. Criteria and procedures for meeting these requirements are described in detail in the department's Graduate Manual.
Spanish

Mercedes Tasende, Interim Chair
John Benson
Gary E. Bigelow
Michael Braun
Robert Felkel
Carolyn Harris
Antonio Isea
Irma López
Michael Millar
Patricia Montilla
Holly Nibert
Pablo Pastrana-Pérez
Mariola Pérez de la Cruz
Benjamín Torres
Robert Vann

Master of Arts in Spanish
Advisor: Mercedes Tasende,
511 Sprau Tower
EMAIL: Mercedes.tasende@wmich.edu
Telephone: 387-3014

The Master of Arts in Spanish enables students to extend and deepen their knowledge of language, literature and culture in the Hispanic world. The program provides advanced study for those who intend to pursue professions in Spanish or related fields as well as for those students who desire to do further graduate work.

Admission Requirements
1. Possess a baccalaureate degree with a major of thirty hours in Spanish, or equivalent.
2. Have a minimum 3.0 grade point average in the undergraduate Spanish major.
3. Provide two letters of recommendation from persons able to evaluate the applicant's potential for graduate work in Spanish.
4. Submit a brief statement regarding areas of interest and academic/professional goals.
5. Applicants who do not meet all of the above requirements may be admitted at the discretion of the Spanish graduate faculty. In such cases, students may be required to complete advisor-approved course work to remove certain deficiencies.

Program Requirements
1. Complete thirty hours of work in courses numbered 5000 and above. At least eighteen hours of these credits must be in courses numbered 6000 and above. A maximum of six hours of the required thirty hours may be taken in appropriate cognate fields, as approved by the Spanish graduate advisor.
2. Complete satisfactorily
SPAN 6000 - Don Quijote Credits: 3 hrs.

3. Pass a two-part comprehensive examination conducted in Spanish on the field of Hispanic literature, culture, and language.

Additional Program Information
For additional information about the Master of Arts in Spanish and for forms needed to apply for admission, students may write to WMU’s Office of Orientation and Admissions or to the department's graduate advisor. Assistantships may be available for qualified applicants.

Doctor of Philosophy in Spanish
Advisor: Mercedes Tasende,
511 Sprau Tower
EMAIL: Mercedes.tasende@wmich.edu
Telephone: 387-3014

Students who pursue the Ph.D. in Spanish at Western Michigan University will study the culture of the Hispanic world in both broad and specific terms. The Spanish doctoral program is based upon the belief that advanced students ought to acquire the widest possible knowledge of Hispanic culture before they choose to limit their focus to selected portions of it in the doctoral dissertation. Students will be encouraged to develop a significant content base in the culture of Spain and America, from the beginnings to present day. They will be expected to understand the relationship between the myriad of specific components that have come to form Hispanic civilization and to appreciate them for their own esthetic and intellectual value, as well as for their particular contribution to the overall culture. Additionally, students should develop the methods and skills necessary to investigate and analyze language and literature and be able to express their findings in clear, consistent and complete terms. The goal of the Ph.D. program is, in sum, twofold: to lead students to comprehend and appreciate the breadth and uniqueness of Hispanic culture as it has evolved through time and across geography, and to enable students to formulate and express their own discoveries and conclusions regarding the enduring values and manifestations of that culture.

Admission Requirements
1. The M.A. in Spanish at Western Michigan University or an equivalent degree from another university.
2. Satisfaction of the general requirements of The Graduate College.
3. Three letters of recommendation from persons qualified to assess applicant’s academic potential for Ph.D. study in Spanish.
4. A 500-word statement written by the applicant in which s/he describes principal academic and career interests and goals, as well as reasons for desiring to study in the Spanish program at Western Michigan University.
5. A writing sample in Spanish. This would ordinarily be a paper written in a course taken during the M.A. program.
6. An interview in Spanish, either in person or by telephone.
Program Requirements
1. Completion of a minimum of 36 hours of course work beyond the M.A., with a minimum grade point average of 3.00. All Spanish courses in the department must be taken at the 6000-level or above. With prior approval of the Spanish graduate advisor, a maximum of six of the 36 hours may be taken in relevant courses in other languages in the department, or outside the department.

2. Successful completion of the following required courses, all of which count within the total 36 hours:
   - Trends in Literary Criticism
   - Don Quijote
   - History of the Spanish Language

3. Reading knowledge of at least one language, in addition to Spanish and English, relevant to one of the student’s major research interests. Competency will be measured by a reading or translation examination, the exact format of which will be determined by the student’s advisor in consultation with the student. The required level of reading is comparable to the third year of college study of the language.

4. Grade of “pass” or higher on the Ph.D. Comprehensive Examination. All course work and the reading knowledge examination (see 1, 2, and 3 above) must be completed before the comprehensive exam is taken. Additional information about this examination is given below.

5. Preparation and defense of a dissertation on a topic chosen by the student in consultation with the director. At least 15 hours of dissertation credits are required. Additional information about the dissertation is given below.

6. Fulfillment of all general and specific requirements of The Graduate College.

Recommendations in Addition to Requirements
1. Teaching. It is expected that most Ph.D. students in Spanish will have an interest in teaching. Thus, at some time during their graduate career at Western Michigan University, all Spanish Ph.D. students will be given the opportunity to gain teaching experience, usually through a teaching assistantship. Opportunities for teaching exist in a variety of courses at the undergraduate level. This experience will be guided by faculty supervision. Renewal or continuation of assistantships depends on satisfactory performance in teaching and in graduate studies, as well as on availability of university resources.

2. Study abroad. It is recommended that before graduation, all Ph.D. students in Spanish will have spent at least six months in residence or study in a Spanish-speaking country. Many students will have fulfilled that expectation as undergraduates, but they are urged to seek additional opportunities to study abroad. Students in our program are eligible for scholarships offered by the Universidad Autónoma de Querétaro in Mexico and the Universidad de Burgos in Spain, institutions with which we have exchange agreements. Six hours of graduate credit from these institutions may be counted toward the 36 hour Ph.D. course requirement. Study at other universities in Mexico, Spain, or other countries is also possible with the approval of the graduate advisor. Research and writing for the dissertation may be carried out during residence abroad, provided that arrangements are approved by the dissertation director. Since the faculty places a high priority on mastery of the Spanish language and the acquisition of cultural insights gained during residence in Spanish-speaking countries, the department will be very
supportive of students’ efforts to study abroad. Graduate students are eligible for the President’s Grants for study abroad awarded by the University, as well as for some departmental scholarships.

Areas of Study and Comprehensive Examination
Areas of study are the following:
Spanish literature and culture: medieval and Golden Age periods
Spanish literature and culture: 18th century to present
Spanish American literature and culture: colonial period to Modernismo
Spanish American literature and culture: Modernismo to present; U.S. Latino/a literature and culture
Spanish language and culture: synchronic and diachronic linguistics

All students are expected to prepare themselves through course work in all areas of study, and through additional readings. They will select two areas of major interest and three areas of supporting interest. Reading lists in each area will serve as guides for students’ preparation. Lists in the major areas are, of course, more substantial than those in the supporting areas. Students should take the comprehensive examination as soon as possible after finishing required course work and passing the reading knowledge exam, but in any case they must take the examination within a period of six months after having completed those requirements.

The comprehensive examination will be given twice each year during a three-week period, in May and October. The exam will be structured in this way: (1) Two four-hour written exams, one over each of the two areas of major interest; (2) one three-hour written exam over the three areas of supporting interest; (3) one oral exam lasting approximately two hours. All parts of the comprehensive examination will be conducted in Spanish.

A single grade will be given for the entire exam. Possible grades are: superior, good, pass, fail. Students who fail the exam may retake it once. At the discretion of the examination committee, they may be required to retake the entire examination or limited portions of it.

Dissertation
The dissertation is the capstone of the Ph.D. experience. It ought to be an original, high-quality, contribution to scholarship in an area of particular interest to the student. As in the case of course work, the dissertation is a learning experience to be guided by faculty. To be sure, the research and writing of this book-length manuscript requires considerable independent work and discipline on the part of the student. Nonetheless, we give great importance to the role of the faculty in this process, particularly to the duties of the dissertation director. The goal is that the entire process be realistic, fair, collegial, and expeditious. We believe that this student-centered approach to research will be significant for the achievement of our overall objective, i.e., the formation of first-rate teacher/scholars in a reasonable period of time.
Statistics

Dr. Daniel Mihalko, Chair
Main Office: 3304 Everett Tower
Telephone: 387-1420
FAX: 387-1419

Loren Heun
Joseph McKean
Joshua Naranjo
Magdelenia Niewiadomska-Bugaj
Gerald Sievers
Michael Stoline
Jung Chao Wang
Eshetu Wondmagegnehu

The Department of Statistics offers graduate programs leading to the Master of Science in Biostatistics, the Master of Science in Statistics, and the Doctor of Philosophy in Statistics.

Financial Assistance
The Department of Statistics offers opportunities for financial support of graduate students through Graduate Assistantships and Fellowships. Individuals desiring further information about such opportunities, or about the graduate program as a whole, should contact the Statistics Department Office, 3306 Everett Tower.

Dr. Joshua Naranjo, Graduate Committee Chair, 5507 Everett Tower, 387-4548. E-mail: joshua.naranjo@wmich.edu

Master of Science in Biostatistics
See Statistics Department Office, Room 3304, Everett Tower

Admission to the Master of Science in Biostatistics is suspended. Students currently enrolled may continue their studies until the time limit for completion expires.

Master of Science in Statistics
Advisor: Dr. Joshua Naranjo
See Statistics Department Office, 3306 Everett Tower

This program will give students a combination of knowledge of statistical techniques, experience with using these techniques in applied situations, and understanding of the theoretical principles behind these
techniques. Students receive excellent training for professional employment in industry or government, and at the same time obtain sufficient theoretical background to qualify them to teach elementary statistics or to continue into more advanced degree programs. The student is encouraged to apply for an internship experience (STAT 7120) where it is expected that students will collaborate with professional statisticians in an actual work environment with real problems. A minimum of thirty-two hours is required, and the resulting degree is a Master of Science in Statistics.

Admission Requirements
For admission to this option, candidates must have completed an undergraduate program containing a substantial amount of mathematics, including a complete calculus sequence, a course in probability, a course in statistical methods, and a course in linear algebra. A complete undergraduate mathematics major is not required since the requirements in pure mathematics are not as extensive as in Option I.

Program Requirements
This option requires at least thirty-two hours of approved courses from the following groups:

1. Statistics Courses
   STAT 5610 - Applied Multivariate Statistical Methods Credits: 3 hrs.
   STAT 5620 - Statistical Theory Credits: 4 hrs.
   STAT 6600 - Statistical Inference I Credits: 4 hrs.
   STAT 6620 - Applied Linear Models Credits: 3 hrs.
   STAT 6640 - Design of Experiments I Credits: 3 hrs.
   STAT 6800 - SAS Programming Credits: 3 hrs.

2. Four of the following:
   STAT 5630 - Sample Survey Methods Credits: 3 hrs.
   STAT 5650 - Design of Experiments for Quality Improvement Credits: 3 hrs.
   STAT 5660 - Nonparametric Statistical Methods Credits: 3 hrs.
   STAT 6610 - Multivariate Statistical Analysis Credits: 3 hrs.
   STAT 6630 - Linear Models Credits: 3 hrs.
   STAT 6650 - Statistical Inference II Credits: 3 hrs.
   STAT 6660 - Nonparametric Statistical Theory Credits: 3 hrs.
   STAT 6670 - Introduction to Random Processes Credits: 3 hrs.
   STAT 6680 - Categorical Data Analysis Credits: 3 hrs.
   STAT 6690 - Studies in Probability and Statistics Credits: 3 hrs.
   STAT 6810 - Survival Data Analysis Credits: 3 hrs.
   STAT 6820 - Time Series Analysis Credits: 3 hrs.
   STAT 6830 - Robust Statistical Analysis Credits: 3 hrs.
   STAT 6840 - Design of Experiments II Credits: 3 hrs.

Students who want to enter a Ph.D. program in Statistics are encouraged to take their electives from
   STAT 6610 - Multivariate Statistical Analysis Credits: 3 hrs.
   STAT 6630 - Linear Models Credits: 3 hrs.
   STAT 6650 - Statistical Inference II Credits: 3 hrs.
   STAT 6660 - Nonparametric Statistical Theory Credits: 3 hrs.
   STAT 6810 - Survival Data Analysis Credits: 3 hrs.
STAT 6820 - Time Series Analysis Credits: 3 hrs.
STAT 6830 - Robust Statistical Analysis Credits: 3 hrs.
STAT 6840 - Design of Experiments II Credits: 3 hrs.

3. Additional Course or an approved elective.
STAT 7120 - Professional Field Experience Credits: 2-12 hrs. or an approved elective

4. Pass the Department Graduate Exams in Statistics which cover material in:
STAT 5620 - Statistical Theory Credits: 4 hrs.
STAT 6600 - Statistical Inference I Credits: 4 hrs.
STAT 6620 - Applied Linear Models Credits: 3 hrs.
STAT 6640 - Design of Experiments I Credits: 3 hrs.

Doctor of Philosophy in Statistics
Advisor: Dr. Joseph McKean
Room 5506 Everett Tower

The Doctor of Philosophy in Statistics is designed to prepare students for careers in teaching and research in universities, in industry, or in government. It is expected that students, through courses and other experiences, will develop facility in theoretical statistics and in several applied statistics areas. Choices available in the cognate area allow the program to be designed to suit a variety of career interests.

Admission Requirements
A student may enter this program with a master’s degree or directly upon completion of a bachelor’s program. In addition to satisfying the general admission requirements of The Graduate College, the student must have acquired a sufficient level of mathematical training with satisfactory grades as determined by the Doctoral Committee. Upon entrance to the program the student is assigned an advisor who assists him/her in planning his/her program until he/she reaches the stage of having a Dissertation Advisor appointed.

Administration
This program will be administered by the Doctoral Committee. The Doctoral Committee will be responsible for the scheduling, preparation, and grading of preliminary examinations in statistics and for arranging a Thesis Proposal Defense.

Progress Toward Completion
Each year the Doctoral Committee will review the progress of all doctoral students in the Statistics program. Any student not making satisfactory progress may be dropped from the program with approval of the Doctoral Committee. Grades, performance on preliminary exams, the schedule of completed classes, general progress towards completion, etc. will be considered in this decision.

Program Requirements
1. Departmental Graduate Examination in Statistics
As soon as possible, a student must pass the Departmental Graduate Examination in Statistics at the doctoral level. This consists of two, three-hour exams in the areas of theoretical statistics (including probability) and applied statistics from the courses STAT 5620, 6600, 6620, and 6640. The Departmental Graduate Examination will be given once a year, usually in the Spring.

2. Take at least 60 hours of course work including the following:
   STAT 5620 - Statistical Theory Credits: 4 hrs.
   STAT 6600 - Statistical Inference I Credits: 4 hrs.
   STAT 6620 - Applied Linear Models Credits: 3 hrs.
   STAT 6640 - Design of Experiments I Credits: 3 hrs.
   STAT 6800 - SAS Programming Credits: 3 hrs.

The doctoral preliminary examination sequence:
   STAT 6610 - Multivariate Statistical Analysis Credits: 3 hrs.
   STAT 6630 - Linear Models Credits: 3 hrs.
   STAT 6650 - Statistical Inference II Credits: 3 hrs.
   STAT 6660 - Nonparametric Statistical Theory Credits: 3 hrs.

Electives
Seven electives are required.
Take at least two of the seven electives from the following advanced statistics courses:
   STAT 6680 - Categorical Data Analysis Credits: 3 hrs.
   STAT 6810 - Survival Data Analysis Credits: 3 hrs.
   STAT 6820 - Time Series Analysis Credits: 3 hrs.
   STAT 6830 - Robust Statistical Analysis Credits: 3 hrs.
   STAT 6840 - Design of Experiments II Credits: 3 hrs.
   STAT 6850 - Applied Data Mining Credits: 3 hrs.

Additional Electives
Take the remaining required electives from the following:
   STAT 5610 - Applied Multivariate Statistical Methods Credits: 3 hrs.
   STAT 5630 - Sample Survey Methods Credits: 3 hrs.
   STAT 5650 - Design of Experiments for Quality Improvement Credits: 3 hrs.
   STAT 5660 - Nonparametric Statistical Methods Credits: 3 hrs.
   STAT 6670 - Introduction to Random Processes Credits: 3 hrs.
   STAT 6690 - Studies in Probability and Statistics Credits: 3 hrs.

Cognates
Six credit hours in an approved cognate areas related to statistical applications (such as computer science, computational or applied mathematics, engineering, biological science, management, or economics), or statistical electives from the electives listed above.

Seminar Work
   STAT 6910 - Practicum in Statistical Consulting Credits: 1 hr.
   STAT 6960 - Seminar in Probability and Statistics Credits: 1-3 hrs.
3. Take three preliminary examinations. A student must pass Preliminary Examinations in Multivariate/Linear Models (STAT 6610, 6630), in Statistical Inference (STAT 6650, 6660) and in a third area to be chosen, with the approval of the Statistics Doctoral Committee, from Advanced Statistics or a cognate area depending on the career interests of the student. Two failures on the same examination will result in dismissal from the program.

4. Demonstrate competency in two research tools. In accordance with the requirements of The Graduate College, each student is required to attain competence in two approved research tools. Normally for students in Statistics these will consist of demonstrated competence in computer usage or a foreign language. Competence in computer usage can be demonstrated by passing STAT 6800 or an equivalent course with a grade of B or better. Competence in a foreign language can be demonstrated by passing a reading course at the 4000-level in that language or by translating from a language other than English a statistical paper to the satisfaction of the Statistics Doctoral Committee. A third option for a research tool is a cross-disciplinary research experience involving concepts and language of a discipline other than Statistics (e.g., Biology, Chemistry, Engineering) and resulting in documentation of the student’s competence in the other discipline in a form of written reports and/or published papers. The Doctoral Committee shall determine the acceptability of the cross-disciplinary research experience.

5. Dissertation Complete and defend the dissertation before the student's doctoral committee. This requires at least 15 hours of the following course:
STAT 7300 - Doctoral Dissertation Credits: 15 hrs.

Procedures
The Statistics Doctoral Committee will be responsible for the advising of students in the statistics doctoral program.

Upon entrance to the doctoral program in Statistics, the student will be assigned an advisor by the Statistics Doctoral Committee for planning the student's program until he/she reaches the status of candidate. During the semester in which the student attains the status of candidate, with the approval and advice of the Departmental Doctoral Committee and the Statistics Doctoral Committee, he/she will be assigned a dissertation advisor. The candidate and the dissertation advisor will select, with the approval of these committees a Dissertation Committee for the candidate. In each of the above situations final appointment is subject to the approval of the Chairperson of the Department and The Graduate College. During the first semester, the student must have a plan of study written by the Statistics Doctoral Committee and approved by the Departmental Doctoral Committee. The selection of preliminary exams shall be included.

A student is expected to take preliminary exams at the first opportunity after the necessary course work is completed. Normally the exams in statistics will be given at most once a year, and students should be aware that failure to take or pass an exam could cause a delay in their progress and possibly of being dropped from the program.
A student must also pass a Dissertation Proposal Defense, which is an oral presentation of a thesis proposal to the Statistics Committee. This would take place at the end of the first year after passing all three prelims.
Women's Studies

Dr. Gwen Raaberg, Director
Main Office: 3063 Moore Hall
Telephone: 387-2511
FAX: 387-2507
College of Education

Gary Wegenke
Dean

Katharine Cummings
Associate Dean

Academic Units:
College of Education
Counselor Education and Counseling Psychology
Educational Studies
  Educational Studies
  Educational Technology
  Evaluation, Measurement, and Research
  Special Education
Family and Consumer Sciences
  Career and Technical Education
  Family and Consumer Sciences
Health, Physical Education, and Recreation
Teaching, Learning, and Leadership
  Education
  Educational Leadership
Counselor Education and Counseling Psychology

Master's Programs
Four master's programs are offered by the Department of Counselor Education and Counseling Psychology: The Master of Arts in Counseling Psychology prepares graduates to be eligible for a limited license as a psychologist in the state of Michigan, the Master of Arts in Marriage and Family Therapy prepares graduates to be eligible for a license as a Marriage and Family Therapist in the state of Michigan, and the Master of Arts in Counselor Education, with four program options, prepares graduates to be eligible for a license as a professional counselor. Additionally, the Master of Arts in Human Resources Development prepares graduates to provide direction, through leadership and consultation, for organizational learning and development in business, government, education, and healthcare settings.

Doctoral Programs
Two doctoral programs are offered by the Department of Counselor Education and Counseling Psychology. The doctoral program in Counseling Psychology leads to a Doctor of Philosophy (Ph.D.) and holds accreditation by the American Psychological Association (APA). The doctoral program in
Counselor Education leads to a Doctor of Philosophy (Ph.D.) and is accredited by the Council of Accreditation of Counseling and Related Educational Programs (CACREP).

Admission Requirements
Admission to a specific doctoral program is considered by the appropriate departmental training committee. Applicants should request current admission information from the Office of Admissions and Orientation and from the Department.

A student admitted to a specific doctoral program is expected to follow the policies, procedures, code of ethics, and course requirements for that program. Each student, upon admission to a doctoral program, is assigned a temporary doctoral advisor. Later, as outlined in The Doctoral Handbook, a student selects and requests the appointment of a permanent Doctoral Committee.

The department recognizes the importance of increasing the educational opportunities of racial minority students, as well as the importance of ensuring an increased diversity of role models in the fields represented by its training programs. Therefore, the department strives to create an atmosphere conducive to the concerns of racial minorities and diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its commitment to recruit, admit, support, and graduate a diverse population of students prepared for their chosen careers.

Master of Arts in Counseling Psychology
Department Office, Room 3102, Sangren Hall.

The Master of Arts in Counseling Psychology provides, beyond the departmental required core course work, a focus on psychopathology, psychological assessment, counseling and psychotherapy theories and practices, and advanced practicum experiences. This program is selected by students seeking limited licensure as a psychologist in the State of Michigan.

Admission Requirements
Admission to the Master of Arts in Counseling Psychology is based upon grade point average, educational background, counseling and/or related experiences, as well as other factors. Prior to consideration by the M.A. Admissions Committee, applicants are required to complete and return a questionnaire prepared by the department. Interviews, letters of recommendation, test scores, and other materials may also be required.

The Department has three different application deadlines for M.A. program admissions during the year: January 15, for ensuing Summer and Fall semesters, May 15, also for the ensuing Fall semester, and September 15 for the following Spring semester. Applicants interested in beginning their graduate master’s degree studies in the Fall semester are encouraged to meet the January 15 application deadline. This allows applicants to receive admission offers well in advance of the fall semester. Also, applicants
who plan to seek assistantships or campus employment beginning in the fall semester should apply by January 15 to be competitive for such assistance or positions. Applicants must complete a WMU graduate application and a Department application.

Applications materials may be obtained from the Office of Admissions and Orientation and from the Department, and are also available on-line through links on the WMU Office of Admissions and Department webpages. Upon admission, each student is assigned an advisor who will assist in preparing a program of study. It is recommended that the program of study, which also serves as the application for candidacy, be completed during the first semester or session of enrollment.

The department recognizes the importance of increasing the educational opportunities of racial minority students, as well as the importance of ensuring an increased diversity of role models in the fields represented by its training programs. Therefore, the department strives to create an atmosphere conducive to the concerns of racial minorities and diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its commitment to recruit, admit, support, and graduate a diverse population of students prepared for their chosen careers.

Program Requirements
The counseling psychology program requires a minimum of forty-eight semester hours of course work, including seven, three-semester-hour, core courses. A curriculum guide for the program is available from the Department office.

Master of Arts in Counselor Education

The program options leading to a Master of Arts in Counselor Education are designed to prepare individuals for entry level positions in counseling, rehabilitation, and student affairs practice in a variety of educational and non-educational settings. The program options are:
1. Community Counseling with specialties in substance abuse, holistic health, and study in marriage and family therapy. a, d
2. School Counseling: Elementary a, b, d; Secondary a, b, d; or School Counselor License, K-12 a, c, d College Counseling a, d
3. Rehabilitation Counseling a, e is offered as part of the Rehabilitation Counseling/Teaching program (RCTM) which is jointly administered by the Department of Counselor Education and Counseling Psychology and the Department of Blindness and Low Vision Studies.
4. Student Affairs in Higher Education: Administration of College Student Affairs

Superscript (a,b,c,d,e) Definitions
a Leads to Michigan license as a counselor.
 b Leads to endorsement as a counselor on a current, valid Michigan teaching certificate.
c Prepares students who do not hold a valid Michigan Teaching Certificate for school counselor license recommendation in Michigan.
d Accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP)
e Accredited by the Council on Rehabilitation Education (CORE)

Admission Requirements
Admission to one of the options above is based upon grade point average, educational background, counseling and/or student affairs related experiences, as well as other factors. Prior to consideration by the M.A. Admissions Committee, applicants are required to complete and return a questionnaire indicating, among other things, the program option desired. Interviews, letters of recommendation, test scores, and other material may be required.

The Department has three different application deadlines for M.A. program admissions during the year: January 15, for ensuing Summer and Fall semesters, May 15, also for the ensuing Fall semester, and September 15 for the following Spring semester. Applicants interested in beginning their graduate master’s degree studies in the Fall semester are encouraged to meet the January 15 application deadline. This allows applicants to receive admission offers well in advance of the fall semester. Also, applicants who plan to seek assistantships or campus employment beginning in the fall semester should apply by January 15 to be competitive for such assistance or positions. Applicants must complete a WMU graduate application and a Department application.

Applications materials may be obtained from the Office of Admissions and Orientation and from the Department, and are also available on-line through links on the WMU Office of Admissions and Department webpages. Upon admission, each student is assigned an advisor who will assist in preparing a program of study. It is recommended that the program of study, which also serves as the application for candidacy, be completed during the first semester or session of enrollment.

The department recognizes the importance of increasing the educational opportunities of racial minority students, as well as the importance of ensuring an increased diversity of role models in the fields represented by its training programs. Therefore, the department strives to create an atmosphere conducive to the concerns of racial minorities and diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its commitment to recruit, admit, support, and graduate a diverse population of students prepared for their chosen careers.

Program Requirements
All program options require a minimum of forty-eight semester hours of course work. The program of study for each of the options includes seven, three-semester-hour, core courses. Curriculum guides for the program options are available from the Department office.
Students are expected to work with advisors in order to be informed of policies, course offerings, prerequisites, and applications required for designated courses. A student's performance and progress will be evaluated throughout the program. This process includes "check points," such as candidacy, assignment of a grade below "B" in any course, and final evaluation prior to graduation. The student is referred to the Department's Policy on Retention.

The Community Counseling option provides flexibility in designing a course of study to meet the interests and needs of the student. In addition to theory and practice courses, students may, with the approval of an advisor, select courses for a special area of concentration related to counseling. Selection may be made from, but not limited to, such areas as alcohol and drug abuse, marriage and family, and holistic health care. This option leads to license as a professional counselor.

Programs in School Counseling (Elementary, Secondary, or School Counselor License) incorporate courses emphasizing counseling theory and practice, ethics, testing/appraisal, career development, and psychoeducational consultation. In addition, students desiring school counselor certification will elect courses related to the administration of pupil personnel services in elementary and/or secondary schools. A license as a professional counselor may be earned through this option.

The College Counseling option accents college student development, individual and group counseling, ethics, philosophy of college counseling, and student service delivery systems in higher education. This option leads to license as a professional counselor.

The Rehabilitation Counseling option is offered in conjunction with the Master of Arts in Blind Rehabilitation Teaching. In certain circumstances the rehabilitation counseling option of the Master of Arts in Counselor Education may be earned independently. Application for the dual Master of Arts degree in rehabilitation counseling/teaching (RCT) is made through the Department of Blind Rehabilitation. Upon completion of the RCT program, the individual earns a Master of Arts in Counselor Education (Rehabilitation Counseling concentration) and a Master of Arts in Rehabilitation Teaching.

The Student Affairs in Higher Education (Administration of College Student Affairs) option focuses on college student development, philosophy of student affairs, legal and ethical issues, college populations and educational environment, communication skills, and administration of student affairs in higher education.

Master of Arts in Human Resources Development
Advisors: Larry Buzas, Patrick Munley
Department Office, Room 3102, Sangren Hall.

The Master of Arts in Human Resources Development (HRD) provides graduate preparation for persons seeking entry into, or advancement in, a career in human resources development (also known as staff development, employee training, etc.) in business, government, education, and healthcare settings. This program prepares leading-edge HRD practitioners who are able to provide effective direction, through
leadership and consulting roles, to assure that organizational learning and development functions are linked to, produce, and can demonstrate worthwhile organizational and individual performance results.

Admission Requirements
Admission to the Master of Arts in Human Resources Development is based upon grade point average, educational background, professional work experience, as well as other factors. Prior to consideration by the M.A. Admissions Committee, applicants are required to complete and return a questionnaire prepared by the department. Interviews, letters of recommendation, test scores, and other materials may also be required.

The Department has three different application deadlines for M.A. program admissions during the year: January 15, for ensuing Summer and Fall semesters, May 15, also for the ensuing Fall semester, and September 15 for the following Spring semester. Applicants interested in beginning their graduate master’s degree studies in the Fall semester are encouraged to meet the January 15 application deadline. This allows applicants to receive admission offers well in advance of the fall semester. Also, applicants who plan to seek assistantships or campus employment beginning in the fall semester should apply by January 15 to be competitive for such assistance or positions. Applicants must complete a WMU graduate application and a Department application.

Applications materials may be obtained from the Office of Admissions and Orientation and from the Department, and are also available on-line through links on the WMU Office of Admissions and Department webpages. Upon admission, each student is assigned an advisor who will assist in preparing a program of study. It is recommended that the program of study, which also serves as the application for candidacy, be completed during the first semester or session of enrollment.

The department recognizes the importance of increasing the educational opportunities of racial minority students, as well as the importance of ensuring an increased diversity of role models in the fields represented by its training programs. Therefore, the department strives to create an atmosphere conducive to the concerns of racial minorities and diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its commitment to recruit, admit, support, and graduate a diverse population of students prepared for their chosen careers.

Program Requirements
The Human Resources Development program requires a minimum of thirty-six semester hours, including seven, three-semester-hour core courses. A curriculum guide for the program is available from the department office.

The Human Resources program provides flexibility in designing a course of study to meet the interest and needs of the student. In addition to the core courses, students must, with approval of advisor, select courses for an option in human resources development. The options are human performance and technology, counseling and organizational psychology, organizational communication and development, instructional design and technology, public administration and leadership, and school leadership and administration.

1. CECP Core (9 hrs.)
CECP 6010 - Research Methods Credits: 3 hrs.
CECP 6070 - Multicultural Counseling and Psychology Credits: 3 hrs.
CECP 6220 - Psychoeducational Consultation Credits: 3 hrs.

2. Program Concentration (15 hrs.)
CECP 6400 - Principles of Human Resources Development Credits: 3 hrs.
CECP 6410 - Fundamentals of Needs Analysis Credits: 3 hrs.
CECP 6420 - Evaluation of Human Resources Development Transfer and Impact Credits: 3 hrs.
CECP 6430 - Project Management in Human Resources Development Credits: 3 hrs.
CECP 6860 - Topical Seminars Credits: 1-4 hrs.

3. Electives (12 hrs.)
Students, in consultation with advisor, will pursue one of the following HRD specialty options from which a minimum of 12 hours of course work is selected.

- Human Performance and Technology
- Counseling and Organizational Psychology
- Organization Communication and Development
- Instructional Design and Technology
- Public Administration and Leadership
- School Leadership and Administration

Master of Arts in Marriage and Family Therapy
Advisors: Gary Bischof, Karen Blaisure, Alan Hovestadt
Department Office, Room 3102, Sangren Hall.

The Master of Arts in Marriage and Family Therapy provides students with academic course work and clinical practica designed to prepare individuals for entry level positions as family therapists in medical and private practice settings, and in public, private non-profit, and private agencies. Students who complete the program will have met the academic degree requirements to be eligible to apply for licensure as a Marriage and Family Therapist in the state of Michigan and Clinical Membership in the American Association for Marriage and Family Therapy. This program is offered in collaboration with the Department of Family and Consumer Sciences.

Admission Requirements
Admission to the Master of Arts in Marriage and Family Therapy is based upon undergraduate and graduate grade point average, educational background, and related professional and volunteer experience. Prior to consideration by the admissions committee, applicants are required to complete and return a graduate admission application and program application, academic transcripts from all institutions of previous study, letters of recommendation, and a professional goals statement. Based upon a review of the application material, the admissions committee will invite selected applicants to campus for interviews.

The Department has three different application deadlines for M.A. program admissions during the year: January 15, for ensuing Summer and Fall semesters, May 15, also for the ensuing Fall semester, and
September 15 for the following Spring semester. Applicants interested in beginning their graduate master’s degree studies in the Fall semester are encouraged to meet the January 15 application deadline. This allows applicants to receive admission offers well in advance of the fall semester. Also, applicants who plan to seek assistantships or campus employment beginning in the fall semester should apply by January 15 to be competitive for such assistance or positions. Applicants must complete a WMU graduate application and a Department application.

Applications materials may be obtained from the Office of Admissions and Orientation and from the Department, and are also available on-line through links on the WMU Office of Admissions and Department webpages. Upon admission, each student is assigned an advisor who will assist in preparing a program of study. It is expected that the program of study, which also serves as the application for candidacy, be completed during the first semester of enrollment.

The department recognizes the importance of increasing the educational opportunities of racial minority students, as well as the importance of ensuring an increased diversity of role models in the fields represented by its training programs. Therefore, the department strives to create an atmosphere conducive to the concerns of racial minorities and diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its commitment to recruit, admit, support, and graduate a diverse population of students prepared for their chosen careers.

Program Requirements
The marriage and family therapy program requires a minimum of fifty-four semester hours of course work, including substantive study of family processes, various family forms, individual and family life cycle issues, as well as significant training in clinical assessment and treatment. Specific Marriage and Family Therapy program content areas include theoretical foundations, assessment and treatment of couples and families, human development and family studies, ethics and professional issues, research methods, and supervised clinical practice.

Students are expected to work with advisors in order to be informed of policies, course offerings, electives, and prerequisites. A student’s performance and progress will be evaluated throughout the program: at the conclusion of each semester of practicum, after the awarding of a grade below a “B” in any course, and final evaluation prior to graduation. The student is referred to the Department’s Policy on Retention.

Doctor of Philosophy in Counseling Psychology
The doctoral program in counseling psychology is based on a philosophy that theory, research, and practice are interdependent and complementary dimensions of professional education in a scientist-practitioner training model. The educational curriculum and practical experiences of the program are designed to ensure competency in all three dimensions and to facilitate their integration in the development of a professional identity. Consistent with these goals, the curriculum in counseling psychology consists of course work and related experiences in four broad areas: 1) the science of psychology, 2) specialization in counseling psychology, 3) counseling and psychotherapy, and 4) research. The program recognizes that counseling psychologists may be employed in a variety of professional settings such as academic departments, college and university counseling centers, mental
health agencies, private practices, and business and industry. Consequently, the program provides broad-based training appropriate to accommodate the potentially diverse career interests of its graduates.

Training typically fulfills expectations for psychologist licensure/certification eligibility. The program is accredited by the American Psychological Association and is designated as a doctoral program in psychology by the Council for the National Register of Health Service Providers in Psychology.

**Program Requirements**

The credit hour requirements and the course work for the Counseling Psychology Program include:

1. **Basic scientific core (30 hrs.)**
   a. Research methods (6 hrs.)
   b. Statistics (6 hrs.)
   c. Biological basis of behavior (3 hrs.)
   d. Cognitive-affective basis of behavior (3 hrs.)
   e. Social basis of behavior (3 hrs.)
   f. Individual behavior and human development (6 hrs.)
   g. History and systems of psychology (3 hrs.)

2. **Specialization in Counseling Psychology (42 hrs.)**
   a. Counseling Psychology (24 hrs.)
   b. Human Assessment (6 hrs.)
   c. Supervised Practica (12 hrs.)

3. **Recommended Electives (3 hrs.)**

4. **Doctoral Dissertation (12 hrs.)**

5. **Pre-doctoral Internship (4 hrs.)**

   Total Hours 91

Counseling Psychology students are expected to demonstrate competencies in psychological theory, practice, and research by passing a series of doctoral comprehensive examinations in the following areas: 1) counseling psychology information and knowledge and 2) professional work sample.

**Doctor of Philosophy in Counselor Education**

The doctoral program in Counselor Education is designed to provide advanced –level preparation for counselors in various mental health and school settings as well as preparing counselors for the counselor education professorate in colleges and universities. Preparing counselors to work as counselor educators and supervisors is the program’s highest priority. Doctoral students pursuing this degree are expected to demonstrate 1) a wide range of individual and group counseling skills; 2) a sound theoretical foundation in counseling; 3) teaching and supervision competencies; 4) advanced multicultural counseling skills; 5) research skills; 6) competencies associated with being an educational leader, and 7) an understanding of academic program development, curriculum and administration. Students are expected to involve themselves in appropriate activities of the Department, College, University, and of relevant professional associations. The doctoral program in Counselor Education is not intended to meet the educational requirements of those who seek to be licensed psychologists. It assumes that applicants have or are about to complete their master’s degree in counseling or a closely related field. Persons with a master’s degree in a related field may be asked to complete an additional masters degree in counseling.
Program Requirements
All students enrolled in this doctoral program must complete the following set of requirements in addition to course work related to a particular specialty:

1. Doctoral Core (30 hrs.)
   a. Professional Seminar Counselor Education (3 hrs.)
   b. Advanced Counseling Theory and Practices (3 hrs.)
   c. Supervision in Counseling & Psychotherapy (4 hrs.)
   d. Doctoral Practicum: Clinical Supervision (4 hrs.)
   e. Doctoral Practicum in Counselor Education (4 hrs.)
   f. College Teaching in Counseling (3 hrs.)
   g. Vocational Development Theory (3 hrs.)
   h. Advanced Multicultural Counseling (3 hrs.)
   i. Internship in Counselor Education (4 hrs.)

2. Scientific Inquiry Core (27 hrs.)
   a. Research Design and Analysis (6 hrs.)
   b. Qualitative Research (3 hrs.)
   c. Elective in Research Design or Data Analysis (3 hrs.)
   d. Communication Skills Research Tool Competency
   e. Dissertation Seminar (3 hrs.)
   f. Doctoral Dissertation (12 hrs.)

3. Specialization (12 hrs.)
   Courses focused around a theme or particular interest approved by the student’s doctoral committee. These specializations may include, but are not limited to: School Counseling, Community Counseling, and College Counseling.

Counselor Education doctoral students are required to demonstrate professional competencies through supervised experiences. These experiences include research, teaching and counseling. All doctoral candidates must pass a comprehensive examination over doctoral course work before admission to candidacy. The doctoral committee is responsible for the development and evaluation of the doctoral comprehensive examination.

Master of Arts in Rehabilitation Counseling/Teaching
Advisor: Jennipher Wiebold,

The Rehabilitation Counseling/Teaching program** (RCTM) is jointly administered by the Department of Blindness and Low Vision Studies and the Department of Counselor Education and Counseling Psychology.

The seventy-six hour Rehabilitation Counseling/Teaching degree program prepares a dually competent practitioner who is able to provide both rehabilitation counseling and rehabilitation teaching skills. Graduates receive two Master of Arts degrees that make them eligible to become certified rehabilitation counselors and ACVREP certified rehabilitation teachers. Graduates are prepared to provide a full range
of vocational rehabilitation counseling services to individuals with physical, intellectual, cognitive, and psychiatric disabilities. As rehabilitation counselors, the graduates assist clients with career choices, manage their acquisition of work-related skills, develop jobs, and assist with placement into employment. As rehabilitation teachers, they serve people with blindness and low vision by providing instruction in the activities of daily living, communications, and recreation/leisure.

**Leads to Michigan license as a counselor and national certification**
The Department of Educational Studies offers five master’s programs, one graduate certificate program, and two doctoral programs. These programs include the Master of Arts in Educational Technology; Master of Arts in Evaluation, Measurement, and Research; Master of Arts in Socio-Cultural Foundations and Educational Thought; Master of Arts in Special Education; Master of Arts in Teaching Children Who Are Visually Impaired; the Graduate Certificate Program in Educational Technology; the Doctor of Philosophy in Evaluation, Measurement, and Research; and the Doctor of Education in Special Education.

Master of Arts in Educational Technology
Advisors: George Haus, Tracy DuBay, Robert Leneway
Room 3506, Sangren Hall

The Master of Arts in Educational Technology is designed to prepare educators for the integration of educational technology into academic programs of kindergarten through 12th grade schools. The degree program prepares educators for various school-based technology roles, including technology coordinators, technology instructional consultants/teachers, and special education technology consultants/teachers.
A majority of the courses in the Master of Arts in Educational Technology are offered via Extended University Program’s distance education program means that include two-way video classes, Internet conferencing, and other online teaching/learning methods. Other courses will be offered as residential courses taught in traditional computer labs and classrooms at Western’s Kalamazoo campus as well as at various regional centers located in southwestern Michigan. Students should be prepared to handle distance education instruction that often requires more independent work, self-direction, and the meeting of course deadlines outside of regular classroom meetings. Students will also need to have mastered basic computer communications systems, including email, use of listservs, web browsing, and submission of assignments via file transfer procedures. An online application and additional information can be found at http://www.wmich.edu/Edtech

Admission Requirements
In addition to meeting the requirements of The Graduate College, all applicants must possess a baccalaureate degree in education or a related field, provide a statement outlining technology skills and background, career goals, and educational philosophy (1,000 words). Admission decisions will be made by program faculty after review of admission materials.

Program Requirements
Students will complete a planned program of study consisting of 30-33 credit hours of course work with an overall grade point average of 3.0 or better. The degree course work requires a fifteen credit hour Major Technology Core selected from one of two approved Technology Core Areas: Technology Coordinator or Special Education Technology. Students will select the Major Technology Core with the approval of an academic advisor. The course work also requires a nine hour Minor Technology Elective Core that is related to the career goals of the student and approved by an academic advisor. The minor core must be different from the major core and have at least two of the three courses at the 600-level.

I. Major Technology Core (15 hrs.)
Select 15 hours from either Option A or Option B.

Option A: Technology Coordinator

Option B: Special Education Technology

SPED 5370 - Technology in Special Education Credits: 3 hrs.
SPED 6010 - Acquisition and Analysis of Special Education Information Credits: 3 hrs.
SPED 6800 - Instructional Software in Special Education Credits: 3 hrs.
SPED 6810 - Assistive Technology for Persons with Physical, Sensory, and Cognitive Impairments Credits: 3 hrs.
SPED 6820 - Current Research in Special Education Technology Credits: 3 hrs.
SPED 7120 - Professional Field Experience Credits: 2-12 hrs.

II. Technology Minor Elective Core (9 hrs.)
Select 9 hours of elective courses related to the technology career goals of the student and approved by an academic advisor.
One 5000- or 6000-level course (3 hrs.)
One 6000-level course (3 hrs.)
One 6000-level course (3 hrs.)

III. Educational Research (3 hrs.)
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs. or course equivalent to EMR 6400

IV. Culminating Learning Activity (3 or 6 hrs.)
The culminating learning activity allows students to demonstrate their comprehensive knowledge of educational technology in either a research study or in the development of a curriculum or instructional technology product. Students seeking advanced degrees beyond the master’s level are encouraged to complete a master’s thesis. Other students will elect the capstone course with an advisor-approved technology research, application, or curriculum development project that includes a minimum of 120 hours of effort.

Select one of the two courses below.

Master of Arts in Evaluation, Measurement, and Research
Advisors: Brooks Applegate, JianPing Shen, Lilianna Rodriguez-Campos
Room 3506, Sangren Hall

The Department of Educational Studies offers the Master of Arts in Evaluation, Measurement, and Research. Students completing this degree program will be qualified to serve in a staff position in evaluation, testing, or research units in school or non-school settings, or in local, state, or federal government agencies.

Admission Procedures
Students seeking admission to this degree program should request a Master's Degree Program Application packet from the Department of Educational Studies. Applicants must follow all instructions on the Graduate Self-Managed Application form and send all supplemental materials to the Department of Educational Studies.

Program Requirements
This thirty-six credit hour master’s program requires the satisfactory completion of the following courses. In addition, 9 credit hours are chosen from courses outside the EMR program such as sociology, psychology, or other area approved by the advisor.
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.
EMR 6410 - Fundamentals of Measurement in the Behavioral Sciences Credits: 3 hrs.
EMR 6420 - Program Evaluation Credits: 3 hrs.
EMR 6430 - Personnel Evaluation Credits: 3 hrs.
EMR 6450 - Elementary Statistics Credits: 3 hrs.
EMR 6480 - Qualitative Research Methods Credits: 3 hrs.
EMR 6500 - Survey Research Credits: 3 hrs.
EMR 6590 - Contemporary Trends in Research Credits: 3 hrs.
EMR 6790 - Capstone Portfolio Project Credits: 3 hrs.
Master of Arts in Socio-Cultural Foundations And Educational Thought
Advisors: Paul Farber, Gunilla Holm, Elena Lisovskaya, Gerald Pillsbury, G. Thomas Ray
Room 3506, Sangren Hall

Admission Requirements
Undergraduate grade point average of 3.0 (4.0 = A); graduate grade point average may be accepted upon review of recent and relevant course work completed at an accredited institution.
A written statement of purpose (1,000 to 1,500 words). The statement of purpose should indicate the candidate's career expectations and reasons for seeking admission to the program.
Congruence of applicant's goals and the program concentration.
Two letters of recommendation from persons able to judge the applicant's potential to succeed in a graduate program.

Program Requirements
1. Education and Professional Development Core (9 hrs.)
   ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs.
   ES 6330 - Human Nature and Diversity Credits: 3 hrs.
   ES 6340 - Culture and Politics of Educational Institutions Credits: 3 hrs.

2. Program Concentration (15 hrs.)
   Select three courses in socio-cultural foundations from the following:
   ES 6030 - Social and Philosophical Foundations Credits: 3 hrs.
   ES 6290 - Culture and Schooling Credits: 3 hrs.
   ES 6300 - History of Education in the United States Credits: 3 hrs.
   ES 6310 - Comparative Education Credits: 3 hrs.
   ES 6730 - Class, Ethnicity, and Gender in Education Credits: 3 hrs.
   ES 6750 - Multicultural Education Credits: 3 hrs.
   Select at least one course in curriculum studies from the following:
   ED 6020 - School Curriculum Credits: 3 hrs.
   ED 6220 - Middle Level School Curriculum Credits: 3 hrs.
   ED 6280 - Curriculum Theory Credits: 3 hrs.
   Select one additional course in curriculum development, teaching methods, literacy, or content area methods

3. Electives (9 hrs.):
   Select at least three additional graduate level courses, normally from outside the department, which support a particular scholarly interest

4. Capstone Research Project or Master's Thesis (3-6 hrs.)
   ED 6790 - Capstone Research Project Credits: 3 hrs. OR
   ED 7000 - Master's Thesis Credits: 6 hrs.
Master of Arts in Teaching Children Who Are Visually Impaired
Advisor: Annette Skellenger
Room 3506, Sangren Hall

This fifty-hour degree program prepares teachers to work with children with visual impairments in public and residential schools. Instruction is provided in skills to support the regular educational curriculum as well as the expanded core curriculum specific to children with visual impairments. Graduates are eligible to become certified teachers of children with visual impairments. Students may choose to combine this degree program with preparation as an orientation and mobility specialist to attain dual competency in the Master of Arts in Teaching Children Who are Visually Impaired/Master of Arts in Orientation and Mobility for Children program.

Admission Requirements
Students seeking admission to the Master of Arts in Teaching Children Who Are Visually Impaired program should request a Master's Degree Program Application packet from the Department of Educational Studies.

Program Requirements
The program requires the satisfactory completion of:
BLS 5840 - Computer Technology in Rehabilitation Credits: 3 hrs.
BLS 5880 - Psychosocial Aspects of Disability Credits: 2 hrs.
BLS 5900 - Physiology and Function of the Eye Credits: 2 hrs.
BLS 5910 - Braille and Tactual Communication Systems Credits: 2 hrs.
BLS 5930 - Methods of Teaching Adaptive Communications Credits: 2 hrs.
BLS 5970 - Principles and Practices of Low Vision Credits: 2 hrs.
BLS 6050 - Practice in Low Vision Credits: 1 hr.
BLS 6060 - Adaptive Sports Activities for Visually Impaired Children Credits: 1 hr.
BLS 6070 - Adaptive Art Activities for Visually Impaired Children Credits: 1 hr.
FCS 6360 - Teaching for Independent Living Credits: 4 hrs.
SPED 5440 - Educating Individuals with Severe Impairments Credits: 3 hrs.
SPED 6010 - Acquisition and Analysis of Special Education Information Credits: 3 hrs.
SPED 6100 - Teaching Nemeth Code to Children Credits: 3 hrs.
SPED 6320 - Teaching Children Who Are Visually Impaired Credits: 4 hrs.
SPED 6370 - Research and Evaluation Techniques in Special Education Credits: 3 hrs.
SPED 6610 - Transdisciplinary Teaming Credits: 3 hrs.
SPED 6740 - Intern Teaching in Special Education Credits: 6 hrs.
SPED 7120 - Professional Field Experience Credits: 2-12 hrs.

Additional Requirements
In addition, students will complete a 4-hour comprehensive exam as their capstone requirement.
Master of Arts in Teaching Children Who Are Visually Impaired/Orientation and Mobility for Children
Advisor: Annette Skellenger
Room 3506, Sangren Hall

This dual degree program is offered through the Teaching Children Who Are Visually Impaired/Orientation and Mobility for Children program (SEO) which is jointly administered by the Department of Blindness and Low Vision Studies and the Department of Educational Studies.

This sixty-five hour degree program prepares a dual competency practitioner who is able to serve in the schools as a teacher of children who are visually impaired and as an orientation and mobility specialist. Two degrees are offered in this option: One, a Master of Arts in Teaching Children Who Are Visually Impaired (from the Department of Educational Studies) and the other, a Master of Arts in Orientation and Mobility with a Concentration in Teaching Children (from the Department of Blindness and Low Vision Studies). Graduates of this program are eligible to become certified teachers and certified orientation and mobility specialists (COMS). It is also possible to specialize in only one of these degrees.

Program Requirements
The program requires the satisfactory completion of:
BLS 5840 - Computer Technology in Rehabilitation Credits: 3 hrs.
BLS 5880 - Psychosocial Aspects of Disability Credits: 2 hrs.
BLS 5900 - Physiology and Function of the Eye Credits: 2 hrs.
BLS 5910 - Braille and Tactual Communication Systems Credits: 2 hrs.
BLS 5920 - Orientation and Mobility with Children Credits: 2 hrs.
BLS 5930 - Methods of Teaching Adaptive Communications Credits: 2 hrs.
BLS 5950 - Introduction to Orientation and Mobility Credits: 2-4 hrs.
BLS 5970 - Principles and Practices of Low Vision Credits: 2 hrs.
BLS 6040 - Issues in Travel Credits: 2 hrs.
BLS 6050 - Practice in Low Vision Credits: 1 hr.
BLS 6060 - Adaptive Sports Activities for Visually Impaired Children Credits: 1 hr.
BLS 6070 - Adaptive Art Activities for Visually Impaired Children Credits: 1 hr.
BLS 6950 - Practicum in Orientation and Mobility Credits: 1-3 hrs.
BLS 7120 - Professional Field Experience Credits: 2-12 hrs.
FCS 6360 - Teaching for Independent Living Credits: 4 hrs.
SPED 5440 - Educating Individuals with Severe Impairments Credits: 3 hrs.
SPED 6010 - Acquisition and Analysis of Special Education Information Credits: 3 hrs.
SPED 6010 - Teaching Nemeth Code to Children Credits: 3 hrs.
SPED 6320 - Teaching Children Who Are Visually Impaired Credits: 4 hrs.
SPED 6370 - Research and Evaluation Techniques in Special Education Credits: 3 hrs.
SPED 6610 - Transdisciplinary Teaming Credits: 3 hrs.
SPED 6740 - Intern Teaching in Special Education Credits: 6 hrs.
SPED 7120 - Professional Field Experience Credits: 2-12 hrs.
Additional Requirements
In addition, students will complete two 4-hour comprehensive exams (each program requires a comprehensive exam) as their capstone requirement.

Certificate Program in Educational Technology
Advisors: Robert Leneway, Tracy DuBay
Room 3506, Sangren Hall

This graduate certificate program provides a strong framework for the development of educational technology competencies for individuals that are employed or seek professional employment in the field of education as technology specialists. The audience for the program is anticipated to be inservice teachers interested in educational technology in the classroom, inservice teachers with more advanced technology knowledge interested in competencies and responsibilities required for building level technology specialists, inservice teachers or individuals who desire or assume the position of district technology coordinator, and district administrators and staff who desire advanced skills in the area of educational technology coordination.

Admission Requirements
In addition to meeting the requirements of The Graduate College, all applicants must possess a baccalaureate degree in education or a related field, provide a statement outlining technology skills and background, career goals, and educational philosophy (1,000 words). Admission decisions will be made by the department's faculty, following a review of the applicant's admission materials.

Program Requirements
Students will complete a planned program of study consisting of 15-21 hours of course work with an overall grade point average of 3.0 or better, with no course grade below a "C." The courses include:

Additional Information
Students who demonstrate prior competence in each of the performance outcomes required for successful completion of EDT 5400 will start the program with EDT 5410 or EDT 5420. Students who demonstrate prior mastery of the knowledge and skills in EDT 5410 and EDT 5420 will have other course choices available.

Descriptions of all courses required in the Certificate Program in Educational Technology may be found under the heading Educational Technology Courses.

Doctor of Education in Special Education
Advisors: George Haus, Paula Kohler, Sarah Summy, Elizabeth Whitten, Kristal Erhardt, Shaila Rao
Room 3506, Sangren Hall
The Doctor of Education in Special Education is designed to prepare an individual to serve as a college teacher in a special education program and as an administrator of educational programs for learners with disabilities.

Applicants are expected to satisfy all requirements for admission to doctoral programs specified by The Graduate College. Prospective students must also have acquired a minimum of two years of successful professional experience in serving persons with disabilities. Admission to the program is contingent upon a satisfactory score on the Graduate Record Examination and the successful completion of a personal interview with a committee comprised of graduate faculty of the Department of Educational Studies. Application materials are available from the Office of Admissions and Orientation and from the Department of Educational Studies.

Upon acceptance to the department, a Program Advisor will be designated to work with the student in developing the student's overall program. In addition to the prescribed course work, the student will complete an internship in college teaching and an optional internship in administration of programs in special education. During the last semester of course work, the student will be required to complete successfully a written comprehensive examination.

All students in the program will be required to complete successfully a scholarly dissertation. Following the guidelines established by The Graduate College, the student will select a dissertation advisor and a dissertation committee who will guide the student in the development of a dissertation. Following the completion of the dissertation, the student will be required to complete successfully an oral defense of the dissertation as per Graduate College policy.

Doctor of Philosophy in Evaluation, Measurement, and Research
Advisors: Brooks Applegate, Jianping Shen, Lilianna Rodriguez-Campos
Room 3506, Sangren Hall.

This program prepares graduates to serve in leadership roles in evaluation, measurement, or research units in school or non-school settings, as well as in local, state, or federal government agencies and to serve in faculty positions in evaluation, measurement, and research at institutions of higher education.

Admission Procedures
Students seeking admission to this degree program should request a Doctoral Degree Program Application packet from the Department of Educational Studies. Applicants must follow all instructions on the Graduate Self-Managed Application form and send all supplemental materials to the Department of Educational Studies.

Program Requirements
The following requirements and courses will lead to a Doctor of Philosophy in Evaluation, Measurement, and Research (93 hours minimum):
EMR Comprehensive Examination
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.
EMR 6410 - Fundamentals of Measurement in the Behavioral Sciences Credits: 3 hrs.
EMR 6420 - Program Evaluation Credits: 3 hrs.
EMR 6430 - Personnel Evaluation Credits: 3 hrs.
EMR 6450 - Elementary Statistics Credits: 3 hrs.
EMR 6480 - Qualitative Research Methods Credits: 3 hrs.
EMR 6490 - The Nature of Science and Scientific Inquiry Credits: 3 hrs.
EMR 6500 - Survey Research Credits: 3 hrs.
EMR 6510 - Advanced Applications of Measurement Methods Credits: 3 hrs.
EMR 6520 - Evaluation Practicum Credits: 3 hrs.
EMR 6550 - Research Design Credits: 3 hrs.
EMR 6580 - Qualitative Research Practicum Credits: 3 hrs.
EMR 6650 - General Linear Models Credits: 3 hrs.
EMR 7120 - Professional Field Experience Credits: 3-6 hrs.
EMR 7300 - Doctoral Dissertation Credits: 15 hrs.

One of the following:
EMR 6600 - Advanced Seminar in Research Credits: 3 hrs.
EMR 6610 - Advanced Seminar in Measurement Credits: 3 hrs.
EMR 6620 - Advance Seminar in Evaluation Credits: 3 hrs.

Additional Requirements
In addition, 9 credit hours of advisor-approved electives and 18 hours chosen from a cognate area with advisor approval are required.
Family and Consumer Sciences

Dr. Linda Dannison, Chair
Main Office: 3326 Kohrman Hall
Telephone: 387-3704
FAX: 387-3353

Linda L. Dannison, Chair
Karen R. Blaisure
Marlene R. Breu
Mozhdeh Bruss
Eileen Buckley
John T. Chapman
E. Bryce Dickey
Barbara J. Frazier
Margie J. Geasler
Chantel L. Lumpkin
Arezoo Rojhani
Caroline Webber
Richard W. Zinser

The Department of Family and Consumer Sciences offers the Master of Arts in Career and Technical Education and the Master of Arts in Family and Consumer Sciences. The Department also offers a concentration in Career and Technical Education within the Doctor of Education in Educational Leadership. For more information on this doctoral program, see the catalog listing under the Department of Teaching, Learning, and Leadership.

Master of Arts in Career and Technical Education
Advisor: Linda Dannison,
Room 3326, Kohrman Hall

This thirty-hour degree program includes course work that will strengthen students' abilities to teach in career and technical education and to assist in developing and implementing new programs or curricula. The program is flexible to provide advanced techniques for teachers and career preparation for administrators, supervisors, counselors, coordinators, and for any other specialized positions in the career and technical education areas of marketing education, business education, family and consumer sciences, and technology education.

The Master of Arts in Career and Technical Education is designed for bachelor's graduates in marketing education, business education, family and consumer sciences, industrial arts, industrial education, or career and technical education, plus professional preparation in teacher education, including directed or supervised student teaching.
Program Requirements
Complete at least thirty graduate credit hours, selected in consultation with a program advisor. The program of study will consist of 3-6 hrs. of professional education courses, 15-18 hrs. of core courses, and 3-12 hrs. of electives.

M.A. in Career and Technical Education, Post-Baccalaureate Certification
The Department also maintains a post-baccalaureate certification program within the Master of Arts in Career and Technical Education that leads to a State secondary provisional certificate with an endorsement in marketing, business, family and consumer sciences, or industrial technology and a vocation endorsement (36 hours). Please see the program advisor for more information about the specific admission and program requirements that apply to this certification.

Master of Arts in Family and Consumer Sciences
Advisor: Linda Dannison,
Room 3326, Kohrman Hall

The graduate program in Family and Consumer Sciences is designed to provide a comprehensive program of study in Family and Consumer Sciences or an in depth program of studies for the person desiring to strengthen specialized interest areas in dietetics and human nutrition, family life education, or textile and apparel technology.

The Master of Arts in Family and Consumer Sciences is designed for the person with a Bachelor of Science or Arts in Family and Consumer Sciences or a home economics-related program of study.

Because of the diversity of the field and unique needs of those desiring graduate training, an individualized program plan is designed for each student within the parameters of the program requirements.

The degree may be used as a foundation for continued graduate work leading to a doctoral degree at another institution.

Admission Requirements
For admission to the master’s program in Family and Consumer Sciences, students must satisfy all the requirements identified in the Graduate Catalog as well as specific departmental requirements. No one requirement is sufficient to guarantee admission or dictate denial of admission.

Possess a Bachelor of Science from an approved accredited school and a major closely related to the selected concentration.
Have a minimum undergraduate grade point average of 3.0 on a 4.0 scale in the last two years of undergraduate work. Non-degree, probationary status may be granted to students with a gpa between 2.5 and 2.99 in the last two years of undergraduate work. Students with that gpa range may establish eligibility for regular admission to WMU by completing nine credit hours of approved graduate-level courses toward their M.A. with a grade of “B” or better in each course.
Include a resume indicating previous education experiences and listing positions held over the past ten years. Indicate the exact title of each position, the agency, school, or firm where employed, and the duration of each employment. Also note particular awards or accomplishments. Submit a two-page, wordprocessed essay that provides the following information: Describe experience(s) that influenced your career choice and your desire to return to graduate school. Explain how having a Master of Arts in Family and Consumer Sciences degree will advance your career.

Program Requirements
All master's programs include a minimum of 30 semester hours, fifteen of which must be in courses at the 6000-level or higher, and at least two hours of FCS 7100, Independent Research. A total of twenty hours in Family and Consumer Sciences must be completed in graduate level courses, planned in consultation with departmental advisor. Assistantships may be available to those wishing to pursue full-time graduate study.
Health, Physical Education, and Recreation

Dr. Debra Berkey, Chair
Main Office: 4024 Student Recreation Center
Telephone: 387-2710
FAX: 387-2704

Amos Aduroja
Suzan Ayers
Robert Bensley
Debra Berkey
Jody Brylinsky
Christopher Cheatum
Ray Cool
Lee deLisle
Marianne Frauenknecht
Linda Law
James Lewis
Yuanlong Liu
Allison McFarland
Timothy Michael
Michael Miller
Jennifer O'Donoghue
Ronald Winter
Jiabei Zhang

Master of Arts in Physical Education
Advisors:
Debra S. Berkey,
Room 4021, Student Recreation Center
Jody Brylinsky,
Room 4024-8, Student Recreation Center
Ray Cool,
Room 4024-19, Student Recreation Center
Lee deLisle
Room 4024-18 Student Recreation Center
Allison McFarland,
Room 4024-11, Student Recreation Center
Timothy Michael,
Room 1052, Student Recreation Center
Michael Miller,
Room 1043, Student Recreation Center
The Department of Health, Physical Education, and Recreation offers a Master of Arts in Physical Education* which prepares teachers, coaches, supervisors, and administrators to assume leadership roles in the following: Athletic Training, Exercise Science, Pedagogy, Special Physical Education, Sport Management, and Sports Studies.

Admission Requirements
Meet Graduate College admission standards, successful completion of an undergraduate major or minor or equivalent appropriate for intended emphasis area, submission of GRE scores, submission of a letter of intent to include education, career and/or research goals and philosophy. In some emphasis areas, an interview or additional qualifications may be required.

Program Requirements
Each graduate student is expected to show competence in four professional areas: research, socio-cultural issues, curriculum or psychological foundations, and a professional area of emphasis. HPER 6900 and HPER 6920 are required. This degree program also requires the successful completion of a minimum of thirty-six graduate credit hours beyond the bachelor's degree in one of the following areas of emphasis: Athletic Training, Exercise Science, Pedagogy, Special Physical Education, Sport Management, and Sports Studies. For information about additional specific course requirements for each concentration, see the graduate advisor.

Master’s degree candidates are required to complete a comprehensive, integrated capstone experience which can be met through the following:
HPER 7000 - Master's Thesis Credits: 6 hrs.
HPER 7100 - Independent Research Credits: 2-6 hrs. or
HPER 7120 - Professional Field Experience Credits: 2-12 hrs.
Teaching, Learning, and Leadership

Dr. Dwayne Anderson, Chair
Main Office: 2112 Sangren Hall
Telephone: 387-3511
FAX: 387-3880

Ariel Anderson
DeWayne Anderson
Allison Baer
Andrea Beach
Phyllis Belt-Beyan
Louann Bierlein Palmer
Lynn Brice
Walter Burt
Van E. Cooley
Carol Crumbaugh
Katharine Cummings
Josephine Barry Davis
Allison Downey
Marcia Fetters
Lauren Freedman
Arthur Garmon
Esther Gray
Barbara Harris
Jill Hermann-Wilmarth
Lynn Nations Johnson
Allison Kelaher Young
Tetyana Koshmanova
Joseph Kretovics
Nancy Mansberger
James Muchmore
Regena Fails Nelson
Susan Piazza
Sue Poppink
Patricia Reeves
Jianping Shen
Andrea Smith
Karen Thomas
R. Paul Vellom
Charles C. Warfield
Gary Wegenke
Paul Wilson
The Department of Teaching, Learning, and Leadership offers the Master of Arts in Education and Professional Development (with four concentrations), the Master of Arts in Educational Leadership (with five concentrations), and the Specialist in Education in Educational Leadership. The requirements for each of the programs are listed below. The requirements for the Doctor of Philosophy in Educational Leadership (a College of Education-sponsored degree) are described in the College of Education section of this catalog. Descriptions for ED and EDLD courses may be found below, following the program descriptions. Descriptions for EMR courses may be found under the Department of Educational Studies.

Doctor of Philosophy in Educational Leadership
Advisors: Andrea Beach, Walter Burt, Van Cooley, Joe Kretovics, Louann Bierlein Palmer, Sue Poppink, Patricia Reeves, Jianping Shen, Charles Warfield, Gary Wegenke
Room 2217, Sangren Hall

The Ph.D. in Educational Leadership is targeted toward professionals working in the areas of K-12, Higher Education, Career Technical Education, or other environments engaged in education or adult learning. It is a college-wide degree, administered principally by the faculty unit(s) offering the predominance of the core courses in a topical “concentration.” At present, the degree program has four topical concentrations, three principally administered by the Educational Leadership faculty unit in the Department of Teaching, Learning, and Leadership and one administered principally by the Career and Technical Education faculty unit in the Department of Family and Consumer Sciences in collaboration with the Educational Leadership faculty unit. The four concentrations are 1) Higher Education Leadership, 2) K—12 Leadership, 3) Organizational Analysis, and 4) Career and Technical Education. The program requirements specific to each concentration are listed below.

Key program goals include preparing individuals to become transformation leaders, ready to help educational or other institutions to address current challenges, including the need to better educate students who have historically not been well served by traditional learning institutions. In addition, graduates will expand their inquiry and research skills, enabling them to add to the knowledge base concerning education, especially as it relates to the growing challenges facing all educational institutions.

Admission Requirements
Admission to the Doctor of Philosophy in Educational Leadership requires that students meet the Graduate College criteria for admission to a doctoral program, including:
1. Bachelor’s degree from an accredited institution, indicated on an official transcript.
2. For students who have completed at least twenty hours of graduate work, an overall grade point average of at least 3.0 for all graduate work undertaken beyond the bachelor’s degree.
3. Submission of score on the GRE General Test Graduate Application
4. Two official transcripts from each institution attended since high school
5. Autobiographical Statement that shows a clear and complete statement of that person’s professional goals, and how these goals relate to the doctoral program
6. Graduate Reference Forms completed by three different individuals
7. Resume of Leadership Experience form
8. Professional Vitae or Resume
All required forms will be available from the Department of Teaching, Learning, and Leadership’s website http://www.wmich.edu/coe/elrt/edleadership/phd/index.htm.

Each student will be interviewed by a minimum of two members of the faculty, and each application will be reviewed for acceptance by the entire faculty of the Leadership Unit. After admission, a doctoral chair will be appointed from among the faculty advisors, and the student will work with this advisor to assemble an appropriate doctoral advisory committee to guide the student through the program.

The total number accepted in any given year will depend upon the quality of individual applicants, as well as available resources to support the program.

Program Requirements

Higher Education Leadership Concentration
The Higher Education Leadership concentration within the Ph.D. in Educational Leadership is designed to serve higher educational faculty who have not yet obtained a terminal degree, as well as those working in student services or other administrative areas within universities, community colleges, or other institutions focused on adult learning. The overall focus will be on leadership knowledge and development, applicable to both instructional and management aspects of higher education institutions.

Students must complete a minimum of 42 graduate credits at Western Michigan University (30 credit hours of course work plus 12 credit hours of dissertation) once admitted to a doctoral program in Educational Leadership. In total, 90 hours of graduate credit (including credits accepted from a master’s degree program) must be completed as follows.

1. Leadership Core (9 hrs.)
   EDLD 6020 - Educational Leadership Credits: 3 hrs.
   EDLD 6060 - Systems Thinking Credits: 3 hrs.
   EDLD 6090 - Theories of Leadership Credits: 3 hrs.

2. Professional Inquiry, Research, and Dissertation Core (33 hrs.)
   (a) Professional Inquiry
   EDLD 6860 - Doctoral Studies Seminar Credits: 3 hrs.
   EDLD 7120 - Professional Field Experience Credits: 2-12 hr. (Must be taken twice for 6 credit hours total.)
   (b) Research Methods
   EMR 6450 - Elementary Statistics Credits: 3 hrs.
   EMR 6480 - Qualitative Research Methods Credits: 3 hrs.
   EMR 6550 - Research Design Credits: 3 hrs.
   (c) Dissertation
   EDLD 6950 - Dissertation Seminar Credits: 3 hrs.
   EDLD 7300 - Doctoral Dissertation Credits: 1-15 hrs. (12 hours of dissertation credits required.)

3. Higher Education Core (24 hrs.)
   Required Courses
   CECP 6250 - Legal Issues in Higher Education Credits: 3 hrs.
EDLD 6870 - Governance and Financing in Universities and Community Colleges Credits: 3 hrs.
EDLD 6880 - Higher Education and the New Technological Frontier Credits: 3 hrs.
EDLD 6890 - University and Community College Topical Seminar Credits: 1-4 hrs.

4. Elective Courses
Choose 12 hrs. from the following list, or equivalents approved by advisor
CECP 6230 - College Student Development Credits: 3 hrs.
CECP 6240 - College Students and the Educational Environment Credits: 3 hrs.
CECP 6730 - Advanced College Student Development Theory Credits: 3 hrs.
CECP 6860 - Topical Seminars Credits: 1-4 hrs.
ED 5050 - The Adult Learner Credits: 3 hrs.
EDLD 6630 - Personnel Administration Credits: 3 hrs.
EDLD 6730 - Supervision Credits: 3 hrs.
EMR 6420 - Program Evaluation Credits: 3 hrs.
ENGL 6420 - Studies in Drama Credits: 3 hrs.
ES 6330 - Human Nature and Diversity Credits: 3 hrs.
GRAD 7110 - Readings in Doctoral Specialization Credits: 3 hrs.

5. Special Interest Cognate and Electives (24 hrs.)
In conjunction with their advisor, students will identify courses to help strengthen their primary area of interest and/or their research knowledge and tools. Many credits for this component may come from the student’s master’s degree program. Other courses from the master’s degree may, as appropriate, be used to fulfill some required or elective courses for the other components.

K-12 Leadership Concentration
The K-12 Leadership concentration is designed for persons who wish to develop leadership skills and serve as a superintendent or other central office administrator within a school district serving elementary and secondary students.

Students must complete a minimum of 42 graduate credits at Western Michigan University (30 credit hours of course work plus 12 credit hours of dissertation) once admitted to a doctoral program in Educational Leadership. In total, 90 hours of graduate credit (including credits accepted from a master’s degree program) must be completed as follows.

1. Leadership Core (9 hrs.)
EDLD 6020 - Educational Leadership Credits: 3 hrs.
EDLD 6060 - Systems Thinking Credits: 3 hrs.
EDLD 6090 - Theories of Leadership Credits: 3 hrs.

2. Professional Inquiry, Research, and Dissertation Core (33 hrs.)
   (a) Professional Inquiry
   EDLD 6860 - Doctoral Studies Seminar Credits: 3 hrs.
   EDLD 7120 - Professional Field Experience Credits: 2-12 hr. (Must be taken twice for a total of 6 credit hours.)
   (b) Research Methods
   EMR 6450 - Elementary Statistics Credits: 3 hrs.
EMR 6480 - Qualitative Research Methods Credits: 3 hrs.
EMR 6550 - Research Design Credits: 3 hrs.
(c) Dissertation
EDLD 6950 - Dissertation Seminar Credits: 3 hrs.
EDLD 7300 - Doctoral Dissertation Credits: 1-15 hrs. (12 credit hours of dissertation required.)

3. K-12 Education Core (24 hrs.)
EDLD 6610 - School Law Credits: 3 hrs.
EDLD 6620 - School Business Management Credits: 3 hrs.
EDLD 6640 - Curriculum Development Credits: 3 hrs.
EDLD 6670 - The Principalship Credits: 3 hrs.
EDLD 6720 - School Finance Credits: 3 hrs.
EDLD 6730 - Supervision Credits: 3 hrs.
EDLD 6740 - School Community Relations Credits: 3 hrs.
EDLD 6810 - Policy Development Credits: 3 hrs.

4. Special Interest Cognate and Electives (24 hrs.)
Students could fulfill the requirements for this section by taking any combination of the following three approaches depending on their interests and career goals, such as (A) and (C), or (A) and (B), or just (C).
(A) Additional Requirements for Endorsement
   Central Office Administrator
   EDLD 6800 - The Superintendency Credits: 3 hrs.

   Chief School Business Official
   EDLD 6630 - Personnel Administration Credits: 3 hrs.
   EDLD 6820 - Computer Applications in Administration Credits: 3 hrs.
   EDLD 6850 - School Facilities Planning Credits: 3 hrs.

   Superintendency
   EDLD 6630 - Personnel Administration Credits: 3 hrs.
   EDLD 6800 - The Superintendency Credits: 3 hrs.
   EDLD 6820 - Computer Applications in Administration Credits: 3 hrs.
   EDLD 6850 - School Facilities Planning Credits: 3 hrs.

(B) Research Methods
Students could take additional methods courses in qualitative and/or quantitative research, such as the following or other methods courses.
EMR 6410 - Fundamentals of Measurement in the Behavioral Sciences Credits: 3 hrs.
EMR 6420 - Program Evaluation Credits: 3 hrs.
EMR 6500 - Survey Research Credits: 3 hrs.
EMR 6520 - Evaluation Practicum Credits: 3 hrs.
EMR 6580 - Qualitative Research Practicum Credits: 3 hrs.
EMR 6650 - General Linear Models Credits: 3 hrs.
(C) Cognate Outside Leadership Specialization
Students could take courses in an area that has a course prefix other than EDLD.

Organizational Analysis Concentration
The Organizational Analysis concentration is designed to develop and enhance leadership skills for those who find an institutional specialization unnecessary (i.e., not focused on K-12 or higher education institutions), with a special focus on organizational analysis skills.

Students must complete a minimum of 42 graduate credits at Western Michigan University (30 credit hours of course work plus 12 credit hours of dissertation) once admitted to a doctoral program in Educational Leadership. In total, 90 hours of graduate credit (including credits accepted from a master’s degree program) must be completed as follows.

1. Leadership Core (9 hrs.)
   EDLD 6020 - Educational Leadership Credits: 3 hrs.
   EDLD 6060 - Systems Thinking Credits: 3 hrs.
   EDLD 6090 - Theories of Leadership Credits: 3 hrs.

2. Professional Inquiry, Research, and Dissertation Core (33 hrs.)
   (a) Professional Inquiry
      EDLD 6860 - Doctoral Studies Seminar Credits: 3 hrs.
      EDLD 7120 - Professional Field Experience Credits: 2-12 hr. (Must be taken twice for 6 credit hours total.)
   (b) Research Methods
      EMR 6450 - Elementary Statistics Credits: 3 hrs.
      EMR 6480 - Qualitative Research Methods Credits: 3 hrs.
      EMR 6550 - Research Design Credits: 3 hrs.
   (c) Dissertation
      EDLD 6950 - Dissertation Seminar Credits: 3 hrs.
      EDLD 7300 - Doctoral Dissertation Credits: 1-15 hrs. (12 credit hours of dissertation required.)

2. Organizational Analysis Core (24 hrs.)
   (a) Required Courses
      EDLD 6810 - Policy Development Credits: 3 hrs.
      EMR 6420 - Program Evaluation Credits: 3 hrs.
      EMR 6430 - Personnel Evaluation Credits: 3 hrs.
      EMR 6500 - Survey Research Credits: 3 hrs.
   (b) Elective Courses
      Choose 12 hrs. from following list, or equivalents approved by advisor
      CECP 6410 - Fundamentals of Needs Analysis Credits: 3 hrs.
      CECP 6420 - Evaluation of Human Resources Development Transfer and Impact Credits: 3 hrs.
      CECP 6440 - Learning and Organizational Effectiveness Credits: 3 hrs.
      EDLD 6630 - Personnel Administration Credits: 3 hrs.
      EDLD 6730 - Supervision Credits: 3 hrs.
      EDLD 6980 - Readings in Educational Leadership Credits: 1-4 hrs.
      EMR 6410 - Fundamentals of Measurement in the Behavioral Sciences Credits: 3 hrs.
3. Special Interest Cognate and Electives (24 hrs.)
In conjunction with their advisor, students will identify courses to help strengthen their primary area of interest and/or their research knowledge and tools. Many credits for this component may come from the student’s master’s degree program. Other courses from the master’s degree may, as appropriate, be used to fulfill some required or elective courses for the other components.

**Career And Technical Education Concentration**
The Career and Technical Education concentration is designed to enhance the skills in administrative leadership, curriculum, or instruction for individuals involved in career technical education or related areas within adult, secondary, post-secondary, and four-year institutions.

Students must complete a minimum of 42 graduate credits at Western Michigan University (30 credit hours of course work plus 12 credit hours of dissertation) once admitted to a doctoral program in Educational Leadership. In total, 90 hours of graduate credit (including credits accepted from a master’s degree program) must be completed as follows.

1. Leadership Core (9 hrs.)
   - EDLD 6020 - Educational Leadership Credits: 3 hrs.
   - EDLD 6060 - Systems Thinking Credits: 3 hrs.
   - EDLD 6090 - Theories of Leadership Credits: 3 hrs.

2. Professional Inquiry, Research, and Dissertation Core (33 hrs.)
   (a) Professional Inquiry
   - EDLD 6860 - Doctoral Studies Seminar Credits: 3 hrs.
   - EDLD 7120 - Professional Field Experience Credits: 2-12 hr.
   (b) Research Methods
   - EMR 6450 - Elementary Statistics Credits: 3 hrs.
   - EMR 6480 - Qualitative Research Methods Credits: 3 hrs.
   - EMR 6550 - Research Design Credits: 3 hrs.
   (c) Dissertation
   - EDLD 6950 - Dissertation Seminar Credits: 3 hrs.

3. Career and Technical Education Core (24 hrs.)
   - CTE 6140 - Administration and Supervision of Career and Technical Education Credits: 3 hrs.
   - CTE 6160 - Occupational Selection and Training Credits: 3 hrs.
   - CTE 6450 - Organization of Employment and Training Systems Credits: 3 hrs.
   - CTE 6460 - Leadership Development in Career and Technical Education Credits: 3-6 hrs.
   - CTE 6480 - Adult Education in Career and Technical Education Credits: 2-3 hrs.
   - CTE 6500 - Business/Industry/Education Work-based Learning Credits: 3 hrs.
4. Specialty Cognates (minimum of 12 hrs.)
Students may choose one of the following four cognate areas based upon career goals in CTE.

(A) Curriculum
ED 6020 - School Curriculum Credits: 3 hrs.
ED 6280 - Curriculum Theory Credits: 3 hrs.
EDLD 6640 - Curriculum Development Credits: 3 hrs.
EMR 6420 - Program Evaluation Credits: 3 hrs.

(B) Educational Leadership
EDLD 6630 - Personnel Administration Credits: 3 hrs.
EDLD 6670 - The Principalship Credits: 3 hrs.
EDLD 6720 - School Finance Credits: 3 hrs.
EMR 6420 - Program Evaluation Credits: 3 hrs.

(C) Instruction
Focused on further technical knowledge in a particular CTE discipline, (e.g., Business or Marketing Education, Family and Consumer Sciences, Industrial Technology, Information Technology). May include graduate courses within or outside College of Education intended to enhance technical content needed as a CTE instructor, in an adult, secondary, or post-secondary institution.

(D) Total Quality Management in Education
This cognate is offered by Ferris State University (FSU) and leads to a certificate in TQM awarded by FSU.
ECTE 6500 Implementing TQM in Education Credits: 3 hrs.
ECTE 6550 Quality Improvement Practices Credits: 3 hrs.
ECTE 6600 Quality Management in Education Credits: 3 hrs.
ECTE 6650 Quality Metrics and Data Management Credits: 3 hrs.

5. Elective Courses (minimum of 12 hrs.)
Other elective courses can be substituted with advisor approval addressing educational leadership, evaluation, measurement, or research design.
CTE 5100 - Special Populations in Career and Technical Education Credits: 3 hrs.
CTE 5120 - Principles of Career and Technical Education Credits: 3 hrs.
CTE 5130 - Teaching Methods in Career and Technical Education Credits: 3 hrs.
CTE 5140 - Workshop in Career and Technical Education Credits: 1-3 hrs.
CTE 5150 - Grant Writing for Career and Technical Educators Credits: 3 hrs.
CTE 5420 - Curriculum Development in CTE Credits: 3 hrs.
CTE 5430 - Work-site Based Education Programs Credits: 3 hrs.
CTE 6120 - Studies in Technology Credits: 1-4 hrs.
CTE 6150 - Trends and Developments in Career and Technical Education Credits: 2 hrs.
CTE 6170 - Seminar in Career and Technical Education Credits: 2-6 hrs.
Master of Arts in Education and Professional Development

The Master of Arts in Education and Professional Development provides a comprehensive professional development program with four distinct areas of concentration:
1. Early Childhood Education
2. Elementary School Teaching and Learning
3. Reading
4. Teaching at the Middle Level

The Master of Arts in Education and Professional Development is designed to enhance the knowledge and skill of reflective practitioners for a variety of educational settings. It is our belief that teachers ought to be developed as leaders, change agents, intellectuals, researchers, and learners. They should be passionate learners who embrace diversity, actively inquire and reflect upon their own practice, nurture the development of new knowledge and skills, and weave the complexities of modern society into the learning process. This is accomplished through a process of continuous professional, intellectual, and social growth within an interrelated spiral of academic content preparation, professional knowledge, pedagogical skill, and guided practice. The Master of Arts in Education and Professional Development is predicated on the assumption that theory, research, policy, and practice must be integrated on an equal plane to provide innovative models that lead to the improvement of teaching, learning, and reflective practice.

Reflective practice suggests that teachers should be able to demonstrate professional expertise appropriate for their level of experience. They need to have the ability to analyze their own teaching, inquire into how teaching can be improved, and develop strategies to improve teaching that build on individual strengths. Reflective practitioners must also be able to situate their practice within the social, cultural, and economic dimensions of relationships among schooling, society, and the natural environment. It requires teachers to examine, interpret, and evaluate the teaching-learning process using the best practices described by research and experience as the referent for reflection.

Admission Requirements
1. Undergraduate grade point average of 3.0 (4.0 = A); graduate grade point average may be accepted upon review of recent and relevant course work completed at an accredited institution.
2. A written statement of purpose (1,000 to 1,500 words) outlining the applicant's philosophy of teaching and professional goals. The statement of purpose should indicate the candidate's career expectations and reasons for seeking admission to the program.
3. Congruence of applicant's goals and requested program concentration.
4. Two letters of recommendation from persons able to judge the applicant's potential to succeed in a graduate program.
5. Experience working in a professionally related setting.

Additional requirements, such as possession of a valid Michigan Teaching Certificate or equivalent at the appropriate level, may be required for some areas of concentration.

Candidates who meet all admissions criteria will be considered for admission to the program by the appropriate departmental unit. Because admission to some areas of concentration is governed by the number of available openings, the admission criteria listed above should be considered as minimum standards.
Upon admission, each student will be assigned an advisor who will assist in the preparation of a program of study. The program of study should be completed during the first semester of enrollment.

A maximum of nine appropriate Western Michigan University graduate credits taken before admission may be applied to the Master of Arts in Education and Professional Development with advisor approval.

**Early Childhood Education, 36-39 hrs.**
Advisors: Ariel Anderson, Josephine B. Davis, Barbara Harris, Regena Fails Nelson, Andrea Smith
Room 2112, Sangren Hall

**Program Requirements**
1. Education and Professional Development Core (9 hrs.)
   - ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs.
   - ES 6330 - Human Nature and Diversity Credits: 3 hrs.
   - ES 6340 - Culture and Politics of Educational Institutions Credits: 3 hrs.

2. Program Concentration (21 hrs.)
   - ED 6060 - Early Childhood Workshop: Learning and Curriculum Credits: 6 hrs.
   - ED 6080 - Seminar in Early Childhood Development Credits: 3 hrs.
   - ED 6110 - Informal Approaches to Studying Young Children's Development Credits: 3 hrs.
   - ED 6140 - Parent Education for Teachers of Young Children Credits: 3 hrs.
   - ED 6150 - Play and Young Children's Learning Credits: 3 hrs.

Select Either:
   - ED 5750 - Administration of Child Development Centers Credits: 3 hrs.
   - FCS 5750 - Administration of Child Development Centers Credits: 3 hrs.

3. Elective (3 hrs.):
   Each student, with advisor approval, will choose a course from an extensive list of options including, but not limited to, the following:
   - ED 6100 - Montessori Education Credits: 3 hrs.
   - ED 6160 - Piaget and Young Children Credits: 3 hrs.
   - ED 6520 - Oracy and Literacy Credits: 3 hrs.
   - ED 6700 - School Climate and Discipline Credits: 3 hrs.
   - ED 6970 - Special Topics in Reading Credits: 1-3 hrs.
   - ES 6750 - Multicultural Education Credits: 3 hrs.
   - SPED 5300 - Introduction to Special Education Credits: 3 hrs.

4. Capstone Research Project or Master's Thesis (3-6 hrs.)
   - ED 6790 - Capstone Research Project Credits: 3 hrs. OR
   - ED 7000 - Master's Thesis Credits: 6 hrs.

**Additional Requirements**
Should additional experience in working with young children be necessary (as determined by the work history statement on the program application form), the student will complete an internship under ED 7120 Professional Field Experience (3 hrs.).
**Elementary School Teaching and Learning, 36-39 hrs.**
Advisors: Lynn Brice, M. Arthur Garmon, Paul Vellom, Allison Young
Room 2112, Sangren Hall

**Program Requirements**
1. Education and Professional Development Core (9 hrs.)
   ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs.
   ES 6330 - Human Nature and Diversity Credits: 3 hrs.
   ES 6340 - Culture and Politics of Educational Institutions Credits: 3 hrs.

2. Program Concentration (18 hrs.)
   **Required, 9 hrs.**
   ED 6000 - Fundamentals of Measurement and Evaluation in Education Credits: 3 hrs.
   ED 6020 - School Curriculum Credits: 3 hrs.
   ED 6360 - Advanced Instructional Strategies for Elementary Teachers Credits: 3 hrs.
   **Electives, 9 hrs.**
   Advisor approved courses to be selected from three of the following five areas:
   Area 1. Reading Strategies
   Area 2. Science Methods
   Area 3. Mathematics Methods
   Area 4. Social Studies Methods
   Area 5. Socio-Cultural Studies

3. Electives (6 hrs.):
   In consultation with a faculty advisor, the student will select 6 additional credit from the elective option areas or a course from a content area.

4. Capstone Research Project or Master's Thesis (3-6 hrs.)
   ED 6790 - Capstone Research Project Credits: 3 hrs. OR
   ED 7000 - Master's Thesis Credits: 6 hrs.

**Reading, 39-42 hrs.**
Advisors: Paul Wilson, Karen Thomas, Lauren Freedman, James Muchmore, Becky Kirschner, Esther Gray, Phyllis Belt-Beyan, Allison Baer, Jill Hermann-Wilmarth, Susan Piazza
Room 2112, Sangren Hall

**Program Requirements**
1. Education and Professional Development Core (9 hrs.)
   ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs.
   ES 6330 - Human Nature and Diversity Credits: 3 hrs.
   ES 6340 - Culture and Politics of Educational Institutions Credits: 3 hrs.

2. Program Concentration (21 hrs.)
   **Required, 15 hrs.**
   ED 5160 - Professional Symposium in Reading Credits: 3 hrs.
   ED 6190 - Clinical Studies in Reading Credits: 3 hrs.
ED 6200 - Educational Therapy in Reading Credits: 3 hrs.
ED 6520 - Oracy and Literacy Credits: 3 hrs.
ED 6560 - Creating and Administering a Balanced Literacy Program Credits: 3 hrs.

Electives, 6 hrs.
Select one of the following focus areas:
(a) Early Literacy
ED 6800 - Early Literacy Learning Credits: 3 hrs.
ED 6810 - Reading and Writing with Young Children Credits: 3 hrs.
(b) Elementary
ED 5970 - Reading and Related Language Experiences Credits: 3 hrs.
ED 6120 - Strategic Learning Through Texts for Elementary Teachers Credits: 3 hrs.
(c) Middle/High School
ED 6170 - Reading in the Content Areas Credits: 3 hrs. and either
ED 6250 - Strategic Learning Through Texts for Middle School Teachers Credits: 3 hrs. OR
ED 6870 - Strategic Learning through Texts for High School Teachers Credits: 3 hrs.
(d) Clinical/Special Services
ED 6430 - Practicum in Clinical Studies in Reading Credits: 3 hrs.
ED 6530 - Practicum in Reading Therapy Credits: 3 hrs.

3. Electives (6 hrs.):
Six hours of elective course work from outside the concentration area in consultation with advisor.

4. Capstone Research Project or Master's Thesis (3-6 hrs.)
ED 6790 - Capstone Research Project Credits: 3 hrs. OR
ED 7000 - Master's Thesis Credits: 6 hrs.

Teaching at the Middle Level, 36-39 hrs.
Advisors: Lynn Nations Johnson, Lauren Freedman, G. Thomas Ray, Lynn Brice, Nancy Mansberger
Room 2112, Sangren Hall

Program Requirements
1. Education and Professional Development Core (9 hrs.)
ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs.
ES 6330 - Human Nature and Diversity Credits: 3 hrs.
ES 6340 - Culture and Politics of Educational Institutions Credits: 3 hrs.

2. Program Concentration (21 hrs.)
Select six hours from one or two subject matter areas that correspond with the student's professional
content area assignment and/or professional development interests.
ED 6210 - The Early Adolescent Learner Credits: 3 hrs.
ED 6220 - Middle Level School Curriculum Credits: 3 hrs.
ED 6240 - Middle Level School Methods and Materials Credits: 3 hrs.
ED 6250 - Strategic Learning Through Texts for Middle School Teachers Credits: 3 hrs.

3. Electives (3 hrs.)
Select one course from the following:
ED 6040 - Psychological Foundations of Education Credits: 3 hrs.
ED 6700 - School Climate and Discipline Credits: 3 hrs.
ED 6710 - Structuring Classroom Dialogue Credits: 3 hrs.
ED 6760 - Teaching Thinking in the School Credits: 3 hrs.
EMR 6770 - Ethnography of Schooling Credits: 3 hrs.
ES 6030 - Social and Philosophical Foundations Credits: 3 hrs.
ES 6310 - Comparative Education Credits: 3 hrs.
ES 6730 - Class, Ethnicity, and Gender in Education Credits: 3 hrs.
ES 6750 - Multicultural Education Credits: 3 hrs.

4. Capstone Research Project or Master's Thesis (3-6 hrs.)
ED 6790 - Capstone Research Project Credits: 3 hrs. OR
ED 7000 - Master's Thesis Credits: 6 hrs.

Master of Arts in Educational Leadership
Room 2110, Sangren Hall.

The Department of Teaching, Learning, and Leadership offers a Master of Arts in Educational Leadership with concentrations in five areas: 1) K-12 School Principal Leadership; 2) K-12 Central Office Administration Leadership; 3) K-12 School Business Official Leadership; 4) K-12 Curriculum and Instruction Leadership; and 5) Organizational Analysis Leadership.

The master’s program prepares leaders for a variety of roles in private and public settings. Each concentration includes a leadership core, a specialty core, and a capstone experience. A Performance-Driven Leadership model is used within this program that emphasizes the transfer of theory into practice. Students actively engage in a number of activities while exploring effective leadership constructs.

Persons who wish to apply to the Educational Leadership master's program must apply directly to the Office of Admissions. Applicants who seek information prior to admission are urged to contact the Department of Teaching, Learning, and Leadership office. Satisfactory completion of courses prior to admission to a Department program does not guarantee admission.

K-12 School Principal Leadership, 33 hrs.
This concentration is designed to prepare students for a leadership role as a building principal. Students who complete this concentration are eligible to receive a “K-12 Principalship endorsement.

1. Leadership Core
The three required courses in the “leadership core” include:
EDLD 6020 - Educational Leadership Credits: 3 hrs.
EDLD 6060 - Systems Thinking Credits: 3 hrs.
And Either:
ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs. or
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.

2. Specialty Core
Courses required within the “specialty core” include:
three credit hours of electives that meet student needs and leadership goals
EDLD 6610 - School Law Credits: 3 hrs.
EDLD 6620 - School Business Management Credits: 3 hrs.
EDLD 6640 - Curriculum Development Credits: 3 hrs.
EDLD 6670 - The Principalship Credits: 3 hrs.
EDLD 6730 - Supervision Credits: 3 hrs.
EDLD 6740 - School Community Relations Credits: 3 hrs.
EDLD 6790 - Capstone Experience Credits: 1-3 hrs.

K-12 Central Office Administration Leadership, 36 hrs.
This concentration is designed to prepare students for a leadership role in central office administration. Students who complete this concentration are eligible to receive a “K-12 Central Office Administration Leadership” endorsement from the university

1. Leadership Core
The three required courses in the “leadership core” include:
EDLD 6020 - Educational Leadership Credits: 3 hrs.
EDLD 6060 - Systems Thinking Credits: 3 hrs.
And Either:
ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs. or
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.

2. Specialty Core
Courses required in the “specialty core” are:
EDLD 6610 - School Law Credits: 3 hrs.
EDLD 6620 - School Business Management Credits: 3 hrs.
EDLD 6640 - Curriculum Development Credits: 3 hrs.
EDLD 6670 - The Principalship Credits: 3 hrs.
EDLD 6720 - School Finance Credits: 3 hrs.
EDLD 6730 - Supervision Credits: 3 hrs.
EDLD 6740 - School Community Relations Credits: 3 hrs.
EDLD 6790 - Capstone Experience Credits: 1-3 hrs.
EDLD 6800 - The Superintendency Credits: 3 hrs.

K-12 Chief School Business Official Leadership, 36 hrs.
This concentration is designed to prepare students for a leadership role as a chief school business official.
1. Leadership Core
The three required courses in the “leadership core” include:
EDLD 6020 - Educational Leadership Credits: 3 hrs.
EDLD 6060 - Systems Thinking Credits: 3 hrs.
And Either:
ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs. or
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.

2. Specialty Core
Courses required in the “specialty core” are:
EDLD 6610 - School Law Credits: 3 hrs.
EDLD 6620 - School Business Management Credits: 3 hrs.
EDLD 6630 - Personnel Administration Credits: 3 hrs.
EDLD 6640 - Curriculum Development Credits: 3 hrs.
EDLD 6670 - The Principalship Credits: 3 hrs.
EDLD 6720 - School Finance Credits: 3 hrs.
EDLD 6730 - Supervision Credits: 3 hrs.
EDLD 6740 - School Community Relations Credits: 3 hrs.
EDLD 6790 - Capstone Experience Credits: 1-3 hrs.

K-12 Curriculum and Instruction Leadership, 33 hrs.
This concentration is designed to prepare students for a leadership role in curriculum and instruction. Often this includes teachers who do not wish to become administrators, but desire to take on curriculum and instructional leadership activities.

Students who complete this concentration are eligible to receive a “K-12 Curriculum and Instruction Leadership” endorsement from the university.

1. Leadership Core
The three required courses in the “leadership core” include:
EDLD 6020 - Educational Leadership Credits: 3 hrs.
EDLD 6060 - Systems Thinking Credits: 3 hrs.
And Either:
ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs. or
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.

2. Specialty Core
Courses required in the “specialty core” are:
EDLD 6020 - Educational Leadership Credits: 3 hrs.
EDLD 6640 - Curriculum Development Credits: 3 hrs.
EDLD 6730 - Supervision Credits: 3 hrs.
EDLD 6740 - School Community Relations Credits: 3 hrs.
EDLD 6790 - Capstone Experience Credits: 1-3 hrs.
EMR 6420 - Program Evaluation Credits: 3 hrs.
ES 6750 - Multicultural Education Credits: 3 hrs.
Organizational Analysis Leadership, 33 hrs.
This concentration is designed for graduate students who desire to develop and enhance their leadership skill in areas outside of K-12 education. It is designed for students who work in nonprofit organizations, government agencies, universities, and other organizations in which “educational” activities occur.

1. Leadership Core
The three required courses in the “leadership core” include
EDLD 6020 - Educational Leadership Credits: 3 hrs.
EDLD 6060 - Systems Thinking Credits: 3 hrs.
And Either:
ED 6010 - Introduction to Research in Educational Settings Credits: 3 hrs. or
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.

2. Specialty Core
Courses within the “specialty core” are:
nine credit hours of electives that meet student needs and leadership goals
ED 5050 - The Adult Learner Credits: 3 hrs.
EDLD 6630 - Personnel Administration Credits: 3 hrs.
EDLD 6790 - Capstone Experience Credits: 1-3 hrs.
EMR 6420 - Program Evaluation Credits: 3 hrs.
EMR 6430 - Personnel Evaluation Credits: 3 hrs.

Specialist in Education in Educational Leadership
Advisors: Anrea Beach, Louann Bierlein Palmer, Walter Burt, Van Cooley, Joseph Kretovics, Jianping Shen, Charles Warfield, Gary Wegenke, Sue Poppink, Patricia Reeves
Room 3312, Sangren Hall.

The Specialist in Education (Ed.S.) prepares persons for leadership roles in educational administration positions. The Ed.S. is a terminal degree appropriate for students wishing to earn a post-master's, but not doctoral, degree. Persons seeking admission to the Ed.S. program should be definite about academic and professional goals and aspirations. Students are cautioned that satisfactory completion of courses prior to admission to the Department program does not guarantee admission to the program.

Admission Requirements
Applicants to the Ed.S. program should submit application materials to the Office of Admissions and Orientation, Graduate Admissions, and designate Educational Leadership. In addition to The Graduate College requirements, the Department requires the submission of an autobiography, 3 graduate reference forms, completion of a Resume of Leadership Experience form (available from the Educational Leadership office), an interview with at least two members of the Educational Leadership faculty, and review and acceptance by the faculty as a whole at a meeting scheduled for student admission. The admission meetings are held in November and March.
Program Requirements
A program of study consists of a minimum of 66 credit hours beyond the baccalaureate degree and leads to an Ed.S. degree and endorsement as a central office administrator or superintendent, if the appropriate electives are completed, and includes the following courses:
EDLD 6020 - Educational Leadership Credits: 3 hrs.
EDLD 6610 - School Law Credits: 3 hrs.
EDLD 6620 - School Business Management Credits: 3 hrs.
EDLD 6730 - Supervision Credits: 3 hrs.
EDLD 6740 - School Community Relations Credits: 3 hrs.
EDLD 6800 - The Superintendency Credits: 3 hrs.
EDLD 7120 - Professional Field Experience Credits: 2-12 hr.
EDLD 7200 - Specialist Project Credits: 6 hrs.
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.

Additional Requirements
In addition, 24 semester credit hours of elective courses will be selected, with advisor approval, which will complement and broaden strengths and skills already acquired. Contact the Teacher Certification Officer at Western Michigan University to be sure you meet the State of Michigan requirements for Certification beyond satisfactory completion of the course work required. Persons wishing additional information are urged to speak with an advisor or with the Educational Leadership Department office.
College of Engineering and Applied Sciences

Timothy Greene,  
Dean

Osama Abudayyeh,  
Associate Dean

Edmund Tsang,  
Associate Dean

The College of Engineering and Applied Sciences is dedicated to excellence in education and research. Academic programs educate students for life-long learning and responsible professional leadership in the global community. Research addresses both knowledge generation and application to real-world challenges. Our faculty, staff, and students serve as a resource to our constituents, including business and industry. Graduates of our programs are well prepared for professional careers in basic or applied research and in application of engineering principles to the marketplace.

The College of Engineering and Applied Sciences offers the Master of Science in Engineering in Computer Engineering, Electrical Engineering, Industrial Engineering, and Mechanical Engineering. It offers the Master of Science in Computer Science through the Department of Computer Science; the Master of Science in Engineering Management, in Manufacturing Engineering, and in Operations Research through the Department of Industrial and Manufacturing Engineering; Master of Science in Civil Engineering through the Department of Civil and Construction Engineering; and the Master of Science in Paper and Imaging Science and Engineering through the Department of Paper and Printing Science and Engineering. It offers the Doctor of Philosophy in Computer Science, in Electrical and Computer Engineering, in Evaluation, in Industrial Engineering, in Mechanical Engineering, and in Paper and Imaging Science and Engineering.

Course descriptions: Numbers following the course title indicate hours of lecture and laboratory per week during a semester (lecture hours-laboratory hours).

Academic Units:
Computer Science
Civil and Construction Engineering
Electrical and Computer Engineering
Industrial and Manufacturing Engineering
Manufacturing Engineering
Materials Science and Engineering
Mechanical and Aeronautical Engineering
Paper Engineering, Chemical Engineering, and Imaging
Computer Science

Dr. Donald Nelson, Chair
Main Office: B-237 Parkview Campus
Telephone: 276-3103
FAX: 276-3122

Ala Al-Fuqaha
Elise de Doncker
Mohsen Guizani
Ajay Gupta
Donna Kaminski
John Kapenga
Karlis Kaugars
Mark Kerstetter, Undergraduate Program Director
Dionysios Kountanis
Leszek Lilien
Thomas F. Piatkowski, Graduate Program Director
Wuwei Shen
Robert Trenary
Li Yang
Zijiang Yang

Master of Science in Computer Science

Advising:
B-237 Parkview Campus

The master’s program in computer science emphasizes both computer software development and the theoretical foundations of computer science. It is designed to prepare students for professional positions in business, industry, and government and to provide preparation for graduate work at the doctoral level.

Areas of faculty specialization include algorithmic complexity theory, artificial intelligence, computational geometry, computer architecture, computer graphics, computer networking, data warehousing and mining, distributed and mobile data bases, expert systems, formal specifications, human-computer interaction and visualization, knowledge-based systems, language and automata theory, mathematical and computer modeling, multimedia databases and systems, neural networks, parallel and sequential algorithms, pattern recognition and image processing, scientific computing and numerical analysis, simulation, and software engineering. The program also permits student to acquire expertise in closely related fields such as computer engineering and mathematics.
The master’s program is designed to allow a full-time student entering with a strong undergraduate background in computer science to complete all degree requirements within sixteen months. However, it is not uncommon for a student to take somewhat longer.

Admission Requirements
A successful applicant to the master’s program in computer science must satisfy:
1. All of the general admission criteria identified in the Graduate Catalog.
2. Submission of transcripts of prior education. Applicant should have earned or expect to earn an undergraduate degree in a program with significant computer science and mathematics content: a. In computer science: Computer assembly language, computer organization, data structures, object-oriented and structured programming, file structures, and logic design; b. In mathematics: Calculus (2 semesters), linear algebra, and discrete structures.

The department welcomes applications to the master’s program from strong students who do not have a computer science undergraduate degree but have completed at least two calculus courses and two programming courses at the university level prior to applying.

A student applying without a computer science undergraduate degree may be given conditional admission and asked to complete with a grade of “B” or better designated undergraduate courses from the following list:
CS 1110 Computer Science I
CS 1120 Computer Science II
CS 2230 Computer Organization and Assembly Language
CS 2240 Systems Programming Concepts
CS 3310 Data and File Structures
ECE 2500 Digital Logic I
MATH 1220 Calculus I
MATH 1230 Calculus II
MATH 1450 Discrete Mathematical Structures
MATH 2300 Elementary Linear Algebra

Due to the sequential order in which some of the prerequisite courses must be taken, students admitted on a conditional basis may not initially be able to take a full-time course load in only computer science courses.
3. While Graduate Record Examination scores are not required for admission to the master’s program, applicants are encouraged to submit them.
4. The TOEFL examination result is required for international students.

Financial Assistance
Students accepted into the master’s program may apply for one of the department’s graduate teaching and research assistantships. Graduate internship opportunities with local industries are also available. Applications for teaching and research assistantships should be sent directly to the Department of Computer Science. The forms and instructions for applying for financial assistance can be obtained from the department. Information about non-departmental assistantships and fellowships, tuition remission, special assistance for minority graduate students, general research funds, and tuition grants is available from The Graduate College. Information about student loans and other federal, state, and University
need-based financial aid programs is available from the Office of Student Financial Aid and Scholarships.

**Program Requirements**
Each student must complete an approved program consisting of at least 33 hours of graduate work including the following:

1. Computer Science Course (3 hours)
   CS 5800 - Theory of Computation II: Formal Languages Credits: 3 hrs.

2. Computer Science Course (1-3 hours)
   CS 6910 - Seminar in Computer Science Credits: 1-3 hrs.

3. Additional approved electives chosen from the following for a program total of 33 hours.
   CS 5180 - Introduction to Computer Modeling and Simulation Credits: 3 hrs.
   CS 5250 - Computer Architecture Credits: 3 hrs.
   CS 5260 - Parallel Computations I Credits: 3 hrs.
   CS 5270 - Theory of Computer Graphics Credits: 3 hrs.
   CS 5300 - Artificial Neural Systems Credits: 3 hrs.
   CS 5400 - Designing of User Interfaces Credits: 3 hrs.
   CS 5430 - Principles of Database Management Systems Credits: 3 hrs.
   CS 5550 - Computer Networks and Distributed Systems Credits: 3 hrs.
   CS 5600 - Software Requirements Analysis and Design Credits: 3 hrs.
   CS 5810 - Compiler Design and Implementation Credits: 3 hrs.
   CS 5820 - Artificial Intelligence Credits: 3 hrs.
   CS 5950 - Advanced Topics in Computer and Information Science Credits: 1-3 hrs.
   CS 5990 - Independent Study in Computer Science Credits: 1-3 hrs.
   CS 6030 - Studies in Computer Science Credits: 3 hrs.
   CS 6250 - Advanced Computer Architecture Credits: 3 hrs.
   CS 6260 - Parallel Computations II Credits: 3 hrs.
   CS 6270 - Computer Graphics II Credits: 3 hrs.
   CS 6280 - Parallel Scientific Computations Credits: 3 hrs.
   CS 6310 - Advanced Data Structures Credits: 3 hrs.
   CS 6320 - Analysis of Computer Algorithms Credits: 3 hrs.
   CS 6330 - Computational Geometry Credits: 3 hrs.
   CS 6340 - Combinatorial Optimization Credits: 3 hrs.
   CS 6400 - Advanced Design of User Interfaces Credits: 3 hrs.
   CS 6430 - Advanced Data Base Management Systems Credits: 3 hrs.
   CS 6550 - Advanced Operating Systems Credits: 3 hrs.
   CS 6610 - Software Engineering II: Verification and Validation of Software Systems Credits: 3 hrs.
   CS 6720 - Pattern Recognition Credits: 3 hrs.
   CS 6800 - Theory of Formal Computation III: Computability and Complexity Credits: 3 hrs.
   CS 6810 - Compiling Theory and Practice Credits: 3 hrs.
   CS 6820 - Advanced Artificial Intelligence Credits: 3 hrs.
   CS 6850 - Foundations of System Specification Credits: 3 hrs.
   CS 6970 - Master's Project Credits: 2-6 hrs.
4. At least fifteen of the program hours must be at the 6000-level or higher.

5. No more than 3 credit hours combined of independent research or independent study courses (such as CS 5990 or CS 7100) may be counted toward the degree, and then only with approval of the student’s advisor.

6. With approval, a student may elect to write a master's thesis in which case the student will register for 6 credits of work in:
   CS 7000 - Master's Thesis Credits: 6 hrs.

Doctor of Philosophy in Computer Science

The doctoral program is designed to develop computer scientists with research expertise in computer science. Specific areas of emphasis include algorithmic complexity theory, artificial intelligence, computational geometry, computer architecture, computer graphics, computer networking, data warehousing and mining, distributed and mobile data bases, expert systems, formal specifications, human-computer interaction and visualization, knowledge-based systems, language and automata theory, mathematical and computer modeling, multimedia databases and systems, neural networks, parallel and sequential algorithms, pattern recognition and image processing, scientific computing and numerical analysis, simulation, and software engineering. The program also permits student to acquire expertise in closely related fields such as computer engineering and mathematics.

Students completing the program are typically well qualified for teaching and research positions with colleges and universities as well as with national and international industries and laboratories.

The doctoral program is designed to allow a full-time student entering with a Master of Science in Computer Science to complete all degree requirements within three years. However, it is not uncommon for doctoral programs to take somewhat longer.

Admission Requirements
A successful applicant to the doctoral program in computer science must satisfy:
1. All of the general admission criteria identified in the Graduate Catalog.
2. Submission of transcripts of prior education.
   (a) Applicant should have earned or expect to earn a master’s degree in computer science. An applicant with a master’s degree in electrical or computer engineering, mathematics or a related field will also be considered.
   (b) An outstanding student who has not completed a master’s degree but who has met all other entrance requirements may be considered for admission to the Ph.D. program.
3. Submission of the results of the verbal, analytical, and quantitative portions of the Graduate Record Examination (GRE).
4. Submission of three letters of reference from persons able to assess the student’s qualifications for doctoral-level study and likelihood of success; the student and referees would use the forms and procedures available from the department.
5. Submission of a resume that includes a description of academic background and professional experience.
6. Submission of an essay describing the applicant’s academic and professional objectives.
7. For international students, the submission of the TOEFL examination result.

Financial Assistance
Students accepted into the doctoral program may apply for one of the department’s graduate teaching and research assistantships. In addition, advanced Ph.D. students may apply for one of a limited number of doctoral associateships. Graduate internship opportunities with local industries are also available. Applications for teaching and research assistantships should be sent directly to the Department of Computer Science. The forms and instructions for applying for financial assistance can be obtained from the department. Information about non-departmental assistantships and fellowships, tuition remission, special assistance for minority graduate students, general research funds, and tuition grants is available from The Graduate College. Information about student loans and other federal, state, and University need-based financial aid programs is available from the Office of Student Financial Aid and Scholarships.

Program Requirements
The plan of study allows for considerable variety of emphasis; student can take advantage of the strengths of the department in matching their interest in professional development.

A successful candidate for the Ph.D. in Computer Science is responsible for all the general requirements for a doctoral degree as stated in the Graduate Catalog. The remainder of this section restates some of the general requirements and includes additional requirements specific to the doctoral program in computer science

1. Pre-requisites
A student having prerequisite requirements as a condition of admission must complete all prerequisites before being considered to have entered the doctoral program.

2. Take at least 30 hours beyond the master's degree
   CS 5250 - Computer Architecture Credits: 3 hrs.
   CS 5260 - Parallel Computations I Credits: 3 hrs.
   CS 5810 - Compiler Design and Implementation Credits: 3 hrs.
   CS 6250 - Advanced Computer Architecture Credits: 3 hrs.
   CS 6260 - Parallel Computations II Credits: 3 hrs.
   CS 6310 - Advanced Data Structures Credits: 3 hrs.
   CS 6320 - Analysis of Computer Algorithms Credits: 3 hrs.
   CS 6550 - Advanced Operating Systems Credits: 3 hrs.
   CS 6800 - Theory of Formal Computation III: Computability and Complexity Credits: 3 hrs.
   CS 6810 - Compiling Theory and Practice Credits: 3 hrs.
CS 7350 - Graduate Research Credits: 2-10 hrs. During the student's first year in the program, they will be required to complete two to three credit hours on this course accompanied by the production of a technical report.

3. Computer Seminar Courses
Each doctoral student will be required to complete two computer science seminar courses for one to three credit hours each, with at least one during the first year in the program.

4. Demonstrate competency in two research skills.
Each Ph.D. candidate must obtain departmental approval and demonstrate mastery of two of the following three research skills:
- A foreign language other than English, with competency equivalent to a 4000-level course at WMU;
- Statistics or probability at the level of MATH 3620 or MATH 3640.
- Computer document preparation and library tools.

5. General Qualifying Examination
Before admission to candidacy for the doctoral degree, the student must pass a general qualifying examination in computer science. Students admitted with a master’s degree must take one qualifying examination no later than the first time offered after completion of 15 credit hours and must take a second examination no later than the first time offered after completion of 30 credit hours. All students must take all their qualifying examinations no later than the first time offered after completion of 45 credit hours. A student has one opportunity to repeat the qualifying examination. There are five examination topic areas in two categories as follows:
- Systems: Computer architecture (CS 5250, CS 6250); Compiler design (CS 5810, CS 6810); Operating systems (CS 6550).
- Theory: Design and analysis of algorithms (CS 6310); Theory of computation (CS 5800, CS 6800)

The student must select three of the five areas for his or her qualifying examination, with at least one exam from each category. The student will have the opportunity to repeat a portion of the qualifying examination once, but may not change the selected areas. The department will determine what area(s) of the examination, if any, the student must repeat.

The qualifying examination may be satisfied by taking the 6000-level courses of the three selected areas (i.e., three of CS 6250, 6310 and/or 6320, 6550 6800 6810). To satisfy the qualifying examination requirements, three of these courses must be passed with at least a “B” grade.

6. Preliminary Examination
Each doctoral candidate must obtain approval from his or her dissertation committee for a dissertation topic and research plan. This approval process is called the preliminary examination and is structured by each dissertation committee to fit each candidate’s program. The preliminary examination must be completed within one year after passing the qualifying examination and at least one year in advance of the dissertation defense. A candidate has one opportunity to repeat the preliminary examination.

7. Complete and successfully defend a dissertation (12-24 hrs)
A doctoral dissertation, which is the culmination of an original and substantive research effort by the candidate, must be completed and publicly defended. This study is done under the supervision of a
dissertation director and dissertation committee. A dissertation director is appointed by the department, typically within the candidate’s first two years in the doctoral program and based on the candidate’s interests.

The doctoral dissertation committee is appointed by The Graduate College based on the petition of the candidate and the approval and recommendation of the department chair. The doctoral dissertation committee is comprised of the dissertation director and at least two other members of the graduate faculty, at least one of whom shall be from outside the department.

Committee members facilitate and guide the candidate’s academic and research development.

Before a candidate is awarded the Ph.D. degree, each member of the doctoral dissertation committee must approve the dissertation. The completed dissertation is presented by the candidate at a public seminar and oral defense.

CS 7300 - Doctoral Dissertation Credits: 15 hrs.
Electrical and Computer Engineering

Dr. John Gesink, Chair
Main Office: B-236 Parkview Campus
Telephone: 276-3150
FAX: 276-3151

Ikhlas Abdel-Qader
Johnson Asumadu
Massood Atashbar
Bradley Bazuin
Liang Dong
Raghvendra Gejji
John Gesink
Janos Grantner
Dean Johnson
Joseph Kelemen
Daniel Litynski
Damon Miller
Hossein Mousavinezhad
Norali Pernalete
Frank Severance
Ralph Tanner

Master's Programs:
The Department of Electrical and Computer Engineering offers graduate programs leading to a Master of Science in Engineering (Computer) and to a Master of Science in Engineering (Electrical).

These programs are designed to prepare students for advanced-level graduate study in electrical and computer engineering or professional practice. They provide opportunities for engineering graduates to enhance their background in engineering science analysis and design. Courses are offered in the areas of computer engineering, control systems and signal processing, real-time embedded systems, instrumentation, communications, computer architecture, electromagnetics, and power electronics.

Admission Requirements
Applicants must:
1. Satisfy the general admission requirements of The Graduate College.
2. Possess a Bachelor of Science in Electrical Engineering or Computer Engineering from an ABET accredited program in the U.S. or a reputable overseas school as certified by the WMU office of International Student Services.
3. Have a grade point average of 3.0 or better (A=4) in the last two years of undergraduate work.
4. Submit results of the GRE General Test.
5. A student with a bachelor's degree in computer science, engineering, mathematics, physics, or science can be considered for probationary admission into the MSE (Electrical) or the MSE (Computer) program.
with full admission granted after completing undergraduate courses in electrical engineering or computer engineering specified by the department.

**Doctoral Program:**
The Department offers the Doctor of Philosophy in Electrical and Computer Engineering. A student’s doctoral program of study will consist of approved graduate course work, independent research, examinations, and dissertation preparation and defense. The admission and program requirements are listed below.

**Master of Science in Engineering (Computer)**
Advisor: Ralph Tanner,
Room B-236 Parkview Campus

**Program Requirements**
The program consists of thirty-three hours:
1. Twenty-two hours of required computer engineering courses.
2. A minimum of two hours of the following course, with a maximum of four hours allowed.
   ECE 6900 - Computer Engineering Seminar Credits: 1 hr.
3. The remaining elective hours of additional graduate courses approved by the department from the following disciplines: computer, electrical, other engineering disciplines; computer science, mathematics, or physics.
   OR
4. A student may elect the following course and an approved elective course at the graduate level.
   ECE 7000 - Master's Thesis Credits: 6 hrs.

*Thesis Elective*
The thesis elective is open to selected students interested in research or project work. Students interested in this option must petition the department chair, and each student's thesis committee must be approved by the department chair and the graduate dean.

**Master of Science in Engineering (Electrical)**
Advisor: Ralph Tanner,
Room B-236 Parkview Campus

**Program Options and Requirements**
The program has two options—a thesis option and a course work option. A common requirement for each option is twenty-four hours of core courses.
Thesis Option
The thesis option is open to selected students interested in research or project work. Students interested in this option must petition the department chair, and each student's thesis committee must be approved by the department chair and the graduate dean.

In addition to the twenty-four hours of core courses—comprised of eighteen (18) hours of approved electrical engineering graduate courses and six (6) hours of approved mathematically-oriented graduate courses—the student will elect six (6) hours of ECE 7000 Master's Thesis and successfully defend the thesis.

Course Work Option
In addition to the twenty-four hours of core courses—comprised of eighteen (18) hours of approved electrical engineering graduate courses and six (6) hours of approved mathematically-oriented graduate courses—the student will elect a.)--three (3) hours of additional electrical engineering graduate courses approved by the department, and b.)--six (6) hours of additional graduate courses approved by the department from the following disciplines: electrical, computer, industrial, or mechanical engineering; mathematics; computer science; or physics.

Doctor of Philosophy in Electrical and Computer Engineering
Advisor: S. Hossein Mousavinezhad,
B-236 Parkview Campus

The Doctor of Philosophy in Electrical and Computer Engineering is designed to provide students advanced electrical/computer engineering education and research opportunities. The program will engage doctoral students in independent research in the field of electrical/computer engineering which will prepare them for research and development positions in the rapidly growing information and electronics sectors.

Current research areas in the department include real-time embedded systems, biomedical engineering, signal processing, image processing, communications and networking, and control systems. The department has seven instructional laboratories in electric circuits, digital logic, energy conversion systems, microcomputer systems, and digital/analog electronics. In addition, there are seven labs for student and faculty research. These labs include radio frequency shield rooms, a digital signal-processing lab, an image processing lab, a RF communications and RFID lab, and a smart sensors and structures lab.

Admission Requirements
To be admitted to the Ph.D. program, a student must satisfy the following requirements:
1. Satisfy the general admission requirements of The Graduate College.
2. Possess an M.S. in electrical or computer engineering, with a minimum 3.0 grade point average. Exceptional applicants with a master’s degree in other closely related quantitative fields such as engineering, mathematics, physics, or computer science will be considered on a case by case basis, after completing a prescribed set of prerequisite courses.
3. Submit results of the GRE General Test.
4. Three (3) recommendation letters from faculty familiar with the student’s work.
5. A personal statement of academic goals and research interests, written by the applicant.

All requirements for the Ph.D. must be completed within seven (7) years preceding the date on which the degree is conferred.

**Program Requirements**

The credit hour, course work, and general program requirements include:

1. Minimum of 50 credit hours beyond the master’s degree to include:
   a. 15 hours of:
      ECE 7300 - Doctoral Dissertation Credits: 15 hrs.
   b. A maximum of 12 hours of:
      ECE 6970 - Problems in Electrical and Computer Engineering Credits: 1-6 hrs. or
      ECE 7100 - Independent Research Credits: 2-6 hrs.
   c. A minimum of 2 hours of:
      ECE 7250 - Doctoral Research Seminar Credits: 2-6 hrs.
   d. A minimum of 21 hours of graduate course work approved by the doctoral dissertation committee at least 12 hours of which should be ECE courses.

2. Ph.D. Qualifying Examination, to be taken within the first year after admission.

3. Comprehensive Examination administered by the doctoral dissertation committee to be taken before a student becomes a doctoral candidate.

4. The general graduation requirements of The Graduate College.

5. Presentation/publication requirements as specified by the doctoral dissertation committee.

6. Research Tools:
   The required tools are (1) simulation and modeling and (2) statistics. Competency will be based on successful completion (with a “B” or better grade) of the following:
   ECE 5800 - System Modeling and Simulation Credits: 3 hrs. or
   ME 5800 - System Modeling and Simulation Credits: 3 hrs.
   STAT 6600 - Statistical Inference I Credits: 4 hrs.

7. A one-year residency during which the student will conduct research.

8. Final dissertation defense and approval by committee.
Industrial and Manufacturing Engineering

Paul V. Engelmann, Chair
Main Office: F-232 Parkview Campus
Telephone: 276-3350
FAX: 276-3353

Betsy M. Aller
Kailash M. Bafna
Steven E. Butt
Paul V. Engelmann
Tycho K. Fredericks
Tarun Gupta
Abdolazim Houshyar
Pavel G. Ikonomov
Mitchel J. Keil
Leonard R. Lamberson
David M. Lyth
Larry A. Mallak
Sam N. Ramrattan
Jorge Rodriguez
Frederick Z. Sitkins
James VanDePolder
Bob E. White

The Department of Industrial and Manufacturing Engineering offers a Master of Science in Engineering (Industrial), a Master of Science in Engineering Management, a Master of Science in Manufacturing Engineering, a Master of Science in Operations Research, and a Doctor of Philosophy in Industrial Engineering.

Master of Science in Engineering (Industrial)
Advisor: Abdolazim Houshyar
Room E-219 Parkview Campus

The objectives of the program leading to a Master of Science in Engineering (Industrial) are:
1. To prepare students who hold a baccalaureate degree in industrial engineering or other engineering or related disciplines for advanced level professional practice in industrial engineering;
2. To prepare students for formal post-master's and doctoral programs, as their inclination and professional growth require.

Graduates of the program can look forward to career opportunities with higher levels of responsibility and remuneration. These include jobs at a variety of levels in manufacturing and service-related industries.
Admission Requirements
1. Possess a baccalaureate degree in engineering or a related discipline.
2. Have an undergraduate grade point average of 3.0 for regular admission. Probationary admission may be granted to students with a grade point average of at least 2.5 and less than 3.0.
3. Submit GRE (Graduate Record Examination) scores for the General Test.
4. Where the student's background is found deficient, foundation courses will be required. Students with a baccalaureate degree in industrial engineering will typically not be required to take any prerequisite classes.

Program Options and Requirements

Thesis Option
1. An approved integrated program with a minimum of 30 hours of graduate work Distributed as follows:
   a. Eighteen (18) hours, six (6) courses, of core requirements:
      IME 5160 - Design of Experiments and Regression Analysis Credits: 3 hrs.
      IME 6060 - Capital Budgeting and Cost Analysis Credits: 3 hrs.
      IME 6110 - Deterministic Methods in Operations Research Credits: 3 hrs.
      IME 6120 - Production/Operations Management Credits: 3 hrs.
      IME 6300 - Advanced Simulation Modeling and Analysis Credits: 3 hrs.
      IME 6420 - Ergonomics and Occupational Biomechanics Credits: 3 hrs
   b. Six (6) hours of:
      IME 7000 - Master's Thesis Credits: 6 hrs.
   c. Six (6) hours of electives.
   The specified number of electives may be taken from 5000- or 6000-level courses offered within the Department of Industrial and Manufacturing Engineering. The elective courses must be compatible with the overall program and the career objectives of the student, and must be approved by the program advisor prior to registration. No more than half of the credit hours needed for graduation can be at the 5000 level.
2. A written thesis that meets The Graduate College requirements and an oral examination in defense of the thesis.
3. An overall 3.0 grade point average.

Non-Thesis Option
1. An approved integrated program with a minimum of 36 hrs of graduate work distributed as follows:
   a. Eighteen (18) hours, six (6) courses, of core requirements:
      IME 5160 - Design of Experiments and Regression Analysis Credits: 3 hrs.
      IME 6060 - Capital Budgeting and Cost Analysis Credits: 3 hrs.
      IME 6110 - Deterministic Methods in Operations Research Credits: 3 hrs.
      IME 6120 - Production/Operations Management Credits: 3 hrs.
      IME 6300 - Advanced Simulation Modeling and Analysis Credits: 3 hrs.
      IME 6420 - Ergonomics and Occupational Biomechanics Credits: 3 hrs
b. Fifteen (15) hours of electives
All of which will be from the Department of Industrial and Manufacturing Engineering. The specified number of electives may be taken from 5000- or 6000-level courses offered within the Department of Industrial and Manufacturing Engineering. The elective courses must be compatible with the overall program and the career objectives of the student, and must be approved by the program advisor prior to registration. No more than half of the credit hours needed for graduation can be at the 5000 level.
c. Students must take:
The following course with a written report and oral presentation, OR an approved 600-level IME elective
IME 6970 - Problems in Industrial and Manufacturing Engineering Credits: 3 hrs.

2. An overall 3.0 grade point average.

Master of Science in Engineering Management
Advisors: David M. Lyth
Room E-222 Parkview Campus

The Master of Science in Engineering Management was developed to meet the need for professional leaders in manufacturing and service operations. Its objectives are:
1. To enhance the capabilities to deal with resources available in commerce and industry to managing people, money, and projects.
2. To develop the leadership capabilities based on the student’s strong technical background and significant managerial skills.
3. To allow students to develop analytical and managerial skills and to acquire knowledge in related fields.
4. To develop their ability to integrate technical, managerial and systems skills to improve the performance of the enterprise.
5. To prepare students for further study in post-master’s and doctoral programs as their interest and professional growth require.

The scope of the graduate program includes studies in the areas of engineering, technical resource management, and industrial leadership. The program requires completion of a minimum of thirty semester hours beyond the entry level prerequisites in the student's program.

Admission Requirements
1. Possess a baccalaureate degree with a major in a technical field, such as engineering, technology, mathematics, computer science, or the physical sciences. For other majors, see item 2.
2. Show evidence of completion of at least eight semester hours of mathematics and eight semester hours of physics and/or chemistry with a minimum overall grade point average of 2.5 in these areas.
3. Submit GRE (Graduate Record Examination) scores for the General Test.
4. Undergraduate courses should have been completed in calculus, statistics, computer programming, work methods analysis, operations planning and control, and quality control. Where the student's background is deficient, foundation courses will be required. Students may take IME 5010 to acquire an understanding of work methods analysis, operations planning and control, and quality control.
Program Requirements
The Master of Science in Engineering Management requires a minimum of thirty (30) hours: Eighteen (18) hours of core courses and twelve (12) hours of electives.

1. Core courses (18 hours):
IME 5050 - Continuous Improvement in Operations Credits: 3 hrs.
IME 5080 - Advanced Quality Management Credits: 3 hrs.
IME 6000 - Concepts and Principles of Engineering Management Credits: 3 hrs.
IME 6060 - Capital Budgeting and Cost Analysis Credits: 3 hrs.
IME 6120 - Production/Operations Management Credits: 3 hrs.
IME 6140 - Project Management Credits: 3 hrs.

2. Elective courses (12 hours at minimum)
To be selected from graduate courses available in the Department of Industrial and Manufacturing Engineering, or any other department within the University. Among the electives is the following course, with a written report and oral presentation. The elected courses must be compatible with the overall program and the career objectives of the student, and must be approved by the program advisor prior to registration.
IME 6970 - Problems in Industrial and Manufacturing Engineering Credits: 3 hrs.

3. An overall 3.0 grade point average.

Master of Science in Manufacturing Engineering
Advisor: Paul V. Engelmann
Room F-232 Parkview Campus

The Master of Science in Manufacturing Engineering is designed to provide advanced competencies in the areas of computer-aided manufacturing, computer-aided design and analysis, and integrated processing of polymers, metals, and composite materials. This program is designed for decision-makers in manufacturing engineering, engineering graphics and design, process engineering, quality assurance, and tooling design.

Admission Requirements
1. A candidate for admission must possess a baccalaureate degree from a recognized program in engineering, physics, mathematics, or other field related to engineering. A candidate for admission must also:
2. Possess a grade point average of 3.0 or better during the last two years of undergraduate work.
3. Submit GRE (Graduate Record Examination) scores from the General Test.
4. Have completed undergraduate courses in computer-aided design, computer-aided manufacturing, properties of materials, metrology, quality control, and manufacturing processes or equivalent experience. Students who lack this background should consult with an advisor as specialized programs (usually involving additional credit hours over basic requirements) can be provided.
Program Requirements
The Master of Science in Manufacturing Engineering requires a minimum of thirty (30) hours: Fifteen (15) hours of core courses and fifteen (15) hours of electives.

1. Core courses (15 hours):
   IME 5070 - Computer Integrated Manufacturing Credits: 3 hrs.
   IME 5460 - Concurrent Engineering Credits: 3 hrs.
   IME 6060 - Capital Budgeting and Cost Analysis Credits: 3 hrs.
   IME 6810 - Process Monitoring and Control Credits: 3 hrs.
   And Either:
   MATH 5650 - Design of Experiments for Quality Improvement
   or
   IME 5160 - Design of Experiments and Regression Analysis Credits: 3 hrs.

2. Elective courses (15 hours) are chosen in consultation with the academic program advisor. Electives may include a project (IME 6970) with a written report and oral presentation or a thesis (IME 6830 and IME 7000) if desired by the student.

3. An overall 3.0 grade point average.

Master of Science in Operations Research
Advisor: Steven Butt
Room E-227 Parkview Campus

The Master of Science in Operations Research is an interdisciplinary program permitting the student to build a flexible plan of study emphasizing the relationship between operations research and his or her professional field. The participating departments are Economics, Industrial and Manufacturing Engineering, Management, Mathematics, and Statistics. The responsibility for administering the program is with the Department of Industrial and Manufacturing Engineering.

The objective of the program leading to the Master of Science in Operations Research is to provide the student who has an undergraduate degree in one of the involved disciplines with a basic knowledge of the philosophy and techniques of operations research. The student's program will be based on his or her undergraduate preparation, work experience, and occupational goals.

Admission Requirements
1. Possess a baccalaureate degree in economics, industrial engineering, management, operations research, or mathematics. Students with degrees in other areas will also be considered.
2. IME 2610 Engineering Statistics
3. IME 2620 Probability for Engineers (or STAT 3620 Probability)
4. MATH 2300 Elementary Linear Algebra (or MATH 3740 Differential Equations and Linear Algebra)
5. MATH 2720 Vector and Multivariate Calculus
6. Documented proficiency in at least one programming language
7. Submit GRE (Graduate Record Examination) scores from the General Test.
Program Options and Requirements

*Project Option—30 hrs.*
1. 18 hours of core courses

2. 9 hours of approved electives

3. 3 hrs. of project
   IME 6970 - Problems in Industrial and Manufacturing Engineering Credits: 3 hrs.

*Thesis Option—30 hrs.*
1. 18 hours of core courses

2. 6 hours of approved electives

3. 6 hrs. of thesis
   IME 7000 - Master's Thesis Credits: 6 hrs.

Approved Electives for both options
Note: Other courses may be used as electives with the approval of the OPRM advisor.

*Business and Finance*
ECON 6030 - Advanced Price Theory Credits: 3 hrs.
ECON 6190 - Introduction to Econometrics Credits: 3 hrs.
IME 6060 - Capital Budgeting and Cost Analysis Credits: 3 hrs.

*Industrial Engineering and Operations Management*
ECON 6070 - Uncertainty and Information Credits: 3 hrs.
IME 5080 - Advanced Quality Management Credits: 3 hrs.
IME 6040 - Facilities Planning and Design Credits: 3 hrs.
IME 6080 - Reliability Engineering Credits: 3 hrs.
IME 6120 - Production/Operations Management Credits: 3 hrs.
MGMT 6500 - Managing Change Credits: 3 hrs.

*Statistics*
STAT 5620 - Statistical Theory Credits: 4 hrs.
STAT 5650 - Design of Experiments for Quality Improvement Credits: 3 hrs.
STAT 5670 - Statistical Design and Analysis of Experiments Credits: 4 hrs.
STAT 5680 - Regression Analysis Credits: 3 hrs.
STAT 6600 - Statistical Inference I Credits: 4 hrs.
STAT 6620 - Applied Linear Models Credits: 3 hrs.
STAT 6640 - Design of Experiments I Credits: 3 hrs.
STAT 6800 - SAS Programming Credits: 3 hrs.
Doctor of Philosophy in Industrial Engineering
Advisor: Bob White
Room E-216 Parkview Campus

The Doctor of Philosophy in Industrial Engineering is designed to intensify the student's knowledge and comprehension in the various disciplines of the subject with emphasis on original research in a chosen area of specialty. It will assist individuals wishing to pursue a career as a research practitioner in industry and government or teaching and research careers in industrial engineering in colleges and universities. The program emphasizes breadth of knowledge and requires students to conduct a significant, focused field study, and to complete a dissertation research project.

Admission Requirements
Application materials may be obtained from the Office of Admissions and Orientation, Graduate Admissions and from the Department of Industrial and Manufacturing Engineering. International students must contact the Office of International Student Services for admission information and to obtain application materials.

Admission decisions will be made by the department doctoral committee. All students must meet the general requirements for a doctoral degree specified elsewhere in this Graduate College Catalog. In addition to these requirements, the student must fulfill either of two educational requirements: a bachelor's degree in engineering or related discipline from an Accreditation Board for Engineering and Technology (ABET/EAC) accredited engineering program, including at least three courses in industrial engineering, or a master's degree in engineering from a department offering an ABET accredited undergraduate program, including at least five courses in industrial engineering. Three letters of recommendation must be submitted. Students not having these requirements may be conditionally admitted, with full admission granted upon completion of additional prerequisites.

Applicancy Requirements
The applicancy requirements are those stated in the general requirements of The Graduate College. The student should establish a dissertation committee by the end of the first year. The committee will be composed of at least four members of the Department of Industrial and Manufacturing Engineering, and one or more outside examiners.

Candidacy Requirements
The applicant must seek candidacy no later than the end of the third calendar year after enrollment in the Ph.D. program. By this time the student should have completed the course work and have a preliminary plan for the dissertation endorsed by the chair of his/her dissertation committee. To be admitted to candidacy, the student must successfully complete the comprehensive examination. This exam, administered by the doctoral committee, will be composed of both a written and an oral component. The written portion will include questions submitted by the student's doctoral committee and those drawn from the departmental pool of questions relating to the core courses. The questions are designed to evaluate the student's knowledge in the engineering management area of concentration as well as his/her area of specialization. The oral component will be administered by the doctoral committee. The student's performance in this exam will be evaluated by the doctoral committee. If student fails the comprehensive exam, the student can apply to retake the exam in the next semester. A second failure results in dismissal from the program. Candidacy will be approved or denied based upon the student's
performance in the course work, successful completion of the comprehensive examination, and a positive recommendation of the dissertation committee.

Financial Assistance
The Department of Industrial and Manufacturing Engineering offers opportunities for financial support of doctoral students through doctoral associateships, graduate assistantships, and fellowships. Information is available from the department or The Graduate College.

Program Requirements
In addition to The Graduate College requirements, the following requirements must be fulfilled:

1. Eighty-four (84) credit hours of courses beyond the baccalaureate. A student with a master's degree may be able to transfer up to thirty-six (36) credit hours, with this decision being made by the doctoral committee at the time of admission:
   a. The determination of how the master's level credits can be used to fulfill the requirements listed below is made at the time of admission.
   b. For a student entering the program with a bachelor's degree, a maximum of twenty-one (21) credit hours of 5000-level, post-baccalaureate graduate courses can be applied to the Ph.D. program; for a student entering the program with a master's degree, a maximum of six (6) credit hours of 5000-level courses beyond the master's degree can be applied to the Ph.D. program.

2. The credit hours are grouped into seven areas as follows:
   a. Eighteen (18) hours of core courses with three (3) hours of IME 7250 required.
   b. Twelve (12) hours from the engineering management concentration area.
   c. Nine (9) hours from one of the area of specialization course groups.
   d. Eighteen (18) hours of electives chosen from the graduate offerings of Industrial and Manufacturing Engineering or other departments appropriate to the student's research interest as mutually agreed upon by the student and the dissertation committee.
   e. Six (6) hours of electives related to teaching methodology.
   f. Six (6) hours of IME 7120, Professional Field Experience.
   g. Fifteen (15) hours of IME 7300, Doctoral Dissertation.

3. Successful completion of the comprehensive examination after completion of all course work.

4. Successful oral defense of the dissertation and approval of the dissertation by the committee and The Graduate College.

5. Successful completion of the teaching internship requirement.

6. Residency Requirement: Enrollment on campus in four consecutive semesters or sessions.

7. Research Tool: The required research tools are computer programming and statistics. Competency will be based on successful completion of CS 5060 and STAT 6600 or equivalent with a grade of "B" or better.
Master of Science in Engineering (Mechanical)
Advisor: Koorosh Naghshineh
Room G-226 Parkview Campus

Graduates with the Master of Science in Engineering ( Mechanical) look forward to career opportunities at higher levels of responsibility. The areas of opportunities include, but are not limited to, mechanical system and structural dynamics, system design and controls, materials, experimental stress analysis, tribology, vehicle dynamics, experimental and computational fluid dynamics, thermal and power systems, fuel cells, noise and vibrations, finite element analysis, and micro and nano-technology. Opportunities for mechanical engineers continue to develop with the rapid expansion of the knowledge base.

Class sequencing and scheduling (in the evening hours) are arranged so that a working engineer can complete the program in three years while maintaining full-time employment.
Admission Requirements
1. Bachelor of Science in Mechanical Engineering from an institution with an ABET/EAC accredited program.
2. Submit results of the Graduate Record Examination (GRE).

Applicants with degrees in other engineering fields or related disciplines may be considered for admission after they have satisfactorily completed the necessary undergraduate prerequisite courses prescribed by the department's graduate advisor. Based on Graduate Advisor’s discretion, these courses can be all or a subset of ME 2320, 2500, 2560, 2570, 2580, 3560, 3650, 4310, 4320, MATH 2720, 3740.

Probationary admission may be granted to a student with a baccalaureate degree and less than the required academic record or anyone having a baccalaureate degree from a non-accredited college or anyone needing more than three prerequisite courses. A student admitted on non-degree probationary status may establish eligibility for regular admission by completing the specified prerequisite courses, and securing grades of "B" or better in each course in the first nine hours of graduate work.

A student with a baccalaureate degree who wishes to enroll in courses but does not plan to pursue a program leading to a master's degree, or is not eligible for regular admission may enroll in courses for which prerequisite requirements are satisfied with Guest status. If the student later decides to apply for regular admission, no more than nine hours of work taken under GSTstatus will be considered part of a degree program.

Program Options and Requirements
Students may choose the Thesis Option or the Non-Thesis Option as described below. A specific program of study for each student is determined in conjunction with and subject to approval of the student’s advisor.

Thesis Option
This option of the Master of Science in Engineering (Mechanical) consists of thirty hours, of which six must be taken as thesis.

1. A minimum of thirty (30) semester hours of credit
   Including eighteen (18) hours of approved courses in the area of mechanical engineering, six (6) hours of electives, and six (6) hours of:

2. A minimum of six (6) hours must be mathematics oriented.
   The mathematics-oriented courses may include mechanical engineering courses (e.g., ME 5600, 5610, 5620, 6370, and 6610) or electives selected from any engineering department in the College of Engineering and Applied Sciences, or in mathematics, computer science, and the physical sciences. Students who choose to take a class outside the ME approved list of graduate courses must obtain the approval of the ME graduate advisor prior to registering for such classes.

3. Satisfactory completion of six (6) hours of the following course under the guidance of the thesis advisor and committee
   ME 7000 - Master's Thesis Credits: 6 hrs.
Non-Thesis Option
This option of the Master of Science in Engineering (Mechanical) consists of thirty-six (36) hours, of which up to six may be taken as project.

1. A minimum of thirty-six (36) semester hours of credit including thirty (30) hours of approved courses in the area of mechanical engineering plus six (6) hours of electives.

2. A minimum of six (6) hours must be mathematics oriented. The mathematics-oriented courses may include mechanical engineering courses (e.g., ME 5600, 5610, 5620, 6370, and 6610) or electives selected from any engineering department in the College of Engineering and Applied Sciences, or in mathematics, computer science, and the physical sciences. Students who choose to take a class outside the ME approved list of graduate courses must obtain the approval of the ME graduate advisor prior to registering for such classes.

3. Up to six (6) hours of project as seen below
May be taken as part of the thirty (30) hours of approved courses in the area of mechanical engineering for research conducted under the supervision of a department faculty member
ME 6970 - Problems in Mechanical Engineering Credits: 1-6 hrs.

Doctor of Philosophy in Mechanical Engineering
Advisor: Koorosh Naghshineh
Room G-226 Parkview Campus

The Doctor of Philosophy in Mechanical Engineering is designed to intensify the knowledge and comprehension of the student in the various disciplines of the subject, with emphasis on original research in a chosen area of specialty.

Admission Requirements
In addition to the general admission requirements for a doctoral degree at Western Michigan University, a Master of Science in Mechanical Engineering or a related engineering discipline will be required. Students with a Master of Science in mathematics or in a natural science discipline may also be admitted if they have a Bachelor of Science in Mechanical Engineering or a related engineering discipline. The Master of Science should be from a university recognized and approved by the Graduate Committee of the department. Evidence of scholarship and potential for independent research in mechanical engineering must be presented to the Graduate Committee. The level of achievement in mathematics, physics, and chemistry courses, which are prerequisites for success in doctoral studies in engineering, will also be considered in evaluating the application. The applicant must also submit the results of the verbal, analytical, quantitative, and engineering portions of the Graduate Record Examination.

Program Requirements
The main accomplishment of the Ph.D. student should be an original, high quality research. The program is oriented toward that achievement. The course work and number of credit hours that a student will be required to take depend on the individual qualifications, level of preparation for independent research, and the needs for successful accomplishment of the dissertation.
The doctoral student must acquire through course work and demonstrate in a qualifying examination a broad knowledge and understanding of mathematics and two of the following core areas of mechanical engineering: thermodynamics and heat transfer; fluid mechanics; structural mechanics; materials; control systems; and dynamics and vibrations. Prior to taking the qualifying examination, the student must identify a graduate advisor and obtain approval from the advisor to proceed with the examination. Intensive and successful use of a required area of competency in the research work must be approved by the dissertation committee.

A minimum of 45 graduate credit hours beyond the Master of Science is required, including a minimum of 30 credit hours of course work and 15 credit hours of dissertation (ME 7300). At least 18 of the 30 non-dissertation credit hours must be taken from the graduate courses of the Department of Mechanical and Aeronautical Engineering. To ensure adequate preparation for the graduate research subject, enrollment in courses from other programs must be approved by the dissertation faculty advisor. A minimum grade point average of 3.25 is required in the doctoral studies. These graduation requirements complement the general university requirements.

Details of the Ph.D. study process may be obtained from the office of the Department of Mechanical and Aeronautical Engineering.
Master of Science in Paper and Imaging Science and Engineering
Advisor: Andrew Kline
Room A-220 Parkview Campus

The Master of Science in Paper and Imaging Science and Engineering is designed to provide theoretical, laboratory, and pilot plant experiences which are basic to the development of professional competence in pulp, paper, and printing science and engineering. The department has leadership in the areas of pulping and bleaching, recycling and deinking, papermaking, coating, and printing, and it is internationally recognized in the fields of paper coating and coating rheology. Its laboratories and equipment are the most complete of any similar academic institution featuring a semicommercial-sized thermomechanical pulper, complete recycled fiber pilot plant, papermachine, coater, and printing presses.

A Thesis Option and a Non-thesis Option are available. While the program requirements for each option differ, the admission requirements for both options are identical.

Admission Requirements
1. Applicants with science, engineering, and related baccalaureate degrees may qualify for admission based upon demonstrated competence at an accredited college or university.
2. At least one semester of college chemistry and two semesters of calculus are required.

After admission, the student's graduate advisor will approve a plan of study, which may include courses not eligible for graduate credit.
Applicants are encouraged to submit results of the Graduate Record Examination to support their application for admission.

Program Options and Requirements

**Thesis Option**

1. A minimum of thirty (30) semester hours of credit.

2. A minimum of fifteen (15) semester hours of Paper and Printing Science and Engineering courses including the following required courses, but excluding the thesis research credits.
   - PAPR 6200 - Paper, Printing, and Ink Credits: 3 hrs.
   - PAPR 6500 - Advanced Paper Processes Credits: 3 hrs.

3. A minimum of three (3) semester hours of course work outside the Department of Paper Engineering, Chemical Engineering, and Imaging.

4. Satisfactory completion of the following course based on either an experimental or theoretical topic, under the guidance of a Thesis Committee.
   - PAPR 7000 - Master's Thesis Credits: 6 hrs.

**Non-Thesis Option**

1. A minimum of thirty-six (36) semester hours of credit.

2. A minimum of twenty-four (24) semester hours of Paper and Printing Science and Engineering courses including:
   - PAPR 6200 - Paper, Printing, and Ink Credits: 3 hrs.
   - PAPR 6500 - Advanced Paper Processes Credits: 3 hrs.

3. A minimum of six (6) semester hours of course work outside the department approved by the graduate advisor.

**Doctor of Philosophy in Paper and Imaging Science and Engineering**

Advisor: Andrew Kline
Room A-220 Parkview Campus

The Doctor of Philosophy in Paper and Imaging Science and Engineering is designed to prepare engineers and scientists for performing advanced research or for teaching at the university level. The emphasis of the program is on paper making processes, paper coating, paper recycling, and imaging technologies.

This is a research-intensive degree, based on fundamental scientific and chemical engineering principles; the emphasis is on learning techniques for advanced research, the production of such
advanced research, and the reporting of the research. Close supervision of the research will be maintained by the student's Dissertation Advisory Committee and, particularly, by the chair of that committee. Some formal course work, much of it possibly accepted from course work completed to achieve a master's degree, is required to prepare for and support an original research problem chosen by the student in consultation with the Dissertation Advisory Committee. However, the degree is awarded for the attainment of knowledge of the paper and imaging science and engineering disciplines and for original research; the degree is not awarded for accumulation of course credits. Thus, the key component of the program is the Dissertation Advisory Committee's careful and continuous mentoring of the student to develop necessary skills and knowledge to support advanced research.

Admission Requirements
Application materials may be obtained from the Office of Admission and Orientation, Graduate Admissions or from the Department of Paper Engineering, Chemical Engineering, and Imaging. International students should contact the Office of International Student Services for the appropriate materials and information.

All applicants must meet the general admissions requirements for the Ph.D. specified by The Graduate College. In addition, the applicant must have completed a master's degree in a discipline relevant to paper and imaging science with a minimum 3.25 grade point average. The Graduate Record Examination, General Test, is required of all applicants, as are at least three letters of recommendation and a letter describing the applicant's research interest. International students must also submit the TOEFL scores.

Admission determinations will be made by the department's Doctoral Studies Committee and will take into consideration the student's previous academic training and record of achievement, the GRE score, the recommendations provided in letters from three referees, and the information about the proposed area of study described in the letter of interest.

Financial Assistance
The Department of Paper Engineering, Chemical Engineering, and Imaging offers opportunities for financial assistance of doctoral students through graduate assistantships and fellowships. Information concerning these opportunities is available from the department's Graduate Advisor or from The Graduate College.

Program Requirements
Following a student's admission to the program, the department's Graduate Advisor will be the student's temporary advisor until the Dissertation Advisory Committee is formed, typically within one year of the student's commencement of the program. With the assistance of the Graduate Advisor, the student will select a Chair of the Dissertation Advisory Committee and, in consultation with the Chair, the student will form an entire Dissertation Advisory Committee, comprising at least three members. After the Chair of the Dissertation Advisory Committee is chosen, primary responsibility for the student will be transferred from the Graduate Advisor to the Chair. The Graduate Advisor, however, will continue to monitor the student's progress and assist the Chair of the Dissertation Advisory Committee to ensure prompt compliance with all University and program requirements.
Graduate College policy requires that all doctoral students complete at least thirty hours of course work, exclusive of the dissertation, at WMU after admission to the doctoral program. However, in this research-based degree program, if an exceptionally well prepared student enters the program having satisfied one or more of the research tools and/or has completed PAPR 6200 and 6500, the student may be able to satisfy all the requirements and competencies with fewer than thirty hours. Upon formal petition by the Chair of the Dissertation Advisory Committee and the Graduate Advisor and with the Chair's submission of a program of study that indicates the student's satisfaction of all requirements and competencies, the Dean of The Graduate College may waive that requirement. Such waivers must be sought and approved on a case-by-case basis.

In addition to the requirements of The Graduate College, the following requirements for the Doctor of Philosophy in Paper and Imaging Science and Engineering must be fulfilled:

1. 30 hours of course work beyond the master's degree
   Since applicants must have a master's degree, it is expected that applicants will have finished at least twenty-four hours of foundation course work at the graduate level, exclusive of seminars and research. At the discretion of the Doctoral Studies Committee, applicants may receive credit toward the doctoral course requirements for up to twenty-four hours of course work germane to paper science and engineering at the time of admission to the program. Such graduate level foundation course work may include, as examples, paper physics (PAPR 6600), papermaking (PAPR 6500), pulping and bleaching (PAPR 6980), environmental engineering (PAPR 6930), digital printing (PAPR 6210), and ink technology (PAPR 6200).

   The required courses PAPR 6200 (Paper, Printing, and Ink) and PAPR 6500 (Advanced Paper Processes) must be completed with at least a grade of "B," if not previously elected in a master's program as described above.

   Additional course work required will be determined at the time of admission by the Doctoral Studies Committee to ensure readiness for the research or after admission by the Dissertation Advisory Committee to remedy deficiencies revealed by the Level I qualifying exams.

2. Demonstrate competency in two research tools
   Two research tools chosen in consultation with the Dissertation Advisory Committee from the following four options:
   a. Reading proficiency in one foreign language other than English at the course level of 4010 (with a grade of "B" or better).
   b. Statistics and experimental design at the level of MATH 5670 (with a grade of "B" or better).
   c. Computer modeling and simulation expertise at the level of CS 5810 (with a grade of "B" or better).
   d. One or more courses in biology, physics, chemistry, or engineering at the 5000-level or above and approved by the student’s dissertation committee.

3. Qualifying Examinations
   All students seeking a doctoral degree in paper and imaging sciences from Western Michigan University must successfully complete the Level I and Level II qualifying exams, following the qualifying exam guidelines developed by the Department of Paper Engineering, Chemical Engineering, and Imaging. The Level I qualifying exam is a written exam that will test a doctoral student’s general knowledge of paper
and imaging science at the level of a person who has completed a master’s degree in Paper and Imaging Science. The Level I qualifying exam will include information and topics related to paper chemistry and processing, inks and imaging, unit operations, and experimental design. A student must successfully complete the Level I qualifying exam by the end of their first year of enrollment in the doctoral program. A student who does not successfully complete the Level I qualifying exam after two attempts will be dismissed from the doctoral degree program.

The Level II qualifying exam is an oral defense on the proposed dissertation research topic area, the dissertation proposal itself, and questions on graduate-level course materials. During the Level II qualifying exam, the students will demonstrate through oral discussion that they possess an acceptable knowledge of their area of chosen research and other graduate-level topics, in addition to defending their dissertation proposal. A student must complete the Level II qualifying exam within twelve calendar months of their successful completion of the Level I qualifying exam. A student must complete the Level II qualifying exam within two attempts and within the specified time limit or the student will be dismissed from the doctoral degree program.

4. Full-time enrollment
   Full-time enrollment on campus for at least four semesters.

5. Workshop (6 hrs)
   Completion of at least one University-sponsored TA training workshop and completion of six hours of PAPR 7130, Teaching Practicum. The first three credits of PAPR 7130 will be earned by observing a faculty member teach a class and by preparing to teach that course under the guidance of a graduate faculty member. The second three credits will be earned by having primary responsibility for teaching one course under the guidance and supervision of a member of the department's graduate faculty.
   PAPR 7130 - Practicum in Teaching in the Discipline Credits: 3 hrs.

6. Research Seminar (6 hrs)
   Completion of at least six hours of PAPR 7250, Research Seminar. The objective of this requirement is to participate in discussion of recent research findings that may be used in the student's research and to gain practice in the presentation of research results.
   PAPR 7250 - Doctoral Research Seminar Credits: 1-6 hrs.

7. Graduate Research (6 - 10 hrs)
   Completion of six to ten hours of PAPR 7350, Graduate Research. The objective of this requirement is to ensure that the student prepares a thoughtful, coherent research plan for the dissertation under the guidance of the Dissertation Advisory Committee.
   PAPR 7350 - Graduate Research Credits: 2-10 hrs.

8. Complete and successfully defend a dissertation.
   Completion of at least twelve hours of PAPR 7300, Doctoral Dissertation. The objective of this requirement is to ensure that the student carries out the research and prepares the dissertation under the guidance of the Dissertation Advisory Committee. The student must successfully defend the dissertation and have the dissertation approved by the Dissertation Advisory Committee and by the graduate dean. The student, with approval of the Dissertation Advisory Committee, may choose between two dissertation options.
Option 1: The student will present a traditional comprehensive dissertation and two journal papers based on the doctoral research and judged by the Dissertation Advisory Committee to be ready for submission to an identified, refereed journal. These must be submitted with an introduction, review of relevant literature, and a summary explaining the significance of the research.

Option 2: The student will present at least four journal papers based on the doctoral research and judged by the Dissertation Advisory Committee as ready for submission to an identified, refereed journal. These must be submitted with an introduction, review of relevant literature, and a summary explaining the significance of the research.

PAPR 7300 - Doctoral Dissertation Credits: 12 hrs.
Civil and Construction Engineering

Osama Abudayyeh, Interim Chair
Main Office: C-253 Parkview Campus
Telephone: 276-3210

Jewahar Nesan
Jun-Seok Oh
Sherif Yehia

The Department of Civil and Construction Engineering offers the Master of Science in Engineering (Civil). Courses are offered at times to enable working students to study without quitting their jobs. The program is designed to enable qualified full-time students to complete their studies within two years and fully employed students within three years.

Master of Science in Engineering (Civil)
C-253 Parkview Campus

The principal objective of persons working in the field of civil engineering is the design and construction of systems to enhance the quality of life, and to improve the environment in which we live. Western Michigan University's Master of Science in Engineering (Civil) is aimed at graduates of engineering programs who want to play an active role in the development and rejuvenation of the national infrastructure. The primary areas of focus in the department at the graduate level are construction engineering and management, structural engineering, and transportation engineering. Through the available program options, students can earn the degree on a full-time or part-time basis, and can have a design or research orientation.

Admission Requirement
Students entering the proposed master's degree are expected to have a background equivalent to that of students graduating from the department's civil and construction engineering degree programs, or to obtain such background through specified prerequisite coursework. Further, students are expected to have earned a grade point ratio of at least 3.0/4.0 on the last four semesters of academic study (at least 60 semester credit hours). Applicants with a GPR less than 3.0/4.0 can be considered under special circumstances, such as significant related work experience.

Program Requirements
To graduate all students must complete a course in advanced mathematics and must satisfy the requirements of one of three program options.

1. Advanced Mathematics
Select from one of the following:
MATH 5070 - Numerical Analysis I Credits: 3 hrs.
MATH 5100 - Applied Matrix Algebra Credits: 3 hrs.
MATH 5720 - Vector Calculus and Complex Variables Credits: 4 hrs.
MATH 5740 - Advanced Differential Equations Credits: 3 hrs.
MATH 6050 - Optimization Credits: 3 hrs. With the consent of the advisor, a different course in mathematics can be used under special circumstances.

2. Civil and Construction Engineering Courses
Regardless of the degree option selected, at least 50 percent of the total credit hours applied to the degree, excluding thesis and design project, must be CCE courses and at least 2/3 of the credit hours applied to the degree must be taught by a department in the College of Engineering and Applied Sciences. Further, no more than three credit hours of independent study courses can be applied to the degree.

Option One - Research (30 credit hours)
Students must successfully complete at least twenty-four credit hours of graduate coursework including at least three courses in a primary area of study within civil engineering and two areas in a secondary area of study within civil engineering, successfully complete at least six credit hours of graduate thesis research, prepare a research thesis, and successfully complete a final oral examination that is primarily focused on the research thesis but can also address coursework. The final examination will be administered by the student's graduate academic committee. This program option is intended primarily for students who wish to conduct research and expand civil engineering knowledge.

Please note that this is the only degree option for which graduate assistantships are available.

Option Two - Professional Practice (30 credit hours)
Students must successfully complete at least twenty-seven credit hours of graduate coursework including at least three courses in each of two areas of civil engineering and at least three credit hours of graduate capstone design that culminates in the preparation of a project report. Depending upon the student's previous background, a course in management may be required as the focus of this degree option is professional practice. Further, each student must successfully complete the Fundamentals of Engineering examination and a final oral examination that is focused on the graduate design project. The final examination will be administered by the student's graduate academic committee. This degree option is intended primarily for students who intend to practice civil engineering at the professional level.

Option Three - Technical and Management Development (36 credit hours)
Students must successfully complete at least thirty-six credit hours of graduate coursework including at least three courses in each of two areas of civil engineering and three courses developing business management and engineering management skills. At least two CCE courses used for the degree program must be graduate design courses. Further, students must successfully complete a final comprehensive written and/or oral examination that addresses the student's undergraduate and graduate education. The final examination will be coordinated by the student's graduate academic advisor. This degree option is intended primarily for students in practice who want to enhance their technical skills and to develop management skills.
College of Fine Arts

Margaret Merrion
Dean

Jim Hopfensperger
Associate Dean

Academic Units:
Art
Dance
Music
Theatre

The mission of the College of Fine Arts is to provide scholarly activity, creative experiences and research that inform and support instruction, performance and exhibitions. In addition, the College must provide the resources that will allow students to become effective performers, artists, educators, practitioners, scholars, researchers and specialists in their chosen disciplines. These professionals will be sensitive and experienced in working with diverse populations in schools, arts organizations, communities and families. Critical to the mission are the constant evolution of effective instruction for students; the exploration of meaningful and ever-changing aesthetic issues; educational and artistic partnerships throughout the region; and national and international outreach that enriches the lives of all. Further, the College of Fine Arts embraces a public purpose to elevate the human condition through the arts.

The Goals are:

- to graduate students who will be artist-practitioners in the various art forms;
- to train teachers who will perpetuate the strong traditions of the arts;
- to train therapists to use the arts in a healing capacity;
- to prepare scholars who will continue to disseminate historical and theoretical information;
- to foster an appreciation of the arts among general university students, who will constitute the growing body of people whose lives are enriched by the arts;
- to contribute to the cultural life of the university and the greater Kalamazoo community; and to expand our outreach nationally and internationally.
The philosophy underlying the School of Art's courses and programs is to establish an awareness and understanding of the visual arts to gain a liberal arts education, and likewise, that a liberal education is a necessary part of a professional artist's training. To that end, programs in Art seek to meet the objectives of three different types of students: those who have an interest in simply taking courses in the field for personal enjoyment and growth, those with professional ambitions in the various areas of practice and teaching, and those liberal arts oriented persons who seek a major in the general field of the visual arts.

The various programs offered by the School of Art are designed to promote the education of good artists and artists-teachers and to increase the artistic awareness among students in other areas. Extracurricular activities include many exhibitions, lectures by visiting artists, and a student-operated gallery.

The purpose of graduate study in the School of Art is to advance: Individual studio and scholarly talents, interests, and philosophies, used creatively both to expand and preserve our cultural heritage;
professional studio competence exemplified by a significant body of work; the student's potential to solve contemporary problems in all aspects of the visual arts and to explore and address new questions and issues; professional competence in the dissemination of knowledge, including logical, clear verbal and written presentation of aesthetic ideas in teaching and other contexts; scholarly competence in the organization, evaluation, and interpretation of knowledge.

Both the Master of Arts, an initial graduate degree, and the Master of Fine Arts, which is the terminal studio degree, are offered in the following practice oriented areas of emphasis: Sculpture, ceramics, printmaking, photography, painting/watercolor, and graphic design. These programs have the same admission requirements. The Master of Arts in Art Education is designed to address the needs of art educators for advanced preparation in their discipline.

Western Michigan University is an accredited member of the National Association of Schools of Art and Design and subscribes to the recommendations of this organization.

Master of Arts in Art
Advisors: Ellen Armstrong
Room 1406, Sangren Hall

Vince Torano, Graduate Coordinator
Room 1404, Sangren Hall

Art Practice emphasis requires a minimum thirty credit hours, for students interested in advanced study in art practice for professional reasons.

Admission Requirements
1. An undergraduate degree with a major in art or its equivalent.
2. A completed application for admission.
3. A portfolio of slides must be submitted directly to the Graduate Coordinator of the School of Art. It should include twenty slides in the applicant's area of concentration. The slides must be submitted in a plastic sleeve with artist's name, size of work, year, and medium.
4. A statement of intent outlining the reasons for seeking admission to a graduate program in a specific area of concentration.
5. Three letters of recommendation for admission.
6. A current resume.

Program Requirements
1. Twelve hours in one area of concentration.

2. Six hours in advanced art history.

3. Two hours in the following course.
ART 6250 - Graduate Art Seminar Credits: 1 hrs.
4. At the end of each student's first and second semester a formal review by a Graduate Committee will (a) determine continuation in the degree program; (b) delay review by one semester; (c) drop the student from further degree status in the program.

5. Two hours in the following course. This course includes a final exhibition and oral presentation which must be approved by the student's Graduate Committee before the Master of Arts is granted. ART 6130 - Graduating Presentation Credits: 2 hrs.

6. Eight hours in electives, five of which must be taken within the School of Art.

Master of Arts in Art Education
Advisors: Ellen Armstrong
Room 1406, Sangren Hall

Vince Torano, Graduate Coordinator
Room 1404, Sangren Hall

The Master of Arts in Art Education is designed to address the needs of art educators for advanced preparation in their discipline. Required courses include credit hours in art education, art studio, and art history.

Art education courses are designed to combine emphasis on research and curriculum development, and also provide strong foundations in theory and practice related to teaching art in various professional contexts. Topical seminars focus on recent issues and new developments in art education. Research in art education focuses on qualitative and quantitative research methods. Students will prepare and defend a written thesis. Advanced studio courses will provide students with opportunities to develop as artists and achieve individual goals for excellence in a range of art media. Advanced course work in art history will focus on western and non-western sources of art. All course work will be offered only during Summer II sessions. Students who follow the outlined program can complete degree requirement over four summers.

Admission Requirements
1. An undergraduate degree with a major in art or its equivalent.
2. A completed application for admission (the blue sheets of the graduate self-managed application).
3. A portfolio of twenty slides or CD (ten slides of personal work and ten slides of student work).
4. A statement of intent outlining the reasons for seeking admission to a graduate program in art education.
5. Three letters of recommendation for admission.
6. A current resume.

Program Requirements
1. Sixteen hours in Art Education:
   ART 6510 - Art Education Theory Credits: 3 hrs.
   ART 6520 - Recent Topics in Art Education Credits: 3 hrs. (to be repeated once)
ART 6530 - Research in Art Education Credits: 3 hrs.
ART 6550 - Graduate Project in Art Education Credits: 2-4 hrs.

2. Six hours in advanced art history:
ART 6210 - Graduate Topics in Art History Credits: 3 hrs. (to be repeated once)

3. Eight hours in studio art offered within the School of Art. Choose from among:
ART 5900 - Drawing and Painting Studio Credits: 2 hrs.
ART 5920 - Photography Studio Credits: 2 hrs.
ART 5930 - Digital Imaging Studio Credits: 2 hrs.
ART 5940 - Ceramics Studio Credits: 2 hrs.
ART 5950 - Sculpture Studio Credits: 2 hrs.
ART 5960 - Printmaking Studio Credits: 2 hrs.
ART 5970 - Jewelry and Metalsmithing Studio Credits: 2 hrs.
ART 6900 - Advanced Studio Credits: 2 hrs. (see #4 below)

4. Studio course.
ART 6900 - Advanced Studio Credits: 2 hrs. (may be repeated once).

Master of Fine Arts in Art
Advisors: Ellen Armstrong
Room 1406, Sangren Hall

Vince Torano, Graduate Coordinator
Room 1404, Sangren Hall

The sixty-hour Master of Fine Arts program is recommended as a terminal degree for practicing artists and for prospective higher education art professors. It is intended for artists who have a clear notion of their artistic purposes and are primarily interested in continuing their personal and artistic development.

Admission Requirements
1. An undergraduate degree with a major in art or its equivalent.
2. A completed application for admission.
3. A portfolio of slides must be submitted directly to the Graduate Coordinator of the School of Art. It should include twenty slides in the applicant's area of concentration. The slides must be submitted in a plastic sleeve with artist's name, size of work, year, and medium.
4. A statement of intent outlining the reasons for seeking admission to a graduate program in a specific area of concentration.
5. Three letters of recommendation for admission.
6. A current resume.
Program Requirements
1. Twenty-four hours in the major area of concentration.

2. Nine hours in art history.

3. Eighteen hours in electives, chosen in consultation with the student's faculty advisor.

4. Three hours in the following course.
   ART 6100 - Advanced Drawing Credits: 1-6 hrs.

5. Four hours in the following course.
   ART 6250 - Graduate Art Seminar Credits: 1 hrs.

6. Required reviews:
   At the end of each student's first and second semester, a formal review by The Graduate Program Committee will: (a) determine continuation of the degree program; (b) delay review for one semester; (c) drop the student from further degree status in the program; (d) drop the student from the M.F.A. degree status and offer the option to pursue M.A. degree status. The 45th hour review will be performed by the student's Graduate Committee who are also responsible for supervision of the remainder of the student's program of study, including the final exhibition presentation.

7. Minimum of one year residence on campus required.

8. Two hours in the following course. This course includes a final exhibition and oral presentation which must be approved by the student's Graduate Committee before the Master of Fine Arts is granted.
   ART 6130 - Graduating Presentation Credits: 2 hrs.
Dance

Professor Nina Nelson, Chair
Main Office: 3107 Dalton Center
Telephone: 387-5830
FAX: 387-5820

Jane Baas
David Curwen
Sharon Garber
Nina Nelson
Carolyn Pavlik
The Master of Music is designed to enhance the student's teaching, performing, research, and creative abilities in music. The School of Music offers course work leading to a Master of Music degree in five different areas of concentration: Performance, Composition, Conducting, Music Education, and Music Therapy. Western's School of Music is accredited by the National Association of Schools of Music and all areas of concentration carry curriculum approval from that accrediting association. The Music Therapy program is approved by the American Music Therapy Association.

Admission Requirements
A Bachelor of Music degree, or its equivalent, including sixty (60) semester hours of acceptable work in music, is required for admission. Students are admitted to graduate study in music on the basis of transcripts. Exceptions to admission requirements may be granted if competency can be demonstrated through Proficiency Examinations. Admission to the School of Music does not imply that the student will be permitted to pursue a specific area of concentration (performance, composition, etc.). Program of study will not be determined until Proficiency Examinations are taken and the student has completed 6-10 semester hours of course work. At that time a recommendation for degree candidacy will be approved if the student has demonstrated a sufficient level of scholarship and musicianship.

Proficiency Examinations are administered prior to entry to the graduate music program. Areas of examination include performance, music history/literature, music theory, music therapy, functional piano, and conducting (including aural skills). The areas in which the student will be tested are determined by the choice of area of concentration.

Program Requirements
The Graduate Coordinator/Advisor in the School of Music works closely with each student in planning and implementing a degree program which will accommodate the student's professional needs and interests and, at the same time, will realize the full value and depth of the University's graduate offerings. The student's needs are determined by an evaluation of the results of Proficiency Examinations and a review of the first 6-10 semester hours of course work taken. After this evaluation and review, the Graduate Coordinator/Advisor provides information to the student regarding probable success in the degree program and any time limitation that may apply to the student's completion of degree requirements. The program of study in each of the five areas of concentration is as follows:
Performance (Minimum of 30-hrs.)

**Admission Requirements/Procedures**
Proficiency Examinations in theory, history/literature, and performance. The performance Proficiency Examination will determine if the student will be permitted to pursue this major area of concentration. Sight-reading may be requested. Vocal majors must demonstrate piano skills and a proficiency in French, German, and Italian diction. Deficiency course work will not apply toward the degree.

**Concentration Requirements**
1. Required courses:
   - MUS 6000 - Applied Music Credits: 1-4 hrs.
   - MUS 6100 - Introduction to Research in Music Credits: 3 hrs.
   - MUS 6900 - Graduate Recital Credits: 2 hrs. Including oral exam.

2. Cognate music studies:
   Composition, music education, history/literature, theory, jazz studies (9-12).

3. Ensemble requirements:
   A minimum of two (2) credits of chamber ensembles and two (2) credits of conducted ensembles. (Keyboard majors are required a minimum of two (2) credits of chamber ensembles.) A maximum of six (6) credits of ensembles may be applied toward the Performance degree requirements.

4. Electives to make a total of at least 30 semester hours. Must include a 6000-level music theory and a 6000-level music history course, unless already required in the program.

Composition (Minimum of 30-hrs.)

**Admission Requirements/Procedures**
Proficiency Examinations in theory, history/literature, and placement interview-auditions in piano, composition, electronic composition, musical acoustics, and counterpoint. Before the student will be admitted to this area of concentration, the composition faculty must review and approve the student's prior compositional work.

**Concentration requirements**
1. Required courses:
   - MUS 6100 - Introduction to Research in Music Credits: 3 hrs.
   - MUS 6620 - Seminar in Composition Credits: 2 hrs.
   - MUS 7000 - Master's Thesis Credits: 6 hrs. Including oral exam.

2. Cognate music studies:
   Applied music, music education, history/literature, theory, jazz studies (9-12).

3. Electives to make a total of at least 30 semester hours. Must include a 6000-level music theory and a 6000-level music history course, unless already required in the program.

4. Proficiency in keyboard must be demonstrated, but course work may not apply to degree.
Conducting (Minimum of 31~hrs.)

Admission Requirements/Procedures
1. Bachelor's degree in music or its equivalent including sixty (60) semester hours of acceptable work in music.

2. Two years of conducting experience in public school or equivalent experience recommended.

3. A videotape (VHS) demonstrating the applicant's conducting skill. Must be received on or before February 15. Applicants who pass this initial screening will be invited for a conducting audition in March or April.

4. A live audition will be administered on the Western Michigan University campus by three full-time members of the conducting faculty, with one being outside the applicant's conducting area. Applicants will a) conduct an appropriate University ensemble on a work or on works to be selected in consultation with the appropriate conducting faculty member; b) demonstrate aural perception and score reading skills; and c) demonstrate, if a choral applicant, keyboard competency and singing proficiency.

~ All applicants will participate in an interview with faculty in their conducting area. By May 1, the Coordinator of Graduate Studies in Music will inform applicants of the results of their audition.

5. The Proficiency Examinations in music theory, history, and literature must be completed prior to the applicant's first semester of enrollment. Remediation may be prescribed as a result of deficiencies in any of the audition/Proficiency Examination areas.

Concentration Requirements
1. Core Requirements:
   MUS 6100 - Introduction to Research in Music Credits: 3 hrs.
   MUS 6640 - Form in Music Credits: 2 hrs.
   MUS 6700 - Seminar in Musicology Credits: 2 hrs. or
   MUS 6790 - Composers Credits: 2 hrs.
   MUS 6900 - Graduate Recital Credits: 2 hrs. Including oral exam.

2. Area Requirements:
   MUS 5300 - Advanced Choral Conducting Credits: 2 hrs.
   MUS 5310 - Advanced Instrumental Conducting Credits: 2 hrs.
   MUS 5670 - Orchestration Credits: 2 hrs.
   MUS 5770 - Symphonic Literature Credits: 2 hrs. or
   MUS 5810 - Choral Music Literature Credits: 2 hrs. or
   MUS 5820 - Wind Music Literature Credits: 2 hrs.
   MUS 6000 - Applied Music Credits: 1-4 hrs. 2 semesters
   MUS 6070 - Conducting Master Class Credits: 1 hr. 4 semesters

3. Cognate:
   Six (6) hours of course work in a secondary area of specialization to be determined in consultation with the candidate's major professor and graduate coordinator. To be chosen from the applied, composition,
theory, history/literature, jazz, or music education areas. Cognate must include at least one 6000-level course.

**Music Education (Minimum of 30 hrs.)**

**Admission Requirements/Procedures**
A Bachelor of Music degree, or its equivalent, with a major in music education, and a teaching certificate are required for admission. Proficiency Examinations in theory and history/literature.

**Concentration Requirements**
1. Required courses:
   - MUS 6100 - Introduction to Research in Music Credits: 3 hrs.
   - MUS 6420 - Philosophy of Music Education Credits: 2 hrs.
   - MUS 6500 - Seminar in Music Education Credits: 2 hrs.
   And Either:
   - Culminating option (choose a, b, or c)
     - a) MUS 6810 - Research in Musical Behavior Credits: 2 hrs. Every student is required to register for one of these culminating projects, each of which includes an oral exam. For students anticipating doctoral studies, a thesis is strongly recommended.)
     or
     - b) MUS 6910 - Special Project in Music Education Credits: 2 hrs. Every student is required to register for one of these culminating projects, each of which includes an oral exam. For students anticipating doctoral studies, a thesis is strongly recommended.)
     - c) eight (8) hours of pre-approved graduate courses, including written comprehensive exam.

2. Electives in music education (5-8).

3. Cognate music studies:
   - Applied music, composition, theory, history/literature, jazz studies (9-12).

4. Electives to make a total of 30-36 semester hours. Must include a 6000-level music theory and a 6000-level music history course, unless already required in the program.

**Music Therapy (Minimum of 30 hrs.)**

**Admission Requirements/Procedures**
A Bachelor of Music degree or its equivalent (60 hours of music courses) and a major in music therapy are required for admission. Students who have a Bachelor of Music degree, but do not have a major in music therapy, may complete the required undergraduate courses, including the six-month internship, for Board Certification while the graduate program is in progress. This undergraduate credit, however, will not apply to the graduate degree. Equivalency requirements may be obtained from the Director of Music Therapy in the School of Music.

Upon entrance to the program, the student will take Proficiency Examinations in theory, history/literature, music therapy, and functional piano. Information derived from these examinations
plus that derived from the audition, transcripts, and initial interviews will be used to determine the program of study.

**Concentration Requirements**

1. Required courses:
   - MUS 6100 - Introduction to Research in Music Credits: 3 hrs.
   - MUS 6800 - Seminar in Music Therapy Credits: 2 hrs.
   - MUS 6810 - Research in Musical Behavior Credits: 2 hrs.
   - MUS 7000 - Master's Thesis Credits: 6 hrs. The student must have completed the six-month internship required for Board Certification prior to enrolling in MUS 7000, Master's Thesis, and MUS 7120, Professional Field Experience.
   - MUS 7120 - Professional Field Experience Credits: 2-12 hrs.

2. Elective music courses (6-9).

3. Non-music electives Selected from one of the following departments and including at least one course in statistics: Anthropology, Blind Rehabilitation and Mobility, Counselor Education and Counseling Psychology, Mathematics and Statistics, Occupational Therapy, Psychology, Sociology, Special Education, Speech Pathology and Audiology, Education and Professional Development (6-9).

**Master of Arts in the Teaching of Music**

Admission to this degree program is suspended, pending curriculum review.
Theatre

Dr. Joan Herrington, Chair
Main Office: 1105 Gilmore Theatre Complex
Telephone: 387-3224
FAX: 387-3222

Cheryl Bruey
Jay Berkow
James Daniels
Pat Daniels, Adjunct
Patrick Donnelly, Staff
Sandy Duke, Staff
Micha Espinosa
Vince Faust, Adjunct
Leon Ingulsrud, Adjunct
Matthew A. Knewtson
Mark Liermann
Tom Lowry, Adjunct
Kate MacKenzie, Staff
David Makuch, Staff
Gwen Nagle
Patrick Niemi, Staff
Greg D. Roehrick
Robert L. Smith, Adjunct
Von H. Washington
D. Terry Williams
Interdisciplinary Programs – College of Fine Arts

Master of Fine Arts in Performing Arts Administration

This professional degree program leading to a Master of Fine Arts is designed to prepare graduate students to function effectively in administration positions. The program of study is designed to provide students with skills and knowledge of administration in dance, music, or theatre in areas of planning, budgeting, volunteerism, public relations, leadership, fund raising, and evaluation. Under the guidance of the Director of the M.F.A. program, students will be placed for their practicum experience with local arts organizations. The Field Experience entails placement in disciplines of choice for an extended internship with national arts organizations.

Admission requirements
1. An undergraduate degree with a major in dance, theatre, or music with a 3.0 grade point average. Applicants with other majors will be reviewed on a case-by-case basis and may be asked to submit additional material.
2. A completed application for admission with two official transcripts from all previous undergraduate and graduate institutions.
3. A current resume.
4. A Personal Statement of Purpose, approximately 1,000 words in length, outlining reasons for seeking admission to the program.
5. At least two letters of recommendation.

Program requirements
Students must complete the Arts Administration courses prior to (or concurrent with) the initial enrollment in THEA 6120. Students must complete 36 hours prior to enrollment in GRAD 7120.

Equivalency to some courses may be available through credit by examination.

The Practicum (THEA 6120) is intended to be a placement with one of the many local nonprofit arts organizations in the Greater Kalamazoo Area. The Field Experience (GRAD 7120) will involve placement with a national nonprofit arts organization in the student’s area of expertise and will conclude with the Project Paper Seminar (PADM 6800).

1. Arts Administration Courses (38 hrs.)

Fundraising
PADM 5870 - Fund Raising for Nonprofit Organizations Credits: 2 hrs.

Audience Development
THEA 5600 - Audience Development Credits: 2 hrs.

Volunteers
PADM 5820 - Volunteer Recruitment and Retention Credits: 1 hr.
SOC 6740 - The Nonprofit Sector in Society Credits: 3 hrs.
Financial Planning
PADM 5860 - Budget Development for Nonprofit Organizations Credits: 2 hrs.
PADM 5890 - Accounting and Financial Reporting by Nonprofit Organizations Credits: 3 hrs.

Board of Trustees
PADM 5800 - Nonprofit Board-Staff Relations Credits: 1 hr.

General Arts Administration
DANC 5450 - Arts Administration Seminar Credits: 1 hr.
DANC 5890 - Season Planning and Production Credits: 2 hrs.
EDLD 6010 - Workshop Seminar Credits: 1-4 hrs.
PADM 6410 - Administering Arts Organizations Credits: 2 hrs.
PADM 6440 - Human Resources for Nonprofit Organizations Credits: 2 hrs.
SWRK 6230 - Leadership in Nonprofit Organizations Credits: 2 hrs.
SWRK 6270 - Planning in Nonprofit Organizations Credits: 2 hrs.
THEA 5610 - Facility and Ticket Office Operations Credits: 2 hrs.

Contracts
LAW 6810 - Legal and Ethical Issues for Nonprofit Organizations Credits: 2 hrs.

Grant Writing
PADM 5830 - Grant Writing for Nonprofit Organizations Credits: 2 hrs.

Marketing
PADM 5840 - Promoting Nonprofit Organizations Credits: 2 hrs.
PADM 6060 - Applied Research Methods Credits: 3 hrs.

2. Arts Criticism/Writing (6 hrs.)
ENGL 6330 - Professional Writing: Form and Technique Credits: 3 hrs.
MUS 6450 - Arts: Aesthetics and Criticism Credits: 3 hrs.

3. Arts Administration Projects (16 hrs.)
GRAD 7120 - Professional Field Experience Credits: 2-12 hrs.
PADM 6800 - Project Paper Seminar Credits: 3 hrs.
THEA 6120 - Practicum in Arts Administration Credits: 3-9 hrs.
College of Health and Human Services

Earlie Washington
Interim Dean

Jeanine Bartholomew
Director of Academic and Student Services

Academic Units:
College of Health and Human Services
  Evaluation
  Interdisciplinary Health Services
  Interdisciplinary Health Studies
Blindness and Low Vision Studies
Bronson School of Nursing
Occupational Therapy
Physician Assistant
  Alcohol and Drug Abuse
  Clinical Trials Administration
  Holistic Health Care
Social Work
  Gerontology
Speech Pathology and Audiology
Blindness and Low Vision Studies

Dr. James Leja, Chair
Main Office: 4464 CHHS Bldg.
Telephone: (269) 387-3455
FAX: (269) 387-3567
URL: http://www.wmich.edu/hhs/BLRH/index

Robert Wall Emerson
David Guth
Richard Long
Paul Ponchillia
Susan Ponchillia
Annette Skellenger
Jennipher Wiebold

The Department of Blindness and Low Vision Studies offers four master's degree programs. The programs in Orientation and Mobility and in Rehabilitation Teaching are approved by the Association for Education and Rehabilitation of the Blind and Visually Impaired. The program in Rehabilitation Counseling is accredited by the Council on Rehabilitation Education.

It is the vision of the Department to strengthen our leadership positions in personnel preparation and research in order to enhance the seamless integration of individuals with visual impairments into their desired roles in society and to facilitate their socio-economic and vocational equality.

Our mission is to provide instruction, conduct research, and offer professional service in an effort to prepare students to serve individuals with visual impairments. We are dedicated to the science of best practice, the responsible use of human and economic resources, the advancement of people with disabilities in society, and the delivery of quality rehabilitation and education services worldwide.

The programs are designed to prepare individuals for entry-level positions in Orientation and Mobility, Rehabilitation Teaching, Rehabilitation Counseling/Teaching, and Teaching Children Who Are Visually Impaired/Orientation and Mobility in public and private blindness agencies, in schools, and in rehabilitation facilities. The Orientation and Mobility and the Rehabilitation Teaching programs require 37 and 39 semester hours of course work respectively. The Rehabilitation Counseling/Teaching program requires 77 semester hours of course work. The Teaching Children Who Are Visually Impaired/Orientation and Mobility with a Concentration in Teaching Children program requires 65 semester hours. Curriculum guides for the four programs are available from the Department office.

The professional preparation for students entering any of the four degree programs described below includes academic study on campus, simulated disability experiences, a research project, field practice
or comprehensive examination, and an off-campus supervised clinical field experience. Federal grants from the United States Department of Education provide students enrolled in most masters' programs with tuition assistance and stipend awards.

Admission Requirements
Admission to a Master of Arts program in the department is based upon undergraduate academic record, appropriate goals, related experience, interpersonal and communication skills, emotional maturity, and functional independence. Prior to consideration by the M.A. Admissions Committee, applicants are required to complete a departmental application obtained from the Department of Blindness and Low Vision Studies and a Graduate Self-Managed Application obtained from the Office of Admissions and Orientation. Upon admission, an applicant is assigned an advisor who will assist in preparing a Program of Study.

Not every applicant who meets minimum admission requirements can be admitted; the department reserves discretion in admission of the most highly qualified applicants.

The Department recognizes the importance of increasing the educational opportunities of minority students as well as insuring diversity of role models in the field of rehabilitation. Therefore, the Department strives to create an atmosphere conducive to the concerns of diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its commitment to recruit, admit, and graduate minority students prepared for their chosen careers. Toward this end, the Department, the College of Health and Human Services, and The Graduate College provide additional financial and program support for eligible minority students.

Admission Procedures
1. Complete the “Graduate Admission Application” available from WMU Admissions or online at the www.wmich.edu website.
2. Complete the “Blindness and Low Vision Studies Department Application” available online at http://www.wmich.edu/hhs/blrh/graduate/MA%20option%20form.doc or by contacting the Department.
3. Submit a two-page biographical essay that includes reasons for pursuing a degree in blindness and low vision studies, professional goals, an assessment of personal assets and liabilities, and one’s life experiences that might be useful in work as a helping professional.
4. Submit Departmental Recommendation Forms completed by three professionals knowledgeable of the applicant’s academic and/or the applicant’s professional experience.
5. WMU Graduate Admission require two copies of all university transcripts. Minimum grade point average for regular admission is a 3.00 in the last sixty credit hours of undergraduate study.

Distance Education
The Department offers the opportunity for pursuing some of its degrees via distance education format. Currently, the programs in Teaching Children with Visual Impairments, Orientation and Mobility, and Rehabilitation Teaching are available. Most didactic lecture-based courses are presented in alternative format, while the experiential skills courses are compressed into one or two summertime sessions. All distance education offerings require off-campus clinical field experience. Admission requirements for students pursuing distance education include providing assurances of agency or school support. Contact the respective program advisor for details.
Master of Arts in Orientation and Mobility
Advisor: David Guth,

The thirty-seven hour Orientation and Mobility (OMOM) degree program prepares specialists who teach adults who have blindness or low vision to travel independently, safely, and efficiently in their homes and communities. One may also earn dual degrees in Orientation and Mobility and in Rehabilitation Teaching, which can be accomplished in two additional semesters.

Master of Arts in Orientation and Mobility with Children
Advisor: Annette Skellenger

The thirty-seven hour Orientation and Mobility degree program prepares Orientation and Mobility specialists to work with children (OMCM). This program includes instruction in the typical O&M curriculum to prepare children to move independently, safely, and efficiently in their homes and communities. In addition, this degree provides focus on areas such as body image, sensory-motor skills, and concept development. Graduates are eligible to become certified orientation and mobility specialists. Students may choose to combine this degree program with preparation as a teacher of children with visual impairments to attain dual competency.

Master of Arts in Rehabilitation Teaching
Advisor: Susan Ponchillia

The thirty-nine hour Rehabilitation Teaching (RHTM) degree program* prepares a practitioner to offer instruction to people who have blindness or low vision in the following skills of independent living: communications, adapted computer technology, personal management, home management, minor household repairs, and leisure time activities. One may also earn dual degrees in Orientation and Mobility and in Rehabilitation Teaching, which may be accomplished in two additional semesters.

*Leads to national certification
The Western Michigan University Bronson School of Nursing offers a Bachelor of Science in Nursing (BSN) and a Master of Science in Nursing (MSN).

Master of Science in Nursing
Advisor: Joyce Thompson
3481 CHHS Bldg.

The graduate program in nursing builds upon the baccalaureate entry into professional nursing, providing both academic and practice experiences basic to advancing competencies for advanced professional nursing. The purpose of the Master of Science in Nursing (MSN) program is to prepare
nurses with advanced education in the discipline of nursing, in scholarship, and in a selected area of study. The initial areas of study that are timely in the local and national context are 1) the preparation of nurse teachers who are able to serve as faculty, practice preceptors, and teachers of other health professionals in a variety of settings, and 2) the preparation of nurse leaders/managers who can function in complex health care systems.

The graduate program in advanced professional nursing has been designed to meet accreditation requirements of the Commission on Collegiate Education in Nursing (CCNE) at the national level, and includes the essential content required for graduate level nursing programs defined by the American Association of Colleges of Nursing (AACN). Emphasis on learning within an interdisciplinary environment is included in keeping with recommended competencies for health professionals from the Institute of Medicine (IOM).

The master’s degree program requires a minimum of forty-two credit hours taken within 14 courses (3 hours each). There are eight core courses required of every student, four courses within the selected area of study, and two electives. The thesis option is also available, but not required. The program is designed for part-time study. Practicum experiences with an assigned faculty or community mentor will be chosen to best meet the needs of individual learner’s career plans.

Admission Requirements
Applicants must complete both the University application and the School of Nursing application forms. Applications must be complete before the personal interview is scheduled. Individuals are admitted for study beginning only in the Fall semester. Admissions decisions are announced on a continuous basis beginning March 15, though applicants are encouraged to apply as early as possible. Not every applicant who meets the minimum admission requirements can be admitted; the department reserves discretion in admission of the most highly qualified applicants. Specific admission requirements are outlined below.

1. Evidence of an earned BSN or BS degree with a major in nursing from an accredited baccalaureate program in nursing. Nurses with a baccalaureate degree in another discipline will be considered on an individual basis.
2. A grade point average of at least 3.0 out of 4.0 in the last sixty credit hours of the undergraduate nursing program;
3. Completion of the following Prerequisites:
   • An undergraduate course in descriptive and beginning inferential statistics
   • An undergraduate course in informatics
4. Current license to practice nursing in one of the 50 states, territories, or country of origin;
5. Submission of scores on TOEFL for international students with minimum score of 600;
6. Evidence of personal and professional qualifications for graduate study, as reflected in
   • Three (3) letters of reference from individuals able to comment on the applicant’s most recent nursing employment, academic record, and potential for success in advanced professional nursing
   • Responses on written essay related to advanced professional nursing
   • Current resume or curriculum vitae
   • Evidence of proficient nursing practice (e.g., certification)
   • Responses during personal interview, including professional and behavioral characteristics required for nursing practice

339
Program Requirements
Specific program requirements are as follows:
1. At the time of admission, the individual must declare the selected area of study desired (teaching or leadership/management).
2. Completion of a minimum of 14 graduate courses, including eight core graduate courses, four specialty courses, and two electives.
3. As an option, a master’s thesis (NUR 7000) may be substituted for the two electives by students who demonstrate research aptitude and interest.
4. The student must manifest behavioral and professional characteristics which, in the judgment of the school faculty, will support the development of her/his professional competence.
The Department of Occupational Therapy offers three graduate programs which lead to the Master of Science: The 4 + 1 program for entering freshman and transfer students, the graduate professional program (entry level) for non-therapists—i.e., those with a post-professional baccalaureate degree in an area other than occupational therapy—and the graduate program for certified therapists (advanced level).

Master of Science in Occupational Therapy
Advisor: David Orchanian
Room 3414, CHHS Building

The 4 + 1 Program
The occupational therapy department accepts applications to a 4 + 1 or five-year academic program leading to a Master of Science in Occupational Therapy. Students entering as freshmen or admitted as transfer students will complete 122 credit hours of undergraduate study in a dedicated occupational therapy curriculum in the Interdisciplinary Health Services Program through the College of Health and Human Services.

Completion of this curriculum will culminate in a Bachelor of Science in Interdisciplinary Health Services. Students will then enter the Graduate Program and complete a six-month internship followed by the Master of Science in Occupational Therapy program. Students will obtain a Master of Science in
Occupational Therapy at the end of five years, which is required by the Accreditation Council for Occupational Therapy Education for the practice of occupational therapy by 2007. Please refer to the undergraduate catalog for more information.

The Graduate–Professional Program
This entry-level program for non-therapists is designed to prepare the student to treat clients with various disabilities, and to be eligible for certification as an occupational therapist after successful completion of the Master of Science. This twenty-eight month program of combined academic and clinical education is intended for the student who has a baccalaureate degree in an area of study other than occupational therapy. It consists of seventy-three semester credit hours with thirty-seven semester hours in professional undergraduate courses and thirty-six semester hours of graduate courses. The program is accredited by the Accreditation Council for Occupational Therapy Education. A.C.O.T.E., 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220, 301-652-2682. Graduates are eligible to take the National Board for Certification in Occupational Therapy and are eligible to apply for licensure/registration in those states regulating the practice of occupational therapy.

The Professional Curriculum
The curriculum design of the occupational therapy program is based on a developmental progression intended to provide students with entry-level competencies in their chosen profession and to develop the personal and professional characteristics that will allow them to assume the role(s) of occupational therapy practitioners in a variety of settings. In recognition of the fact that clinical practice occurs in an increasingly technological, interdependent and rapidly changing world, the curriculum simultaneously focuses on the development of self-directed, adult–and hence potentially life-long–learning.

Admission Requirements
To be eligible for regular admission to this program, each applicant must present evidence of the following criteria:
1. An earned bachelor's degree from an accredited college or university.
2. A cumulative grade point average of 3.0 or better in the most recent 60 hours of undergraduate and graduate academic course work.

Because admission is considered competitive, the academic criteria listed above should be considered as minimum standards.

Prerequisite Course Work
The following courses (with the WMU equivalent noted in parentheses) are required prerequisites for enrollment in the professional occupational therapy courses; some prerequisites may be elected as self-instructional courses (*). All prerequisite course work must be completed before the first semester of the occupational therapy program. All prerequisite courses must be completed with a grade of “C” (2.00) or better. Students are allowed to repeat only one course. For the course that is repeated, only one repeat is allowed.

1. Human Growth and Development through the Life Span (OT 2250* or equivalent)
2. A course in orientation to occupational therapy (OT 2020*)
3. A course in social/behavioral sciences

4. English composition (Proficiency 1 of General Education Requirements)

5. Eight credit hours of biological sciences, including human anatomy and physiology (BIOS 1910, or BIOS 2110 and 2400)

Admission Procedure
To apply, the applicant must complete both the university application for admission and the departmental application. The equal consideration date (deadline) for receiving all applications is February 1 of each year. Full-time study commences in the Fall semester.
1. Cumulative grade point average
2. Documentation of knowledge and experience as demonstrated by answers to narrative essays on the application form in the following areas:
   - Work and/or volunteer experiences
   - Statement of leadership roles
   - Statement of cultural/ethnic diversity and competency
   - Statement of research
3. Space available in program

Program Requirements
The graduate professional program consists of seventy-three semester hours in the following areas:
1. Completion of 40 hours of professional occupational therapy education. This 40-hour sequence of undergraduate professional education is designed to prepare the student to treat clients with various disabilities, and to be eligible for certification.

2. Completion of 33 hours of graduate courses Including six months of full-time fieldwork, designed to enhance growth in professional leadership potential by developing skills in administration, program development, theories of practice, professional issue resolution and research. This 33-hour component includes the following:
   - OT 5730 - Assistive Technology Credits: 3 hrs.
   - OT 6000 - Advanced Clinical Practice in Occupational Therapy Credits: 3 hrs.
   - OT 6330 - Administration of Occupational Therapy Credits: 3 hrs.
   - OT 6400 - Theory in Occupational Therapy Credits: 3 hrs.
   - OT 6600 - Research in OT I Credits: 3 hrs.
   - OT 6610 - Research in OT II Credits: 3 hrs.
   - OT 6860 - Graduate Seminar Credits: 3 hrs.
   - OT 6900 - Fieldwork Level II Credits: 3-12 hrs.
   - OT 6910 - Fieldwork Level II Credits: 3-12 hrs.
   - OT 7100 - Independent Research Credits: 2-6 hrs.

3. The student must:
   Manifest emotional and behavioral characteristics which, in the judgment of the department faculty, will not jeopardize his/her professional competence.
All graduate students must complete all department and Graduate College requirements for OT 7100, Independent Research, before beginning OT 6900. Completion of all requirements for OT 7100 is defined as having received signatures of completion by all readers and the submission of a grade or change of grade form signed by the first reader. Graduate students who do not complete the requirements given above by the due dates will have their names removed from the department list of students eligible for the NBCOT examination.

An overall grade point average of at least 3.0 (A=4.0) is required in the graduate program. No undergraduate credit is computed into the graduate grade point average. Honor point deficiencies acquired in credits earned at Western Michigan University cannot be made up by credits earned at another university.

Course Sequence
Courses in the professional program are completed in a sequential pattern toward developing complex clinical problem solving skills. The courses are not designed to stand alone, but to build upon the knowledge base from previous semesters.

The prerequisite and pre-professional courses build a solid knowledge base in the biological and behavioral sciences. The first semester centers on human function, pathology, dysfunction and activity analysis. Students also learn the history of the profession and current practice roles of therapists. The second semester students learn theory and techniques for evaluation and treatment and research design principles. The third semester centers on additional treatment techniques used in therapy, a clinical treatment experience with clients, and a second course in research which focuses on data analysis. The fourth semester of the professional program centers on a clinical treatment experience with clients in clinical programs in the Kalamazoo area and assistive technology.

The final Fall and Spring semesters are devoted fully to the graduate component designed to enhance growth in professional leadership. In Summer II and Fall, students enroll in OT 6900 and OT 6910 for the required six months, full-time fieldwork experience as a student therapist in two clinical practice sites (one being a medical model site and one being a community model site). Western Michigan University utilizes fieldwork sites primarily in Michigan and the midwest states with some sites throughout the United States. All fieldwork must be completed within 24 months following the completion of academic course work. Part-time enrollment is possible.

Remediation and Continuance Policy

1. Students will complete all required OT courses with a grade of "C" or better. Subsequent courses cannot be taken until prerequisites are completed successfully.

2. Students may repeat only one required pre-professional or departmental course, and that course only once, to attain a grade of "C" or better. Note that a withdrawal from a course is considered an enrollment.

3. Students who fail to attain a grade of "C" or better in a professional course will be placed on departmental probation.
4. Students who do not successfully complete departmental probation will not be permitted to continue in the program.

5. A second unsuccessful enrollment will result in termination from the program.

6. The student must:
   Manifest emotional and behavioral characteristics, which, in the judgment of the department faculty, will not jeopardize his/her professional competence.

7. The student must achieve:
   A score of 70% or above on Kasar’s Professional Development Assessment (70% of items scored) or complete an approved remediation plan for OT 2020, 3700, 3810/3820, 4750, and 4820.

Fieldwork Remediation and Continuance Policy

1. Successful completion of OT 4750 is a prerequisite for OT 4820.

2. Students who receive a failing grade in fieldwork The following courses are subject to the academic policy for remediation and continuance, and will repeat the experience in a similar setting.
   level I
   (OT 4750, OT 4820)
   OR

   level II
   (OT 6900, OT 6910) are subject to the academic policy for remediation and continuance, and will repeat the experience in a similar setting.

3. Successful completion of all professional and prerequisite course work is required for:
   OT 6900

4. Successful completion of all undergraduate course work required for graduation is required for:
   OT 6900 and OT 6910.

5. Students who fail fieldwork, or who are asked to withdraw are subject to review in accordance with the departmental remediation and continuance policy.

The Graduate Post Professional Program
This advanced level program for the certified occupational therapist leads to the Master of Science in Occupational Therapy and is designed to enhance growth in professional leadership potential by developing skills in administration, program development, theories and practice, professional issue identification and resolution, and research.

Admission Requirements
To be eligible for regular admission to this program, each applicant must present evidence of the following criteria:
1. An earned bachelor's degree from an accredited college or university.
2. A cumulative grade point average of 3.0 or better. (By policy of The Graduate College, students admitted with less than a 3.0 GPA are admitted on probation.)
3. Certified as an occupational therapist by NBCOT.

Because admission is considered competitive, the academic criteria listed above should be considered minimum standards.

Admission Procedure
To apply, the applicant must complete both the university application for admission and the departmental application. Admission is on a rolling basis. Full-time study commences in the summer semester.

Program Requirements
Completion of thirty hours of graduate courses, designed to enhance growth in professional leadership potential by developing skills in administration, program development, theories of practice, professional issue resolution and research. This thirty-hour component includes the following:
Cognates in OT or related fields, with advisor consent (6 hours)

Electives (3 hours)
- OT 6000 - Advanced Clinical Practice in Occupational Therapy Credits: 3 hrs.
- OT 6400 - Theory in Occupational Therapy Credits: 3 hrs.
- OT 6600 - Research in OT I Credits: 3 hrs.
- OT 6610 - Research in OT II Credits: 3 hrs.
- OT 6860 - Graduate Seminar Credits: 3 hrs.
- OT 7000 - Master's Thesis Credits: 6 hrs. OR
- OT 7100 - Independent Research Credits: 2-6 hrs.

Grade Requirements
An overall grade point average of at least 3.0 (A=4.0) is required for graduation from the graduate program. Students will complete all required departmental courses with a grade of "C" or better. Subsequent courses cannot be taken until prerequisites are completed successfully. Honor point deficiencies acquired in credits earned at Western Michigan University cannot be made up by any credits earned at another university.

Please read the WMU Graduate College Catalog for information on other requirements for the completion of a master's degree.

Course Sequence
The thirty-hour graduate program requires twenty-one hours of graduate course work which has been designed to build skills in advanced treatment theory, research, and professionalism
The nine hours of required cognate courses allow the student to develop advanced skills in occupational therapy, related fields, or areas of special interest. The program may be completed on either a full-time or part-time basis.

*advanced treatment theory*
OT 6400 - Theory in Occupational Therapy Credits: 3 hrs.

*research*
OT 6600 - Research in OT I Credits: 3 hrs. and
OT 7000 - Master's Thesis Credits: 6 hrs. or
OT 7100 - Independent Research Credits: 2-6 hrs.

*professionalism*
OT 6100
OT 6860 - Graduate Seminar Credits: 3 hrs.
Physician Assistant

Chair
Main Office: 3434 CHHS Bldg.
Telephone: 387-5314
FAX: 387-5319

Sherrill Busboom
William Fenn
Mark Gillette
Thomas Holmes
Karen Horneffer-Ginter
Dennis Simpson
Phil Walcott
Eric Vangsnes

Master of Science in Medicine in Physician Assistant

Advisor
3434 CHHS Bldg.

The Department of Physician Assistant offers a professional entry-level program leading to the Master of Science in Medicine in Physician Assistant. This program is solely intended as a full-time professional education curriculum, accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), allowing graduates to sit for the Physician Assistant National Certifying Examination, required by most states for licensure to practice.

Admission Requirements
To be eligible to apply for admission, prospective applicants must present evidence of the following:
1. Earned academic bachelor’s degree from an accredited institution, with a grade point average of 3.0 or better in the most recent 60 hours.
2. Completion of one course in developmental psychology (lifespan).
3. Completion of one upper division course in biochemistry.
4. Completion of one upper division course in microbiology.
5. Completion of one course in human anatomy.
6. Completion of one upper division course in human physiology.
7. Completion of one course in introductory statistics.
8. Completion of 1,000 hours of patient contact hours acceptable to the department.

Due to the competitive nature of this program, the above should be viewed as minimum standards.

Admission Procedures
To apply, the applicant must complete both the University's Application for Admission and the application to the Central Application Service for Physician Assistants (CASPA). Applications must be completed not later than December 31 of each year for the full-time class beginning the following fall. Selected candidates will be invited for a personal interview. Admissions decisions will be based on weighted scoring of academic history, healthcare experience, and information gleaned from essays, letters of recommendation, and interviews, and will be limited by available space.

Program Requirements
The graduate professional program consists of 95 semester hours taken in prescribed sequence over a continuous 24-month time period. The first year consists of 48 hours of primarily classroom education, while the second year consists of 47 hours of primarily clinical placement education. Each student must complete all MDSC course offerings (listed elsewhere) and satisfy all the department's professional standards criteria to meet graduation requirements.
Social Work

Dr. Earlie Washington, Director
4434 CHHS Bldg.
Telephone: (269) 387-3171
FAX: (269) 387-3183

Barbara Barton
Donald Cooney
Rick Grinnell
James Henry
Peter Judd
Frederick MacDonald
Gary Mathews
Robin McKinney
John Nielsen
Linda Reeser
Yvonne Unrau
Karen VanDeusen
Earlie Washington
Ineke Way
Susan Weinger
Donna Weinreich
Robert Wertkin

Master of Social Work
Director of Admissions and Student Services
Nancy McFadden
Room 4424, CHHS Building
(269) 387-3201

The Master of Social Work program in professional social work is designed to prepare students for direct service and leadership positions in the field of social welfare. The program is accredited by the Council on Social Work Education. The curriculum is structured as an integrated and sequential set of
conceptual and practicum educational experiences. In preparing students for practice, the School of Social Work recognizes a variety of theoretical paradigms and values and welcomes the challenge and benefits of intellectual and philosophical diversity. It supports students in their personal synthesis of these paradigms and values. In addition, the School stresses development and dissemination of social work knowledge and practice skills.

The graduate program prepares students for specialized and advanced levels of practice. It also incorporates a foundation curriculum, built on a liberal arts base. The foundation has two goals: To provide students with the knowledge, values, and skills leading to an informed perspective on the profession of social work and its service delivery systems, and to prepare students for entry into the concentrations.

There are two concentrations in the graduate program: 1. Interpersonal Practice and 2. Policy, Planning, and Administration. These concentrations build on the foundation curriculum and are the vehicles through which students learn the specific advanced skills of their chosen area of concentration.

The Interpersonal Practice concentration prepares students to become informed practitioners and leaders in working with individuals, families, and groups. Practice courses in the concentration are designed to provide expert competencies in interpersonal practice. Such competencies include the ability to assess situations, carry out appropriate interventions, and evaluate one's own practice framework, strategies, and results when working with clients.

The Policy, Planning, and Administration concentration has four essential components: Organizational leadership and management, program planning, analytic tools and technology, and policy practice. The desired outcome of the Policy, Planning, and Administration concentration is the empowerment of practitioners to facilitate changes in organizational, community, and societal structures and processes that contribute to a just distribution of opportunities and resources.

In addition, graduate social work students have an opportunity to participate in social work-related graduate certificate programs. Included are Alcohol and Drug Abuse (SPADA), Holistic Health Care, and Nonprofit Leadership and Administration.

Admission Requirements

Applicants for graduate study in social work must complete two applications---one for the Office of Admissions and Orientation (the Graduate Self-Managed Application) and one for the School of Social Work. Both applications can be obtained either from the Office of Admissions and Orientation or the School of Social Work. Admission is granted for the Summer I session only for applicants to the Kalamazoo full-time advanced standing program; for Summer II session only for applicants to the Grand Rapids part-time advanced standing program; and for the Fall semester only for applicants to the full-time and extended study programs. The deadline for filing applications is January 15th for advanced standing and March 15th for full-time or extended-study programs each year. In addition to The Graduate College's requirements for admission to a master's degree program, the following criteria will be considered:

1. Evidence of adequate academic preparation for graduate study in social work. This includes consideration of both undergraduate performance and area of study, and liberal arts academic background.
2. Evidence of personal qualifications considered desirable for successful social work practice. These include motivation for a human service profession, social work related volunteer or employment experience, personal maturity, and leadership ability.

3. Students who have earned a Bachelor of Social Work from a CSWE accredited program within six years of application may apply to the 39-hour, 12-month Advanced Standing Program. Applicants must meet the following criteria:
   - B.S.W. degree from a CSWE accredited program that is not more than six years old
   - Overall grade point average of 3.0
   - No more than one B.S.W. course below a “B.” Any B.S.W. course below a “B” will require retaking an equivalent course in the M.S.W. curriculum
   - One year of full-time post-B.S.W. human service work experience is recommended
   - One of the three letters of recommendation must address the applicant’s B.S.W. field or work experience and potential for success in an advanced standing program

Students will be admitted each spring into the Interpersonal Practice concentration and the Policy, Planning, and Administration concentration. Applicants may seek admission to either the campus program or the Grand Rapids Regional Center (off-campus) program. The application deadline for the Kalamazoo full-time, advanced standing program and the part-time Grand Rapids program is January 15. Full-time Kalamazoo students begin their program in the Summer I session and proceed for one full year. Part-time Grand Rapids students begin their program in the Summer II session and proceed for two calendar years. All classes at the Grand Rapids campus convene during evening hours. Due to the rigorous demands of this program, those who plan to be employed full-time should apply to the Grand Rapids part-time, advanced standing program.

Program Requirements
1. The successful completion of sixty hours of credit is required for the conventional master's degree in social work. The degree program includes the following course credits:
   - Required Foundation Courses in the School of Social Work (21 hours)
   - Required Concentration Courses in the School of Social Work (15 hours)
   - Elective Courses in Social Work or in other University departments (6 to 9 hours)

2. Field Education (12 hours: 6 in the Foundation and 6 in the Concentration)
   Advanced Social Work Research (SWRK 6420 for 3 hours or SWRK 6860 for 6 hours)
   Field Education: Students are required to complete two years of field education. The student’s first-year field assignment is a Foundation placement encompassing a wide range of social welfare practice situations. The student’s second-year field assignment is a Concentration placement, selected relative to the student’s career interests. Field education requires two days per week in the agency setting, averaging 16 hours per week throughout fall and spring semesters. Full-time students begin field education the first semester, taking foundation courses concurrently. Extended-study students begin field education in the second fall semester of the program, taking foundation courses both in the first year and concurrent with field education in the second year. Advanced-standing students begin the concentration placement in the summer II session. First-year placement requires 428 hours; second year, 472 hours; and advanced-standing, 596 hours.

3. First-year students with a B.S.W. may elect to take proficiency exams in SWRK 6100, 6300, 6310, 6330 and 6400 during the summer prior to the start of the graduate program. Students have the option of
receiving full credit for those courses in which proficiency exams are passed. To obtain information regarding exam eligibility criteria, contact the Director of Admissions and Student Services in the School of Social Work.

4. Students admitted to the M.S.W. Advanced Standing Program complete a minimum of 39 credit hours of required graduate courses.

5. One academic year of full-time study (up to 30 credit hours), including first-year field education, may be accepted for transfer from other accredited graduate schools of social work if the credits were earned with degree status. Anyone seeking admission as a second-year student should request an application packet and complete all application procedures. Transfer credit and equivalency will be reviewed by the student’s advisor and the School’s curriculum committee upon the student’s request.

6. Students may take up to 9 hours of credit under Non-degree Guest status before admission is offered. An additional 3 hours of credit under Guest status (up to a maximum total of 12 Guest hours) may be taken and transferred in after the student receives an offer of admission. Please contact the Director of Admissions and Student Services in the School of Social Work for information regarding available classes for Guest Students.

In addition to the full-time program and the Advanced Standing Programs, the School of Social Work offers an extended-study program on campus in Kalamazoo and off-campus in Grand Rapids. Persons interested in extended-study programming should contact the Director of Admissions and Student Services in the School of Social Work.

Financial aid is available to a limited number of qualified students. Information regarding the various types of available assistance may be obtained by contacting the Office of Student Financial Aid or the Director of Admissions and Student Services in the School of Social Work.
Speech Pathology and Audiology

Dr. John Hanley, Chair
Main Office: 4470 CHHS Bldg.
Telephone: 387-8045
FAX: 387-8044

Jan Bedrosian
Teresa Crumpton
Elaine DeRoover
Gregory Flamme
Sandra Glista
John M. Hanley
James M. Hillenbrand
Kathryn Hillenbrand
Yvette Hyter
Bharti Katbamna
Gary D. Lawson
Lisa LeBlanc
Nickola W. Nelson
Donna Oas
Mary Peterson
Helen Sharp
Stephen M. Tasko
Adelia VanMeter
Heidi Vogley

Master of Arts in Speech Pathology and Audiology

Elaine DeRoover,
Room 4489, CHHS Bldg.

John M. Hanley,
Room 4470, CHHS Bldg.

Gary D. Lawson,
Room 4488, CHHS Bldg.

The Master of Arts in Speech Pathology and Audiology, which is accredited by the Council on
Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-
Language-Hearing Association (ASHA), provides academic and practicum experiences basic to the
development of clinical competence in the evaluation and treatment of language, speech, and hearing
disorders. Students are generally expected to meet the standards for certification of clinical competence
by ASHA. The master's degree program consists of a minimum of fifty credit hours. Supervised clinical practice is required during every term of full-time registration and includes at least two assignments to off-campus practicum sites, in addition to regular evaluation and therapy responsibilities in the Charles Van Riper Language, Speech and Hearing Clinic.

**Admission Requirements**

Students are admitted for full-time study beginning only in the Fall semester. Admission decisions are announced on March 15, April 30, and July 15; applicants are advised to complete the application process as early as possible. Not every applicant who meets minimum admission requirements can be admitted; the department reserves discretion in admission of the most highly qualified applicants. Specific admission requirements are outlined below:

1. A grade point average of at least 3.0 in the last sixty credit hours of undergraduate study.
2. Completion of an undergraduate major, or equivalent undergraduate course sequence, in Speech-Language Pathology and Audiology. The student who has not completed these requirements as an undergraduate will need to do so before enrolling in departmental graduate courses.
   a. Undergraduate preparation must include at least fifteen semester hours (or equivalent) in courses that provide information on basic human communication processes. There should be at least one course in phonetics, one course in speech and language development, and one course in the science of speech and hearing.
   b. Undergraduate preparation must also include at least twelve semester hours (or equivalent) in courses that provide basic information on speech, language, and hearing disorders.
3. A grade point average of at least 3.00 in all undergraduate speech pathology and audiology course work.
4. Completion of at least twelve semester hours (or equivalent) of basic science course work, including courses in (a) biological and physical science, (b) mathematics, and (c) behavioral and social science. The student who has not completed this course work as an undergraduate will need to do so as a graduate student in order to meet ASHA standards for clinical certification.
5. Submission of scores on the General Test of the Graduate Record Examination.

Evidence of personal and professional qualifications considered necessary for successful professional practice, as reflected in:

   a. Three letters of recommendation from individuals able to comment on the applicant's academic and practicum achievements and potential for successful graduate work.
   b. Responses to a departmental questionnaire-application.

**Program Requirements**

Specific program requirements are as follows:

1. Completion of a core of required graduate courses specified by the department. The usual sequence of courses takes one calendar year plus two semesters (six terms of enrollment).
2. ASHA certification requirements are normally a part of the master's degree program. The student must complete at least 350 hours of supervised clinical practicum, at least 250 of them at the graduate level. (The student who enters the graduate program with very few undergraduate clinical hours may anticipate some extension in program duration.) Under certain circumstances a student may have reason to seek the master's degree without qualifying for ASHA clinical certification; students interested in such an arrangement must consult with their graduate advisors.
3. The student must manifest emotional and behavioral characteristics which, in the judgment of the departmental faculty, will support development of his/her professional competence. Behavior to the contrary may lead to dismissal from the program.
4. As an option, a Master's thesis (six hours) or one or more independent research registrations may be applied toward degree requirements by students who demonstrate research aptitude and interest. Students anticipating study toward a doctoral degree are expected to evidence the ability to conduct a research project.
5. As an option, speech-language pathology students may wish to qualify for Michigan Teaching Certification in order to work as a Teacher of the Speech and Language Impaired (TSLI) in Michigan schools. Students desiring this credential should consult with departmental advisors and/or contact the Certification Office of the WMU College of Education.

Doctor of Audiology
Advisor: Gary D. Lawson
Room 4488, CHHS Bldg.

A four-year post baccalaureate program in audiology provides academic and practicum experiences leading to the Doctor of Audiology (Au.D.) Degree. The program prepares practitioners in audiology and meets the accreditation standards of the Council on Academic Accreditation of the American Speech-Language-Hearing Association (ASHA). Students who complete the program will meet the standards for certification of clinical competence by ASHA. The Au.D. program consists of a minimum of 118 credit hours. Supervised clinical practice is required during every term of full-time registration and includes at least four assignments to off-campus sites in addition to assignments in the Charles Van Riper Language, Speech and Hearing Clinic. At least two assignments to off-campus sites are for full-time clinical practice. A list of required courses is available from the department.

Admission Requirements
For applicants with a bachelor’s degree from an accredited college or university.
1. A grade point average of at least 3.0 in the last sixty credit hours of undergraduate study
2. Undergraduate preparation including:
   a. at least 15 semester credit hours (or equivalent) in courses providing basic information underlying human communication processes (at least nine semester credit hours including one course in the biological sciences, one course in the physical sciences, and one course in mathematics; and at least six semester credit hours in the behavioral and/or social sciences);
   b. at least 15 semester credit hours (or equivalent) in courses that provide information on basic human communication processes (at least one course in phonetics, one course in speech and language development, and one course in the science of speech and hearing); and
   c. at least 12 semester credit hours (or equivalent) of course work in audiology and speech and language disorders.

Note: The course work noted above is typically included in undergraduate degree programs in audiology and speech-language pathology. Students with undergraduate degrees in other disciplines are encouraged to apply and may be able to include some of this preliminary course work in their graduate programs. Volunteer or practicum experience in a healthcare setting is recommended.
3. A grade point average of at least 3.0 in all undergraduate audiology and speech-language pathology course work.
4. Competitive scores on the General Test of the Graduate Record Examination.
5. Evidence of personal and professional qualifications considered necessary for successful completion of a doctoral program and for successful professional practice, as reflected in:
   a. three letters of recommendation from individuals able to comment on the applicant’s achievements and potential; and
   b. the applicant’s responses to a departmental questionnaire-application.

For applicants holding a graduate degree with emphasis in audiology from an accredited college or university.
1. Grade point average of at least 3.25 in the previous graduate work.
2. Competitive scores on the General Test of the Graduate Record Examination.
3. Evidence of personal and professional qualifications considered necessary for successful professional practice, as reflected in:
   a. three letters of recommendation from individuals able to comment on the applicant’s achievements and potential for successful graduate work and professional practice in audiology; and
   b. the applicant’s responses to a departmental questionnaire-application.

Applicancy Requirements
Applicants must submit official transcripts of all previous undergraduate and graduate work, scores on the General Test of the Graduate Record Examination, three letters of recommendation, evidence of any professional certification or licensure, and written responses to a departmental questionnaire-application. Admission is based on evaluation of the requested credentials, the availability of doctoral committee members, and availability of practicum. Not every applicant who meets minimum admission requirements can be admitted; the department reserves discretion in admission of the most highly qualified applicants.

Although applicancy status is typically determined before students begin graduate study at Western Michigan University, every spring semester the audiology faculty will review all doctoral students in audiology for satisfactory progress toward completion. Any student not making satisfactory progress may be dropped from the program with the approval of the department’s Academic and Clinical Education Committee. The faculty review will consider grades, practicum performance, and demonstration of personal and professional characteristics suitable for professional practice in audiology.

Candidacy Requirements
For applicants with a bachelor’s degree from an accredited college or university. A candidate for the Au.D. degree must, prior to the semester in which the doctoral project is to be defended, have received approval from the department to continue study toward the Au.D. degree and have satisfactorily earned or completed the following:
1. An overall grade point average of 3.25 or better;
2. Appointment of a scholarly project committee and formal approval by the committee of the scholarly project proposal;
3. All research tool requirements;
4. All requirements other than three or fewer courses, professional field experience, and independent research;
5. A summative examination (Examination for the ASHA Certificate of Clinical Competence in Audiology) with a passing score; and
6. A three-year residency (three years of full-time study).

For applicants holding a graduate degree with emphasis in audiology from an accredited college or university. Candidacy requirements will be the same as for applicants with a bachelor’s degree, but the practicum requirements and the examination for the CCC-A will have been completed prior to enrollment in the Au.D. program.

**Graduation Requirements**
Most students will enter the program with a bachelor’s degree. These students must complete 118-122 semester credit hours, including a minimum of 64 semester hours of classroom instruction, six hours of independent research, and 48-52 semester hours of practicum. Students must successfully complete the academic and practicum requirements and the examination for the ASHA Certificate of Clinical Competence in Audiology as part of the Au.D. program.

A shorter program leading to the Au.D. is possible for students holding a master’s degree earned from an accredited college or university and ASHA’s Certificate of Clinical Competence in Audiology (CCC-A) or state licensure in audiology. Students who hold the master’s degree will already have successfully completed the course and practicum requirements and have received a passing score on the examination for the ASHA CCC-A. The length of this shorter degree program, typically at least 40 and not more than 50 semester hours beyond the master’s degree, will be determined by the advisor in consultation with the student and will depend upon the content and currency of the course work taken for the master’s degree and the needs of the student. The typical program includes credits covering professional practice, research tools, independent research, and at least four credit hours of practicum.
Interdisciplinary Programs – College of Health and Human Services

Doctor of Philosophy in Interdisciplinary Health Studies
Nickola Nelson, Director
4492 CHHS Bldg.
Telephone: 387-8058
Fax: 387-8044

The Doctor of Philosophy in Interdisciplinary Health Studies is designed to meet the career advancement needs of working Health and Human Service professionals. Several recent national commissions, including the Pew Health Professions Commission and the National Commission on Allied Health, have challenged higher educational institutions to respond to the fundamental changes that occur in health care by designing more flexible curricula, removing disciplinary boundaries, and increasing research in allied health. The College of Health and Human Services has met this challenge by developing a unique student-centered curriculum, which focuses on an interdisciplinary core curriculum, strong research preparation, and the teaching of innovative pedagogy. In order to meet the needs of working professionals, the courses will be delivered through intensive weekend and summer on-campus sessions and distance learning modalities. Students will enter the program as a cohort once every two years and complete the didactic sequence in two years. Dissertation research should take a further one to two years.

Admission requirements
Applicants to the Program will be expected to meet the entrance requirements of The Graduate College. In addition to these, the Program applicants are required to have:
1. Minimum of two years of professional experience in the health and human service field.
2. Master’s degree with a minimum graduate grade point average of 3.25/4.00.
3. Completion of at least one graduate level course in statistics and research methods, with a minimum of a grade B within the last 10 years. If a student completed this course more than 10 years ago, s/he must retake it prior to beginning the Program or demonstrate current competency in the graduate level research and statistical methods.
4. Computer competency in the use of databases, word-processing, spreadsheets, and Internet use.

Application must be made both to the Office of Admissions and Orientation—Graduate Admissions and to the College of Health and Human Services. The application must include a 1,000 word essay outlining career goals and three letters of recommendation from academic or professional sources.

Program Requirements
Students will be admitted to the Program as a cohort once every two years. The courses will be presented in sequential order, so that the didactic portion of the curriculum can be completed in two years. A slower four-year sequence is also available. Courses will be delivered through: distance education, on-campus intensive weekend sessions held three times per semester, or on-campus three-week long intensive summer sessions. Students are required to:
1. Attend a week-long, on-campus Orientation session prior to beginning the Program. This will familiarize the student with the Program, the learning expectations, and the university’s resources. The student will receive copies and instruction in required software for distance delivery courses and begin preliminary discussions on the topic for the group interdisciplinary research practicum.

2. Select an academic advisor during the Orientation session. Prior to the supervised teaching practicum in the second year, the student must establish a teaching committee. The chair of this committee must be a specialist in the course content and act as the student’s mentor. A dissertation committee should be established by the beginning of the Spring semester of the second year of the Program and must conform to Graduate College policy.

3. Complete, with a 3.25 grade point average, a total of 63 semester hours of credit as follows:
   a. Interdisciplinary core (15 hours)
   b. Research and statistics module (12 hours)
   c. Group interdisciplinary research practicum (6 hours)
   d. Pedagogy module (9 hours)
   e. Disciplinary cognate (9 hours)
   The student may select a cognate to meet his/her own learning objectives, with the prior approval of the Program Director and the student’s advisor.
   f. Dissertation research (12 hours)

   Disciplinary cognates and some research courses (specifically IHS 626 and IHS 628) may be taken at other accredited, doctoral institutions with the prior approval of the Program Director and the student’s advisor.

4. Successfully complete of the Comprehensive Examination. This is performance-based and includes the submission of a competitive research grant proposal, submission of a research paper for publication, the development of a 3-credit course using innovative pedagogy, and a critical analysis of a HHS program or policy.

5. Successfully complete and orally defend of a dissertation
   Successfully complete and orally defend of a dissertation on a research topic approved by the dissertation committee.

**Financial Assistance**
For students wishing to pursue this curriculum full-time on-campus, the College of Health and Human Services offers financial support through doctoral associateships.
Certificate Program in Holistic Health Care
Advisor
2422 CHHS

The Graduate Certificate Program in Holistic Health Care is designed to provide education and experience in holistic approaches to health. Multidisciplinary in nature, it includes eighteen semester hours of study in holistic health care and related topics.

The Holistic Health Care specialization may be taken independently or can be used to supplement graduate training in related fields such as counselor education and counselor psychology, psychology, social work, speech pathology and audiology, occupational therapy, blind rehabilitation, and physical education and recreation. It also complements many other graduate areas such as business, public administration, theology, nursing, medicine, and education.

The certificate program can help health and human service professionals gain new knowledge and skills to be more effective in their present professional role or to equip themselves for new job opportunities in a health care setting that emphasizes holistic approaches. The program is designed to provide opportunities for advanced training in the following areas: emerging health care paradigms, lifestyle assessment, health counseling, stress management and biofeedback, spirituality in health and healing, community and healing, and environment and health. Graduates of the program are employed by various public and private agencies and often work with interdisciplinary teams of health care professionals.

Admission Requirements
Successful completion of HOL 5310 is a prerequisite to admission. Admission forms are available through the Holistic Health Program Office.

Program Requirements (18 hours)

1. Required Courses (9 hours)
   HOL 5310 - Introduction to Holistic Health Credits: 3 hrs.
   HOL 5700 - Field Education in Holistic Health Credits: 1-6 hrs. OR HOL 7120 - Professional Field Experience or equivalent credit from a related graduate degree program with approval of the Holistic Health Faculty Advisor.
   HOL 6500 - Seminar in Holistic Methods I Credits: 3 hrs.

2. Electives (9 hours)

   Electives in Holistic Health
Graduate College

Lewis Pyenson
Dean

The Graduate College offers a wide variety of programs leading to the master's, specialist, and doctoral degrees.

The Master of Arts is awarded in numerous programs in the following general categories within the College of Education: Career and Technical Education; Counseling Psychology; Counselor Education; Education and Professional Development; Educational Leadership; Educational Technology; Evaluation, Measurement, and Research; Family and Consumer Sciences; Human Resources Development; Marriage and Family Therapy; Physical Education; Socio-Cultural Foundations and Educational Thought; Special Education; and Teaching Children Who Are Visually Impaired.

A number of other programs at Western also lead to the Master of Arts: Anthropology, Applied Economics, Art, Art Education, Communication, Comparative Religion, English, Geography, History, Mathematics, Mathematics Education, Medieval Studies, Orientation and Mobility, Philosophy, Physics, Political Science, Psychology, Rehabilitation Teaching, Science Education, Sociology, Spanish, Speech Pathology and Audiology, Teaching of Geography, and Teaching of Music.

The University also offers the Master of Science in Accountancy, Applied Mathematics, Biological Sciences, Biostatistics, Chemistry, Computational Mathematics, Computer Science, Construction Management, Earth Science, Engineering (Computer, Electrical, Industrial, and Mechanical), Engineering Management, Geology, Manufacturing Engineering, Materials Science and Engineering, Medicine, Molecular Biotechnology, Nursing, Occupational Therapy, Operations Research, Paper and Imaging Science and Engineering, and Statistics, as well as the Master of Business Administration, Master of Development Administration, Master of Fine Arts (in Art and in Creative Writing and in Performing Arts Administration), Master of Music, Master of Public Administration, and Master of Social Work. In addition, dual Master of Arts programs (leading to two master's degrees) are available in Counselor Education/Rehabilitation Teaching and in Special Education/Orientation and Mobility.

The Specialist in Education is offered in Educational Leadership.

The Doctor of Philosophy is offered in Applied Economics; Biological Sciences; Chemistry; Computer Science; Counseling Psychology; Counselor Education; Educational Leadership; Electrical and Computer Engineering; English; Evaluation; Educational Technology; Human Resources Development; Industrial Engineering; Interdisciplinary Health Studies; Mathematics; Mathematics Education; Mechanical Engineering; Paper and Imaging Science and Engineering; Physics; Political Science; Psychology; Public Administration; Science Education; Sociology; Spanish; and Statistics.

The Doctor of Education is offered in Special Education, and the Doctor of Audiology is also offered.

Please refer to The Graduate Catalog for further information on these programs, as well as on admission and graduation requirements. Or visit The Graduate College website http://www.wmich.edu/grad
Doctor of Philosophy in Evaluation

The Doctor of Philosophy in Evaluation is a collaborative effort of four colleges–Arts and Sciences, Education, Engineering and Applied Sciences, and Health and Human Services to address society’s growing need for Ph.D.-level evaluation specialists who can serve effectively in a variety of disciplines. Society’s organizations need evaluation to identify and assign priorities to unmet needs; assess progress and identify areas requiring improvement; assess costs and seek ways to make services more efficient and cost-effective, document and assess outcome, provide credible reports to accrediting/oversight bodies, and, in general, maintain accountability.

Graduating students will receive their degree from one of the participating colleges, usually the one where their major advisor resides. Each student will have an advisory committee that will tailor that student’s program of study to meet her or his assessed needs and interests, drawing from all courses and other learning experiences available in the four colleges. While each specific course in a student’s program may vary from another student’s, each student’s curriculum will be designed to ensure that the student meets a common set of core competencies in evaluation.

A major focus of the interdisciplinary program will be to develop thought leaders in evaluation, individuals with deep knowledge of evaluation theory, methodology, and practice, with superior skills in practical and critical thinking, and a knack for seeing opportunities for innovation improvement.

Admission Requirements

1. Go to the WMU Admissions Office website and request an admission packet for the program. Alternatively, you can call the office (269-387-2000) or e-mail them, tell them you want to apply for the new interdisciplinary Ph.D. in Evaluation, and ask them to send you the self-managed application package.

2. On the admission application form, under "program of study desired," write "IEV" (this is the code for Interdisciplinary Evaluation). Otherwise, just follow all instructions. If you have questions, please direct them to the Admissions Office.

3. The admissions application packet includes instructions for sending materials to TWO locations: The Admissions Office and the department. The application going to the Admissions Office should be completed as stated in the instructions. (Students who are currently at WMU do NOT need to send in transcripts, or GRE scores - if they are already on file.)

4. The application form coming to the department should be addressed to: Ph.D. in Evaluation (interdisciplinary), The Evaluation Center, Western Michigan University, Kalamazoo, MI 49008-5237 (be sure to include this 4-digit zip code extension to ensure timely delivery).

5. The departmental application form should contain:
   - A completed WMU application form (included in the self-managed application packet)
   - A completed program application form (available in Word or in PDF)
   - Photocopies or unofficial copies of graduate and undergraduate transcripts—these must indicate any degrees completed (official transcripts should go in the packet to the Admissions Office)
   - A current curriculum vita
   - GRE general scores (if you have taken the GRE in the past and still have an official copy of your scores, you may submit that; scores are not required to be less than 5 years old). Please note that there is no waiver of this requirement even if you already have a graduate degree from a U.S. university. There is no minimum GRE score required; however, entry into the program will be
competitive and will be based partially on GRE scores. If you feel that one or more of your scores is not an adequate gauge of your ability, please submit additional supporting evidence (e.g., a writing sample or technical report). Please see the ETS Website for information about scheduling and taking the GRE.

- A 1000-word essay outlining your career goals and reasons for interest in the program, including any preferences for advisors you would particularly like to work with
- A recent writing sample on which you are the sole or first author (e.g., a technical report, a publishable paper, or a class project). It is helpful if this provides additional evidence of the abilities we use to judge applications (see the list of selection criteria above)
- Three letters of recommendation from academic or professional sources (preferably in sealed envelopes with the recommendation writer's signature across the envelope seal; please ask your referees to address the selection criteria)
- If you are seeking financial support, include a completed doctoral associateship application form and/or a one-page application letter for a research assistantship (please indicate your areas of interest, skills, and knowledge; and availability for work)

Open to Graduate Students Only - Please refer to The Graduate College section for course descriptions
EVAL 7100 Independent Research 2-6 hrs.
EVAL 7110 Readings in Doctoral Specialization 3 hrs.
EVAL 7120 Professional Field Experience 2-9 hrs.
EVAL 7300 Doctoral Dissertation 1-12 hrs.

Program Requirements

General Requirements
In order to graduate, you will need to have:
1. Completed at least 90 hours of course work beyond the baccalaureate, with a GPA of 3.25 or better (up to 36 hours may be transferred in from master's level course work on which the student earned a grade of B or better; in exceptional cases an additional 12 units may be transferred in if the student has completed significant study beyond the master's degree). The course work must include:
   - 18-21 credit hours in an approved cognate area
   - 12-18 credit hours of research methods courses (no more than 3 units at the basic graduate level)
   - 35-39 hours of evaluation courses, including, 5-7 hours of required interdisciplinary evaluation courses; 3-6 hours of program/intervention evaluation; 3-6 hours covering the social, political, and cultural context of evaluation; 12-18 hours of specialized evaluation courses; and 9 hours of practical evaluation experience)
2. Passed both written and oral comprehensive exams (covering the competencies listed later on this page).
3. Completed successfully 12 hours of doctoral dissertation study, plus an optional 3 hours of independent study in preparation for oral qualifying exams.
4. Written and successfully defended a dissertation that advances the theory, methodology, and/or practice of evaluation.
5. Demonstrated competency in the two required research tools for this program: needs assessment and evaluation. (Students will fulfill this requirement by completing an entire evaluation of a program, policy, system, organization, intervention, or project according to specifications agreed to with their
advisory committee. This requirement will usually be fulfilled as part of the practical experience; however, other options are possible in exceptional cases.)

6. Complied with the program's residency enrollment requirements (i.e., 2 semesters of enrollment in at least 6 units of course work per semester within one 12-month period).

7. Received unanimous agreement by the dissertation committee that you have met all the requirements for achieving the Doctor of Philosophy degree.

**Competencies**

Each student will be required to demonstrate knowledge of general evaluation theory, methodology, and practice issues, as well as the ability to apply evaluation to his/her chosen area(s) of specialization. The minimum required competencies in evaluation (and brief explanations) are listed below. Specific colleges may have additional requirements.

- **Evaluation-Specific Logic and Methodology** (definition of relevant values, needs assessment, generation of comprehensive criterion checklists, checklist methodology, setting standards, use of evaluative rubrics, synthesis of findings on multiple criteria, ranking vs. grading vs. scoring, subjectivity/arbitrariness vs. use of expert judgment, bias vs. preference)

- **Evaluation Theory and Models/Approaches** (descriptive research vs. true evaluation, goal-based/management-oriented vs. goal-free/consumer-oriented, expert judgment-based, participatory/empowerment vs. independent, theory-based/explanatory, evaluative inquiry, CIPP Model)

- **Social, Political, and Cultural Context of Evaluation** (psychology of evaluation, politics of evaluation, “kill the messenger,” stakeholder analysis, diversity and multicultural issues)

- **Evaluation Planning, Budgeting, Contracting, and Management** (defining key tasks, estimating costs, market-based pricing, use of contracting checklists, project management)

- **Database Design and Management** (setting up a database; use of Excel, Access, and SPSS or SAS; merging data files; generating reports; running analyses)

- **Evaluation Reporting and Utilization** (effective analysis of client information needs, appropriate communication strategies for different audiences, report writing and layering, oral presentation skills, linking evaluation to decision making, maximizing evaluation utility)

- **Metaevaluation and Evaluation Standards** (use of professional standards and checklists for evaluation and metaevaluation)

- **History and Nature of the Evaluation Profession** (the roots of the evaluation profession, its development to date, future directions)

**Project Work**

Students must complete 9 credit hours of practical evaluation experience (usually all EVAL 7120; may include 3 units of EMR 6520). This typically involves taking a series of increasingly challenging roles on Evaluation Center projects as the student progresses through his or her degree. Top students will have the experience of directing a nationally significant project before they leave WMU. This hands-on learning will enable students graduating from the program will be able to “hit the ground running” as competent practitioners.
The Haworth College of Business

P. David Shields
Dean

David Burnie
Associate Dean and Director of MBA Programs

Academic Units:
Accountancy
Business Information Systems
Finance and Commercial Law
Management
Marketing
Military Science

The Haworth College of Business is committed to partnerships among students, employers, faculty, alumni, and the business community that advance the achievement of high-quality education. Such active partnerships challenge the foundation of our knowledge and skills and enhance our ability to change. Meeting these challenges requires an evolving combination of teaching, research, and service activities among partners.

College Graduate Degree Programs:
The degree programs leading to the Master of Business Administration and the Master of Science in Accountancy are offered within the framework of the graduate education goal of the Haworth College of Business.

The undergraduate and master's business programs offered by the Haworth College of Business, Western Michigan University are accredited by AASCB: The Association to Advance Collegiate Schools of Business.

Enrollment in any graduate business course requires active admission to the MBA or MSA program. Students admitted to the University on Nondegree Guest status are not eligible for enrollment in graduate business courses. Requests for exception to these enrollment policies must be submitted in writing to the Director of MBA Programs, Haworth College of Business, 2110 Schneider Hall.

Application Procedures
Individuals may obtain an application for graduate business degree programs in the Haworth College of Business through one of the following procedures:
1. Personal visit to the Haworth College of Business Office of Student Development, Room 2130 Schneider Hall on the University campus in Kalamazoo, Michigan.
2. Contacting the Admissions Office of Western Michigan University by (a) visiting the Office of Admissions and Orientation in Room 2240 Seibert Administration Building; (b) requesting an application for admission by writing to the Office of Admissions and Orientation, Graduate Admissions,
3. Personal visit to the Grand Rapids Regional Office at 2333 East Beltline, S.E. in Grand Rapids or telephone the Regional Office, 1-616-771-9478, or a personal visit or telephone call to another Western Michigan University Regional Office in Battle Creek, Holland, Muskegon, Lansing, or St. Joseph, Michigan.

4. Electronic access via the Internet, with access to Western Michigan University's homepage at http://www.wmich.edu, selecting the "Graduate Programs" link and following the steps for an on-line application.

5. Applicants who are not U.S. citizens must contact, in writing, the Office of International Student Services, Room A411 Ellsworth Hall, 1201 Oliver Street, Western Michigan University, Kalamazoo, Michigan 49008-5899. International applicants may also E-Mail the Office of International Student Services at oiss.info@wmich.edu, or may telephone the Office at 616-387-5865, or may reach the Office through the Internet at http://www.wmich.edu/oiss and follow the application procedures presented.

Appeals Process
An applicant who has been denied admission to a graduate program in the Haworth College of Business and is choosing to appeal that decision (or whose admission contains conditions that are being appealed) shall contact the Office of Student Development by telephone (616-387-5075) or by mail (Office of Student Development, Haworth College of Business, Western Michigan University, Kalamazoo, Michigan 49008-3899) and request a copy of the College's "Admission Appeal Policy" which provides guidance on the appeal process.

Continuation Requirements
To continue enrollment in graduate programs in the Haworth College of Business students must meet published University standards for graduate education. These standards require active admission status and an overall grade point average of at least 3.00 in all graduate business course work with alternative enrollment conditions possible as defined in the "Academic Standards" section of this Graduate Catalog.
Accountancy

Dr. Donald W. Gribbin, Chair
Main Office: 3190 Schneider Hall
Telephone: 387-5210
FAX: 387-5710

Hans J. Dykxhoorn
J. Patrick Forrest
Charles E. Hines, Jr.
Richard L. Hodges
Jerry G. Kreuze
Sheldon A. Langsam
David Rozelle
Jack M. Ruhl
Kathleen E. Sinning
Ola M. Smith
Roger Y. W. Tang

Master of Science in Accountancy
Advisors:
Jerry G. Krueze,
Room 3162, Schneider Hall

Sheldon Langsam,
Room 3160, Schneider Hall

Kathleen Sinning
Room 3182, Schneider Hall

The Master of Science in Accountancy prepares the student for professional careers in public accounting, industry, commerce, finance, and government. A graduate of the Haworth College of Business with a Master of Science in Accountancy will be qualified to take many of the professional certification examinations.

The MSA program is designed to provide greater breadth and depth in accounting and business than that delivered in the undergraduate accountancy program. The curriculum helps students further develop their technical expertise, communication skills, and understanding of the role of accountants in organizations. Course work will be selected from the areas of financial accounting, cost and managerial accounting, auditing, taxation, not-for-profit, accounting fraud, and accounting systems.
Admission Requirements
1. To be eligible for admission to the Master of Science in Accountancy (MSA) program, an applicant must meet one of the following criteria, which are managed by the Office of Student Development in the College:
   a. A total score of at least 1100, which is the sum of the GMAT score and (200 x the GPA for the last sixty hours in an accredited undergraduate degree program); and
   b. a minimum GMAT score of 480; and
   c. a minimum GPA of 2.75 for the last sixty hours in an accredited undergraduate degree program
A Western Michigan University accounting major with an average grade point of 3.5 or higher in the following eight courses (or equivalents) is not required to take the GMAT; ACTY 3100, 3110, 3130, 3220, 3240, 4260, and two of the electives (4110, 4130, 4140, 4220, and 4240).
2. An applicant whose native language is not English must achieve a minimum score of 215 on the Test of English as a Foreign Language (TOEFL).
3. Each applicant must provide evidence of proficiency in the required basic skills prior to formal graduate program admission. Basic skills are defined as computer literacy, quantitative analysis, statistics, and writing in English. The writing skill requirement is considered met if the applicant achieves a score of 4.0 or higher on the essay portion of the GMAT. The quantitative analysis skill requirement is considered met if the student (a) has an undergraduate business degree (BBA) from a university or college with an AACSB accredited business program or (b) has satisfactorily completed a college level undergraduate mathematics course (pre-calculus or calculus).

If the basic skills requirements have not been completed at the time of admission, the student may receive conditional admission with the provision that all unmet basic skill requirements will be satisfied by the end of the first twelve months of active graduate program enrollment.

Prerequisites to Graduate Study
The required preparation is an undergraduate degree in accounting, or its equivalent, and a 3.0 grade point average in accounting and business courses. Basic Skills: Quantitative Analysis, Computer Literacy, Written Communications. Basic Core: Corporate Finance; Legal, Regulatory, and Political Aspects of Business; Basic Economic Analysis. Accountancy Course Prerequisites: ACTY 2100, Principles of Accounting I; ACTY 2110, Principles of Accounting II; ACTY 3100, Financial Accounting I; ACTY 3110, Financial Accounting II; ACTY 3130, Accounting Information Systems; ACTY 3220, Managerial Accounting-Concepts and Practices; ACTY 3240, Introductory Tax Accounting; ACTY 4160, Auditing.

Program Requirements
A minimum of 30 semester hours of graduate work is required. A minimum of 15 hours of accounting must be selected from the following courses:
ACTY 6100 - Financial Accounting and Reporting Credits: 3 hrs.
ACTY 6170 - Attestation and Assurance Services Credits: 3 hrs.
ACTY 6210 - International Accounting Credits: 3 hrs.
ACTY 6220 - Seminar in Management Accounting Credits: 3 hrs.
ACTY 6240 - Business Tax Planning Credits: 3 hrs.
ACTY 6270 - Accounting Fraud Credits: 3 hrs.
ACTY 6420 - 6450 - Selected Topics in Accountancy Credits: 3 hrs.
Additional Requirements
In addition to the accountancy course requirements, the student must elect a minimum of nine hours of 6000-level courses outside the Department of Accountancy. Each individual program must include at least twenty-one hours of 600- or 700-level courses and must have prior approval of a department advisor.

To summarize the requirements:
1. Minimum of 30 hours of graduate course work.
2. Minimum of 15 hours of graduate course work in accountancy.
3. Minimum of 9 hours of non-accounting graduate courses.
4. Minimum of 21 hours at the 6000-level or above.
5. Minimum of 39 semester hours of accounting in graduate and undergraduate course work.

A graduate of the Haworth College of Business with a Master of Science in Accountancy will be qualified to take many of the professional certification examinations. Since the qualifying rules differ by state and are subject to change, the student is responsible for determining if additional criteria need to be met for a specific exam or state. The program is designed to meet the AICPA's 150-hour requirement. A student without a degree in business must complete 24 credit hours of business courses to meet the 150-hour requirement.

The current requirements to sit for the CPA exam in Michigan include 24 hours of accounting, including auditing. The course work also must include a study in systems and governmental accounting.
Business Information Systems

Dr. Bernard Han, Chair
Main Office: 3310 Schneider Hall
Telephone: 387-5409
FAX: 387-5710

Roberta Allen
Kuriakose Athappilly
Kuanchin Chen
Mimi Coleman
Jan Gabel-Goes
Elizabeth A. Hoger
Pairin Katerattanakul
Muhammad A. Razi
Alan I. Rea
Pamela S. Rooney
Nancy M. Schullery
Barbara Secrist
Andrew S. Targowski
Mike Tarn
Jo Wiley
Finance and Commercial Law

Dr. Ajay Samant, Chair
Main Office: 3290 Schneider Hall
Telephone: 387-5720
FAX: 387-5839

Finance Area
Onur Arugaslan
Robert Balik
David Burnie
James Demello
Ed Edwards
Norman Hawker
Christopher M. Korth
C. R. Krishna-Swamy
Inayat Mangla
Ali Metwalli
Craig Peterson
Tim F. Scheu
Leo Stevenson
Judy Swisher
Neal T. Turner
Devrim Yaman

Law Area
Thomas Gossman
Norman Hawker
Leo Stevenson
Management

Dr. Thomas Carey, Chair
Main Office: 3394 Schneider Hall
Telephone: 387-5969
FAX: 387-5710

Henry H. Beam
Marie-Laure Bougnol-Potter
Sime Curkovic
Satish Deshpande
Dan Farrell
David Flanagan
Damodar Golhar
Robert Landeros
Lori A. Muse
K.C. O'Shaughnessy
Timothy Palmer
Jennifer Palthe
Thomas Scannell
Christina Stamper
Bret Wagner
Marketing

Dr. Andrew A. Brogowicz, Chair
Main Office: 3210 Schneider Hall
Telephone: 387-6130
FAX: 387-6225

Joseph J. Belonax
Linda M. Delene
James Eckert
Bruce Ferrin
Frank Gambino
Karen Lancendorfer
Ronald Larson
Hanjoon Lee
Thaweephan Leingpibul
Mushtaq Luqmani
Michael McCardle
Stephen J. Newell
Betty Parker
Zahir A. Quraeshi
Robert Reck
JoAnn Roznowski
Roberta Schultz
Ann Veeck
John Weitzel
Interdisciplinary Programs – Haworth College of Business

Master of Business Administration
Office of Student Development,
Room 2130, Schneider Hall

The Master of Business Administration (MBA) is an evening program designed to broaden the functional business knowledge and strengthen the leadership skills of working professionals as well as international students seeking to study business in the United States. It is also suitable for individuals with limited work experience who plan to use the MBA as a foundation from which to begin or resume their careers. The program seeks highly motivated college graduates who will bring their personal values, experiences, and interests to the classroom.

The MBA program consists of nine required core courses in the functional areas of business plus three elective courses that suit the interests of the student. The program of study may be completed in two years although students with full-time employment may take up to six years to complete the program.

Admission Requirements
Admission to the MBA Program is based on a combination of undergraduate grade point average, score on the Graduate Management Admission Test (GMAT), references, and work experience. To be admitted, applicants must have at least 1,050 points based on this formula: 200 times undergraduate GPA plus GMAT score. The GPA must be a minimum of 2.5 for the last 60 hours in an undergraduate program, and the GMAT score must be a minimum of 450. Information on the GMAT may be found at www.gmat.com.

International students must have a bachelor’s degree with an acceptable grade point average from an educational institution approved by Western Michigan University.

In addition, international students whose native language is not English must demonstrate proficiency in the English language by taking the TOEFL examination. Those scoring less than 213 on the computer form of the TOEFL examination may be required to participate in the Graduate Preparation Institute for International Students offered by the Career English Language Institute (CELCIS) prior to beginning the MBA program. Information on CELCIS may be found at www.wmich.edu/celcis.

Waiver of GMAT
The GMAT requirement may be waived for:
1. Applicants who hold a graduate professional degree from an educational institution approved by Western Michigan University.
2. Applicants with substantial professional work experience who meet both of the following criteria:
   a. An undergraduate grade point average of 3.0 or higher in the last two years of an accredited undergraduate degree program; and
   b. seven or more years of substantial, full-time, professional business work experience which has occurred within ten years prior to the date of program application.
Requests for a waiver of the GMAT requirement based on substantial professional work experience must be approved by the Haworth College of Business Academic Review Board.

Proficiency in Basic Skills
All applicants must provide evidence of proficiency in the following four basic skills before admission to the MBA program: computer literacy, quantitative analysis, statistics, and writing in English.

1. The computer literacy requirement is usually met by undergraduate course work or work experience requiring computer usage.
2. The quantitative analysis requirement is considered met if the student has earned an undergraduate business degree (BBA) from a university or college with an AACSB accredited program or has satisfactorily completed a college level undergraduate mathematics course in finite mathematics, precalculus, or calculus.
3. The statistics requirement is considered met if the applicant has satisfactorily completed an undergraduate level statistics course at the sophomore level or higher.
4. The writing in English requirement is considered met if the applicant receives a score of 3.50 or higher on the essay portion of the GMAT or as indicated by junior or senior level undergraduate course work that requires proficiency in written English.

Appeals and Requests for Exceptions
Appeals and requests for exceptions to the admission standards must be made in writing to the Director of MBA Programs, Room 2130 Schneider Hall, Haworth College of Business, Western Michigan University, Kalamazoo, MI 49008. All appeals and requests for exceptions will be reviewed by the Haworth College of Business Academic Review Board.

Program Requirements
The MBA program includes five components: Prerequisites/Basic Core, Business Context, Functional Core, Concentration Electives, and Integrative Business Solutions.

1. Prerequisites/Basic Core (12 hours)
In order to provide students with the background of the common body of knowledge in business and administration, study in the areas of Accountancy, Economics, Finance, and Law is required. These requirements are fulfilled if the applicant completed an undergraduate business degree and if the applicant completed the BBA prerequisite equivalents with a “B” average in the appropriate class(es). These waivers are on a course-by-course basis for the regular MBA program.
ACTY 6010 - Accountancy Credits: 3 hrs.
ECON 6010 - Basic Economic Analysis Credits: 3 hrs.
FIN 6020 - Corporate Finance Credits: 3 hrs.
LAW 6040 - Legal, Regulatory, and Political Aspects of Business Credits: 3 hrs.

2. Business Context (9 hours)
BUS 6150 - Global Business and Intercultural Communication Credits: 3 hrs.
BUS 6160 - Business Policy and the Social and Ethical Environment Credits: 3 hrs.
BUS 6180 - Information Technology Management Credits: 3 hrs.
3. Functional Core (15 hours)
ACTY 6110 - Managerial Accounting Credits: 3 hrs.
FIN 6120 - Financial Management Credits: 3 hrs.
MGMT 6170 - Managing Human Resources and Behavior Credits: 3 hrs.
MKTG 6130 - Customer-Driven Marketing Management Credits: 3 hrs.
And Either:
MGMT 6140 - Business Process Management Credits: 3 hrs. OR
MKTG 6140 - Business Process Management Credits: 3 hrs.

4. Integrative Business Solutions (3 hours)
BUS 6990 - Business Strategy Credits: 3 hrs.

5. Concentration Electives (9 hours)
An area of concentration may be selected from Computer Information Systems, Economics, Finance, General Business, International Business, Management, Marketing, or Paper Science. Electives are required at the 6000-level, with a maximum of three hours which may be approved at the 5000-level. Students must consult with an MBA advisor in their area of anticipated concentration during the first semester of their enrollment at Western Michigan University.

6. Students with an undergraduate major or minor in a business discipline may be allowed to substitute a fourth concentration elective for the MBA core course offered by their undergraduate area of study. The undergraduate majors and the core courses which could be replaced with a higher level elective are:
ACTY 6110 - Managerial Accounting Credits: 3 hrs.
BUS 6180 - Information Technology Management Credits: 3 hrs.
FIN 6120 - Financial Management Credits: 3 hrs.
MGMT 6170 - Managing Human Resources and Behavior Credits: 3 hrs.
MKTG 6130 - Customer-Driven Marketing Management Credits: 3 hrs.
And select either:
MGMT 6140 - Business Process Management Credits: 3 hrs. or
MKTG 6140 - Business Process Management Credits: 3 hrs.

Additional Information
To effect the substitution, students (a) must consult with an advisor in the desired area of MBA concentration; (b) obtain approval from an advisor in the undergraduate discipline to substitute a fourth elective for the core course in the discipline; and (c) if the MBA concentration is outside the undergraduate area, a faculty advisor in their area of concentration must also approve the substitute elective.
Courses

College of Arts and Sciences

Africana Studies
AFS 6000 Seminar in Black Studies In depth study of specific areas of Black American life and culture. Since Black Americans have been involved in the total life of the nation, special study is called for. There are at least two dimensions which lend themselves to special study. The first and most obvious is that of unusual achievement by persons of known and identifiable African ancestry. A second and more elusive dimension is Black “influence”-positively and negatively-in American life and culture. 4-6 hrs.

American Studies
AMS 5000 Special Topics in American Studies This course provides group study of special topics in American Studies. Topics will vary with the training and scholarship of the professor or professors involved. Prerequisites: At least 18 hours of courses approved in the American Studies Program, including AMS 2000 and AMS 3000, or graduate-student status in any participating department. 3 hrs.

AMS 5900 Interdisciplinary Theory and Methods This course will allow students to understand the development of American Studies from the early history and literature syntheses to the symbol and myth school to the social and cultural studies approaches that have drawn their techniques from anthropologists and other social and natural scientists. Prerequisites: At least 18 hours of courses approved in the American Studies Program, including AMS 2000 and AMS 3000, or graduate-student status in any participating department. 3 hrs.

AMS 5980 Independent Study An individual project is available to advanced students by special permission from the director of American Studies. Prerequisites: At least 18 hours of courses approved in the American Studies Program, including AMS 2000 and AMS 3000, or graduate-student status in any participating department. 1-3 hrs.

Anthropology
ANTH 5000 Topics in Archaeology A consideration of the prehistory of a particular geographic area (e.g., the southwestern United States, the Circumpolar) or of selected theoretical problems (e.g., artifact typology, prehistoric ecology). The topic to be studied will be announced each semester. Prerequisites: Junior/senior status; 12 hours of Anthropology; and ANTH 1100, 2100, or consent of instructor. 3 hrs.

ANTH 5020 The Origins of Agriculture An intensive study of the human transition from hunting-gathering to cultivation during the post-Pleistocene period. Topics to be treated include: both
archaeological and botanical models to explain these processes; the comparison of agricultural systems in various parts of the world; the geographic distribution and biosystematics of selected cultivars; and the cultural systems which have arisen from the economic foundations of plant domestication.

Prerequisites: Junior/senior status; 12 hours of Anthropology; and ANTH 1100, 2100, or consent of instructor. 3 hrs.

ANTH 5050 Social Archaeology  Investigates the mechanisms of social, political, and economic integration within human social groups by analyzing and interpreting the material world. Focus will vary between communal and complex social forms. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2100 or consent of instructor. 3 hrs.

ANTH 5060 The Archaeology of Gender  Gender constructs, a critical organizing principle for human interaction, are becoming an important focus for archaeological investigation. This course will explore the multiple ways archaeologists have attempted to use gender relations as a means to gain insights into individual societies. We will follow gender as an archaeological concept historically and conceptually. Participants will explore the attempts and successes of a gendered understanding of the archaeological record. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2100. 3 hrs.

ANTH 5070 Gender Theories  This course examines the dialogue between anthropologists, feminist theorists, and post-structuralists over the course of the 20th century. Beginning with path-breaking works by Margaret Mead and Simone de Beauvoir the course teases out the role that ethnographic scholarship has played in some of the major intellectual debates of the late 20th century, including subjectivity/objectivity and sex/gender. 3 hrs.

ANTH 5100 Human Biology  An advanced course in the method and theory involved in the study of the biology of Homo sapiens. Aspects of Human Biology that will be studied from a biocultural perspective include growth and development, infectious disease, nutrition, adaptation to stressful environments, genetics, and demography. Prerequisites: Junior/senior status and 12 hours of Anthropology, including ANTH 2500 or consent of instructor. 3 hrs.

ANTH 5200 Anthropological Theory  Students are introduced to anthropological theory as a means of raising questions that are significant to the social sciences in general. The importance of theory to ethnographic research and a critical understanding of the social world will be emphasized. The course will also focus on the historical and political roots of anthropology through comparing select theorists from the early British, French, and American schools. Special attention will be given to current theoretical controversies that continue to define the political and ethical concerns of working with human subjects. Prerequisites: Junior/senior status and 12 hours of Anthropology, including ANTH 2400 or social science equivalent. 3 hrs.

ANTH 5210 Nationalism, Invented Tradition, and Self-Identity  This course introduces students to the theoretical debates concerning nationalism by evaluating the works of authors such as Anderson, Hobsbawm, and Gellner and by examining select case studies of nationalism in a number of world areas. Emphasis will be on nationalism as a cultural as well as political process so its relation to invented tradition and self-identity will be highlighted. Prerequisites: ANTH 2400, graduate standing or consent of instructor. 3 hrs.
ANTH 5220 Poverty, Power, and Privilege

This course critically explores anthropological approaches to understanding poverty as well as racial, class, and sexual inequalities. The course emphasizes inequalities within the contemporary United States, but situates those dynamics within an analysis of global processes and conditions. Particular emphasis is placed on analyzing ways that everyday practices, neoliberal social policies, economic restructuring, resistance efforts, and institutional practices play in producing, challenging, and maintaining structural violence. Feminist, post-structuralist, Marxist, cultural studies, and hegemony studies approaches are covered. Both ethnographic case studies and theoretical analysis are explored to inform collaborative required applied community based anthropological research on power, race, and class relations within the Kalamazoo region. 3 hrs.

ANTH 5250 Spirits and Medicine

This course explores how healing is linked to belief and in turn how beliefs about well-being, illness, and treatment are culturally prefigured. Students will examine healing practices in the United States and cross-culturally as they relate to belief and consciousness, including western medicine and alternatives, spirit possession and trance, and methods of divination.

Prerequisite: ANTH 2400. 3 hrs.

ANTH 5300 Research Methods

An in depth consideration of the research methods and tools of the modern anthropologist. An emphasis on methods and techniques of data collection, statistical analysis, and graphic presentation of a wide variety of anthropological data. Prerequisites: Junior/senior status and 12 hours of Anthropology. 3 hrs.

ANTH 5310 Medical Anthropology

This course starts with the premise that illness is as much cultural as it is a biological phenomena and explores the ways in which different societies, including our own, perceive and manage illness and disease. The primary focus of the course is to understand the intersection of cultural, social, and political variables in the experience of illness and the practices associated with healing. Specific topics include ethnomedicine, spiritual healing, primary health care in the developing world, the symbolism of modern medicine, the political economy of health care and AIDS, and inequality. Prerequisites: Junior status, 12 hours of anthropology, and ANTH 2400 or consent of instructor. 3 hrs.

ANTH 5350 Ethnohistory and Archaeology of the Caribbean

The Caribbean is a region of some 30 million people living in the islands stretching from the Bahamas to Trinidad, as well as the continental enclaves of Belize, Surinam, Guyana, and French Guiana. Despite its great cultural, racial, and linguistic diversity, the Caribbean exhibits certain broad social and economic similarities born of its history of slavery and colonialism. Using a wide range of archaeological, documentary, and ethnographic sources, this course seeks to identify common themes in the cultural history of the Caribbean. We will explore the way Indian, European, African, and Asian cultures merged in the Caribbean to create distinct Creole societies. We will examine culture contact between Europeans and the native peoples of the Caribbean and look at the social and economic impact of sugar production on the region. Most importantly, we will investigate the rise and fall of Caribbean slavery. In the early session, students will be introduced to the Caribbean region. Students will also be given some rudimentary instruction in ethnohistorical methods, emphasizing archaeological contributions to the ethnohistorical approach. Prerequisites: Junior/senior status and 12 hours of Anthropology. 3 hrs.

ANTH 5400 Ethnographic Research Methods

An exploration of the complexity of ethnographic research methods through a practice oriented approach to training in ethnographic approaches. Students
learn a range of qualitative research methods as well as the political, ethical, methodological, and theoretical dilemmas of anthropological fieldwork and writing through supervised fieldwork projects as well as classroom assignments. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2400 or consent of instructor. 3 hrs.

ANTH 5450 Topics in Sociocultural Anthropology An intensive study of the cultures of an area of the world or selected problems. Topic will be announced each semester. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2400 or consent of instructor. 3 hrs.

ANTH 5500 Human Evolution This course is designed to provide students with an intensive examination of the human fossil record from the initial divergence of the hominid lineage to the origin of modern Homo sapiens. Emphasized in this course will be paleontological theory, issues relating to species definition and recognition, functional anatomical complexes, adaptive processes, and human morphological variation. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2500. 3 hrs.

ANTH 5510 Evolution of Human Culture This course is designed to provide a platform for discussion of hominid and early modern human culture. Questions for discussion include: Do non-human primates have culture? Is reproductive behavior related to the development of human culture? How can early hominid behavior be modeled? What constitutes modern human behavior in the archaeological record? The course will focus on three problem areas in Old World Prehistory: 1) Chimpanzee material culture and early hominid Oldowan assemblages; 2) the Middle Palaeolithic and the origin of modern humans; and 3) the Upper Palaeolithic and the cultural revolution. Prerequisites: Junior/senior status and 12 hours of Anthropology, including ANTH 2100 or ANTH 2500 or permission of instructor. 3 hrs.

ANTH 5520 Forensic Anthropology The study of biological anthropology as it applies to the legal system. Primary emphasis will be on skeletal and dental identification, facial reconstruction and analysis of time since death. Courtroom procedures and responsibilities of the expert witness in the legal system will be covered. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2500 or consent of instructor. 3 hrs.

ANTH 5550 Topics in Biological Anthropology A consideration of the biological relationships of specific population groups or general problems in human biology (e.g., human genetics, human growth and constitution, palaeopathology, dental anthropology). Topic will be announced each semester. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2500 or consent of instructor. 3 hrs.

ANTH 5830 Anthropology and History The course evaluates the relationship between anthropology and history through reading selected works in each discipline. Theoretical and methodological similarities and differences will be addressed as well as how each discipline writes about the “other”. Special attention will be given to the rhetorical devices employed to make ethnographic and historical accounts convincing and the potential to critical scholarship that the ongoing exchange between the two disciplines offers. Prerequisites: ANTH 2400, graduate standing or consent of instructor. 3 hrs.

381
ANTH 6010  Seminar in Cultural Anthropology  Intensive study of contemporary issues in sociocultural theory. May be elected as a graduate cognate course by students in other disciplines.  Prerequisite: Consent of instructor.  3-4 hrs.

ANTH 6020  Seminar in Archaeology  Advanced study in the major problem areas of prehistoric research. May be elected as a graduate cognate course by students in other disciplines.  Prerequisite: Consent of instructor.  3-4 hrs.

ANTH 6030  Seminar in Biological Anthropology  Advanced instruction and research in the principal problem areas in biological anthropology. May be elected as a graduate cognate course by students in other disciplines.  Prerequisite: Consent of instructor.  3-4 hrs.

ANTH 6040  Integrating Anthropology  This course provides an integrative introduction to major themes that cross-cut the anthropological sub-disciplines. Topics such as the evolution of language, Marxist thought, or race and racism will be explored through a combination of guest lectures, readings of primary literature, and seminar-style discussions. Students will be encouraged to explore the nature of anthropological inquiry and to find the linkages between cultural, biological, and archaeological anthropology.  Prerequisite: Graduate standing in anthropology.  3 hrs.

ANTH 6050  Biography and Material Culture  This course introduces students to the anthropology of everyday and precious objects. The class explores how objects relate to people’s understandings of themselves as individuals and participants in specific cultural communities. Students will read classic and contemporary anthropological writings about material culture and will spend time discussing the differences between cultural and archaeological approaches to understanding objects.  Prerequisite: Previous course work in anthropology or history.  3 hrs.

ANTH 6090  Ethnohistory Seminar  Ethnohistory is the study of cultures combining research techniques and theoretical approaches from the fields of history and anthropology. This course will survey ethnohistorical research on a hemispheric level, including the United States, Canada, Mexico, Central and South America. We will read works in the areas of culture contact, colonialism, material analysis, historiography, oral history, gender, historical archaeology, ethnography, tribalization, globalization, and modernization. The core of ethnohistory lies in the realization shared by practitioners of the benefits obtained through the use of multiple lines of evidence to study history and culture. Ethnohistorians recognize that documents, archaeological findings, oral histories, and ethnographies can be profitable compared, contrasted, and integrated to elucidate the histories and cultural contexts of groups that have been ignored in conventional historical accounts. Thus, interdisciplinary study is incumbent in ethnohistory. By juxtaposing multiple lines of evidence, the ethnohistorian can at once examine the distant and the local, the general and the particular, bringing human experience into better focus.  3 hrs.

ANTH 6100  Topics in Archaeology  An intensive study of a selected topic or emerging field in archaeology. topics will vary and will be announced in the Schedule of Course Offerings. Prerequisite: Consent of instructor.  3 hrs.
ANTH 6400  Topics in Sociocultural Anthropology  An intensive study of a selected topic or emerging field in sociocultural anthropology. Topics will vary and will be announced in the Schedule of Course Offerings. Prerequisite: Consent of instructor. 3 hrs.

ANTH 6500  Topics in Biological Anthropology  An intensive study of a selected topic or emerging field in biological anthropology. Topics will vary and will be announced in the Schedule of Course Offerings. Prerequisite: Consent of instructor. 3 hrs.

ANTH 6900  Archaeological Field School  Archaeological investigation of specific problems relating to the prehistory or history of a particular area (e.g., southwest Michigan, Lower Mississippi Valley). Participants will receive instruction in collecting and evaluating background information, creating a research design, and implementing archaeological fieldwork (i.e., logistics, site location survey, mapping, recovering and recording objects from archaeological contexts), and processing and curating data for analysis and interpretation in the laboratory. Prerequisite: ANTH 2100 or consent of instructor. 3-6 hrs.

ANTH 6980  Independent Readings in Anthropology  Students may contact a faculty member to undertake independent readings on a specific topic of interest. The student should have some familiarity with the topic in advance. The purpose of the course is to allow the student to gain a greater depth of knowledge in a topic which is not offered in a formal course. Prerequisite: Graduate standing. 1-3 hrs.

ANTH 6990  Independent Research in Anthropology  Students may contact a faculty member to conduct research under the guidance of the faculty member. Before the initiation of the research a literature search and a written proposal must be prepared. At the conclusion of the research project, a written report will be submitted to the guiding faculty member. Prerequisite: Graduate standing. 1-3 hrs.

ANTH 7000  Master's Thesis  6 hrs.
ANTH 7100  Independent Research  2-6 hrs.
ANTH 7120  Professional Field Experience  Prerequisites: Completion of master’s degree course work, including one methods class. 3-6 hrs.

Biological Sciences

BIOS 5120  Environment and Health Problems  Human Activities impact the environment and environmental factors impact health. Human environment interactions are often not optimal or without cost. In this course we week sustainable solutions to environment and health problems. 3 hrs.

BIOS 5180  Endocrinology  A survey of the hormonal integration of organ-system function, including the chemical nature of these secretions, the cellular and biochemical mechanisms of hormone actions, and the endocrine feedback control mechanisms. The regulatory nature of hormones in developmental processes, in adaptation, and in disease processes will be stressed. Prerequisite: BIOS 3500; biochemistry is recommended. 3 hrs.
BIOS 5240 Microbial Genetics A lecture/seminar course emphasizing modern microbial genetics, as well as historic keystone experiments. This course focuses on work carried out with bacteria and bacteriophages. Concepts include mutation and selection, recombination and repair, DNA cloning and mutagenesis procedures, regulation of gene expression, differential gene expression in response to environmental stimuli, and genome organizations. Prerequisites: BIOS 2500 Genetics and BIOS 3120 Microbiology, or consent of instructor. 3 hrs.

BIOS 5250 Microbial Ecology The objective of this course is to understand the importance of the role and diversity of microorganisms for life on our planet. Students will integrate concepts from various disciplines, including microbiology, ecology, chemistry, geosciences, evolution, genetics, and health sciences. Lecture/seminar format includes computer usage with the web. Prerequisites: BIOS 2320 or BIOS 3120 (or equivalent) and junior, senior, or graduate student standing; or consent of instructor. 3 hrs.

BIOS 5260 Molecular Biology Laboratory This course is designed to expose students to techniques that are currently being used to manipulate and analyze nucleic acids. Student will gain extensive hands-on experience with restriction mapping, ligations, bacterial transformations, eukaryotic gene-replacements, gel electrophoresis, non-isotopic hybridizations, as well as application of the polymerase chain reaction (PCR). Experimental design, use of appropriate controls and handling of acquired data will be stressed. Prerequisites: BIOS 2500 Genetics, BIOS 3120 Microbiology, CHEM 3750 Organic Chemistry I, CHEM 3760 Organic Chemistry Lab I, and junior, senior, or graduate student standing. 3 hrs.

BIOS 5265 Proteins as Biological Machines A survey of principles of protein sequence, structure, and biological function. The course will review fundamental aspects of proteins, including evolution of amino acid sequence, structure, function, and biophysical properties such as solubility, stability, interactions with other molecules and catalysis. Individual case studies of model proteins that have medical relevance or applications in diagnostic assays, biopharmaceuticals and nanotechnology, will be presented. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisites: BIOS 1500 and CHEM 1120 and 1130 or permission of instructor. 3 hrs.

BIOS 5270 Cancer Biology This course will cover advanced topics in cellular and molecular biology of cancer. Topics to be covered will include oncogenes, tumor suppressor genes, cell cycle, and pathology. New and developing treatments for cancer will also be discussed. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisites: BIOS 1500 or permission of instructor. Recommended: CHEM 3550. 3 hrs.

BIOS 5310 Biology of Aging This course is designed to provide students with an understanding of the aging process. The lectures will emphasize the anatomical, physiological, and molecular changes which occur in cells and organs with aging. Clinical applications are introduced where they provide additional insight into the aging process. Prerequisite: BIOS 2400 or 3500. 3 hrs.

BIOS 5340 Virology This course is designed to provide students with the basic understanding of viruses, their structures and replication strategies. Emphasis is placed on host virus interactions leading to disease processes and cellular alterations in mammalian systems. Viruses are considered as
miniature model systems to unify biology at the molecular level. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 3120; Biochemistry is recommended. 3 hrs.

BIOS 5360 Immunology This course is designed to provide students with the basic understanding of the mammalian immune system at cellular and molecular levels. This course also covers the role of the immune system both in health and disease, and explores the applications of immunological concepts in a variety of biological and biomedical sciences. Prerequisite: BIOS 3120; Biochemistry is recommended. 4 hrs.

BIOS 5440 Global Change Ecology The causes and consequences of global climate change will be the focus of this course. We will examine the most recent predictions about the rate and magnitude of global warming, the extent to which human activities are responsible, and the likely consequences for plants, animals and other components of natural ecosystems, and for agricultural ecosystems and human health. Each topic will include a detailed illustrated outline that summarizes the current evidence, consensus predictions, conclusions, controversies, and uncertainties. The last several weeks will be devoted to additional global change issues, including loss of biodiversity, introduced species, ozone depletion, and acid precipitation. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 3010 or permission of instructor. 3 hrs.

BIOS 5445 Human Ecology Students will examine patterns of distribution and abundance of Homo sapiens and the ecological processes that generate these patterns, through lectures, reading, multimedia, interactive discussion and dissemination of research and understanding. We will also consider the concept of carrying capacity and the dynamics of human population change in relation to the human niche and changing patterns of resource availability. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 3010 or permission of instructor. 3 hrs.

BIOS 5450 Chemical Ecology In this course we will focus on an interdisciplinary appreciation for the ecology of chemically mediated interactions among organisms at different scales of organization from molecules to ecosystems. Students will engage in lectures, reading, multimedia, interactive discussion and hands-on research projects with presentations. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 3010 or permission of instructor. 3 hrs.

BIOS 5455 Plant-Herbivore Interactions Interactions between plants and herbivores provide the foundation processes for most observable ecological patterns. These processes have organized patterns of species diversity through evolutionary history as well as contemporary space. In this class we will examine interactions between plants and herbivores over a wide range of scales, from thrips to elephants, that often control the dynamics of other exploitative, competitive and mutualistic processes both within and among trophic levels. The class is interactive with computer simulations, presentations, a grant-writing exercise and discussion of relevant literature. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 3010 or permission of instructor. 3 hrs.
BIOS 5460 Molecular Phylogenetics and Evolution  Molecular Phylogenetics and Evolution is an advanced undergraduate/graduate course designed to provide students with a rigorous exposure to molecular data analysis and literature review. In this course students will learn the principles behind DNA data analysis for evolutionary studies. This will include phylogenetic analyses and studies of molecular evolution. Phylogenetic studies will involve the acquisition of comparative DNA sequence data, sequence alignment, conceptual models of nucleotide substitution, and tree analysis using parsimony, distance, maximum likelihood, and Bayesian methods of tree inference. For the molecular evolution portion of the course, we will investigate selected examples illustrating the effects of natural selection on DNA sequences. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 2500 or permission of instructor. 3 hrs.

BIOS 5470 Ornithology  An introductory course that explores both scientific and popular aspects of bird study. Life history, behavior, ecology, and identification are emphasized. Prerequisite: BIOS 1510. 3 hrs.

BIOS 5490 Field Ecology  Field studies of forest, native grassland, wetlands, and other local ecosystems. Plant and animal composition, geological history, human effects, succession, and other aspects of the structure and working of ecosystems are integrated. Field ecological methods are emphasized. Prerequisite: BIOS 3010 or equivalent. 3 hrs.

BIOS 5535 Freshwater Ecology  This course provides an introduction to the study of interactions between biological communities and their aquatic environments. Lectures and readings introduce the physical, chemical, and biological dynamics of streams, lakes and wetlands. Emphasis is placed on application of fundamental concepts to problems in conservation and management of aquatic systems and species. Laboratory and fieldwork introduce modern methodological approaches to the study of aquatic ecosystems and the organisms that inhabit them. Two day long Saturday field trips are required. Field exercises will be conducted largely in local streams, lakes, and wetlands. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 1510 or ENVS 2250. 4 hrs.

BIOS 5590 Neurobiology  The substrate of behavior will be examined in this interdisciplinary survey of neural structure and function across molecular, cellular and system levels. There will be a strong emphasis on underlying mechanisms in different animal models. Lecture and discussion will be integrated and supplemented by demonstrations. Topics covered will include: membrane biophysics, synaptic physiology, transduction and signaling in the visual, auditory, chemical and somatosensory systems, reflexes, simple behavior and plasticity. Prerequisites: BIOS 3500; PHYS 1130 and 1140; PHYS 1150 and 1160; CHEM 3550 and 3560 is recommended. 4 hrs.

BIOS 5593 Biological Basis of Learning and Memory  Learning and remembering is mediated by the nervous system and is a fundamental biological phenomenon. The ability to change responses as a result of experience seems to be a prominent feature of all nervous systems and is key for organisms to interact with their environments. Indeed for humans to communicate, think and be who we are requires that we learn and remember our thoughts and representations. This course will explore an overview of learning and memory research with a focus on the biological bases and include studies at the behavioral level, brain and nerve cell levels as well as the molecular foundations of synaptic plasticity thought to
underlie both complex and simple learning. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 3500 or permission of instructor. BIOS 5590 or graduate course in Neuroscience is recommended. 3 hrs.

BIOS 5595 Biology of Sensory Systems This course provide an introduction, discussion and analysis of the anatomy, physiology, molecular biology and disease states of developed sensory systems identified in the human body and other animals. Recent sensory systems articles will be utilized to critique, strengthen students scientific reading skills, scientific writing skills and presentation skills. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors.

Prerequisite: BIOS 2400 or 3500 or permission of instructor. 3 hrs.

BIOS 5600 Toxicology Through a lecture/discussion format, the means by which toxicants exert their effects on mammalian, aquatic and ecological systems will be explored. Topics will include bioaccumulation, distribution and excretion of chemicals in the body, the role of metabolism in enhancing or reducing toxicity, mechanisms of toxicity and the effects of toxicants on the major organ systems. Chemodynamic processes which control exposure of organisms will be presented in the context of risk assessment, and the problems inherent in predicting and quantifying risks will be discussed.

Prerequisites: BIOS 3500; CHEM 3550 and 3560 recommended. 3 hrs.

BIOS 5610 Pharmacology The study of the mode of action of drugs in the body. Topics may include, but are not limited to pharmacokinetics, pharmacodynamics, autonomic pharmacology, cardiovascular pharmacology, and renal pharmacology. The course will consist of approximately 50 percent lecture and 50 percent student presentations on selected topics. Prerequisites: BIOS 350 and CHEM 3750 and 3760. 3 hrs.

BIOS 5700 General Pathology An introduction to pathology which describes the structural and biochemical changes occurring in cells and tissues following injury or disease. Prerequisites: BIOS 350 and CHEM 3750 and 3760. 4 hrs.

BIOS 5740 Developmental Biology Developmental biology is the study of the formation of a complex, multicellular organism from a single cell, the fertilized egg. The course will present this material from both a classical description and an experimental cellular point of view. In addition to the lecture, laboratory exercises will provide experience in the recognition of the various stages of development and in the culturing and manipulations of embryos. Prerequisite: BIOS 2500. 4 hrs.

BIOS 5970 Topics in Biological Sciences Lectures or seminars in various areas of the biological sciences will be offered. The student's record will indicate the topic studied. Prerequisite: Departmental approval required prior to registration. 3-4 hrs.

BIOS 6010 Special Investigations (various areas) An independent study in one of the various specialties represented by members of the department. The field in which work is offered will be indicated on the student record. Prerequisite: Consent of instructor. Prerequisite: Departmental approval required prior to registration. 2-6 hrs.
BIOS 6050 Biological Sciences Colloquium A series of seminars describing current research in various fields in the Biological Sciences. Reports on these research seminars are required. Prerequisite: Admission to a department degree program. 1 hr.

BIOS 6100 Teaching of Biological Sciences This course will provide instructional techniques for the teaching of Biological Sciences at the college or secondary level. Prerequisite: Departmental approval required prior to registration. 1-4 hrs.

BIOS 6110 Eukaryotic Cell Biology A study of the structure and function of the organelles and biochemical components of eukaryotic cells. Through lectures and readings in current literature, students will examine the latest information on the working of eukaryotic cells. Prerequisite: A course in biochemistry. 3 hrs.

BIOS 6120 Prokaryotic Cell Biology Bacterial structure-function relationships are examined in a biochemical context. Current and classical concepts of cell biochemistry are organized around the bacterial cell as a model for understanding energetics, synthesis of cell structures, transport, metabolism, and regulatory mechanisms. Readings will be from the literature and substantial use will be made of review articles in biochemistry and microbiology for lecture topics. One paper will be required. Prerequisites: A course in biochemistry and a course in microbiology or consent of instructor. 3 hrs.

BIOS 6130 Animal Physiology Current concepts and molecular details of modern systems physiology will be examined through lecture, readings from the current literature, discussion, and student presentations. Emphasis will be placed on understanding the mechanisms used by the organ systems of animals to maintain homeostasis. Prerequisite: A course in physiology or consent of instructor. 3 hrs.

BIOS 6140 Plant Physiology An advanced topics course covering the current research emphases on the physiology, molecular biology, environmental biology, biochemistry, and cell biology of plants. Prerequisite: Biochemistry. 3 hrs.

BIOS 6150 Ecology The structure and dynamics of plant and animal populations are considered with critical evaluations of current concepts. Emphases include the relative roles of competition and trophic interactions in population dynamics and how communities are structured. Applications of ecological concepts will consider aspects of conversation biology, pest control, agroecosystem function, and risks of genetic engineering. Prerequisite: A course in Ecology or consent of instructor. 3 hrs.

BIOS 6160 Evolution Evolution is approached as the all-encompassing theory of biology. Topics range from genetic and molecular issues to adaptation in life histories and behavior. At least one paper will be required. Course readings will be drawn primarily from journal articles. Prerequisites: A course in genetics and a course in ecology or consent of instructor. 3 hrs.

BIOS 6300 Biological Imaging A technique-oriented course stressing preparatory procedures and use of various biological imaging methods. These will include both transmission and scanning electron microscopy, fluorescence microscopy, laser-scanning confocal microscopy, and image analysis. Prerequisite: Consent of instructor. 3 hrs.
BIOS 6320  Advanced Techniques in Electron Microscopy  A laboratory course emphasizing currently developing technology. This course is designed for graduate students who have a working knowledge of electron microscopy and its application to biologic problems. The course will be personalized instruction in techniques of autoradiography; protein tracer, such as peroxidase, ferritin, lanthanum, etc.; special tissue preparations, such as in vivo perfusion, varied fixatives, varied embedding material, etc.; and particulate materials preparation. The student will conduct detailed examinations of his/her preparations and prepare critical critiques. Prerequisite: Consent of instructor. 4 hrs.

BIOS 6330  Topics in Biological Sciences  Courses in which a selected area of biological sciences is studied in depth. Possible topics will reflect the areas of expertise of the biological sciences faculty. The specific topic dealt with in a given semester will be indicated in the Schedule of Course Offerings and on the student's record. Students may take one or all topics offered for credit. Prerequisite: Consent of instructor. 3 hrs.

BIOS 6990  Laboratory Rotations  This course provides credit for Laboratory Rotation requirement of the Ph.D. program. Students will carry out directed studies in a research laboratory different from the laboratory where their thesis research is conducted. Prerequisite: Departmental approval required prior to registration. 1-4 hrs.

BIOS 7000  Master's Thesis  Prerequisite: Departmental approval required prior to registration. 6 hrs.

BIOS 7100  Independent Research  Prerequisite: Departmental approval required prior to registration. 2-6 hrs.

BIOS 7120  Professional Field Experience  Prerequisite: Departmental approval required prior to registration. 2-12 hrs.

BIOS 7300  Doctoral Dissertation  Prerequisite: Departmental approval required prior to registration. 15 hrs.

BIOS 7350  Graduate Research  Prerequisite: Departmental approval required prior to registration. 2-10 hrs.

Chemistry

CHEM 5090  Topics in Chemistry  A topic is presented in greater depth or from a perspective different from that of a typical undergraduate course. Representative topics, such as pesticides and drugs, industrial chemistry, chemical pollution, etc., according to student interests and requests. Prerequisite: Sixteen hours of chemistry or consent of instructor. 3 hrs.

CHEM 5150  Inorganic Chemistry  This course, along with CHEM 5700 and CHEM 5750, provides a capstone chemistry experience for undergraduates. The course will present the principles of inorganic chemistry in terms of its relevance to the “real world” of industry and environmental protection. Topics include symmetry, structure, and bonding, as well as a survey of the descriptive chemistry of the elements. Students are strongly advised to have already completed CHEM 5700 and to be registered simultaneously in CHEM 5750. Prerequisite: CHEM 4310 or permission of instructor. 3 hrs.
CHEM 5200 Instrumental Methods in Chemistry  An introduction to the theory and application of modern chemical instrumentation is presented. General topics covered are elementary electronics, electrochemistry, spectroscopy, and other instrumental techniques. Prerequisites or concurrent enrollment: CHEM 4310, 4360.  3 hrs.

CHEM 5250 Techniques in Water Analysis  Analytical techniques and methodology commonly used to determine water quality are presented. Modern instrumental methods are stressed with particular emphasis on spectroscopic and chromatographic measurements. Laboratory provides practical experience in application of principles discussed in lecture. Not available to Chemistry majors.  Prerequisite: CHEM 3770.  2 hrs.

CHEM 5280 Chemical Separations Principles and applications of chemical separations, including distillation, crystallization, extraction, electrophoresis and a variety of chromatographic techniques. Laboratory exercises illustrate typical applications of the methods. Prerequisite: CHEM 3770.  3 hrs.

CHEM 5400 Biogeochemistry  An advanced survey of major current research topics in biogeochemistry. Examines chemical interactions among waters, minerals, and life in the aquatic and geologic environment. Prerequisites: CHEM 1120 and CHEM 1130 or CHEM 5250, or permission of the instructor.  3 hrs.

CHEM 5500 Biochemistry I  The chemistry, properties, and molecular biology of proteins and nucleic acids. Includes discussions of amino acids, enzymes, and biochemical energetics. Prerequisites: CHEM 3770, 3780, and 4300.  3 hrs.

CHEM 5510 Biochemistry I Laboratory  This course consists of 5500 plus lab. Experiments involve more advanced techniques and instrumentation than in 3560 laboratory. Emphasis will be on purification and properties of proteins and nucleic acids. Prerequisites: CHEM 3770, 3780, and 4300.  4 hrs.

CHEM 5540 Biochemistry II  Continuation of 5500. Chemistry and metabolism of carbohydrates and lipids. Metabolism of amino acids and photosynthesis. Prerequisite: CHEM 5500 or 5520.  3 hrs.

CHEM 5580 Toxicology  Through a lecture/discussion format, the means by which toxicants exert their effects on mammalian, aquatic and ecological systems will be explored. Topics will include bioaccumulation, distribution and excretion of chemicals in the body, the role of metabolism in enhancing or reducing toxicity, mechanisms of toxicity and the effects of toxicants on the major organ systems. Chemodynamic processes which control exposure of organisms will be presented in the context of risk assessment, and the problems inherent in predicting and quantifying risks will be discussed. Prerequisites: BIOS 3500, and chemistry through biochemistry, or permission of instructor.  3 hrs.

CHEM 5700 Advanced Organic Chemistry and Spectroscopy  This course, along with CHEM 5150 and CHEM 5750, provides a capstone chemistry experience for undergraduates. The course expands on fundamentals of organic reactions and mechanisms through investigations of molecular structure and reactivity. Students will gain experience in modern spectral interpretation and will learn to use the organic chemical literature and databases.  Prerequisites: CHEM 3770, 3780, 4310 and 24 hours of Chemistry.  3 hrs.
CHEM 5750  Advanced Chemical Synthesis  This course provides a synthetic laboratory experience for undergraduates in conjunction with the CHEM 5700 and CHEM 5150 capstone courses. The fundamentals of synthetic techniques will be exercised through independent synthetic laboratory projects and detailed investigations of molecular structure using modern spectroscopic methods. Students will get hands-on experience with modern spectroscopic instrumentation and will learn to utilize the chemical literature and databases. It is strongly recommended that CHEM 5700 be taken before CHEM 5750 to prepare students for spectral interpretation. Prerequisites: CHEM 3770, 3780, 4310, 5200 or permission of the instructor. 2 hrs.

CHEM 5900  Special Problems in Chemistry Research work on a problem in chemistry in association with a faculty member. Prerequisites: Twenty-four hours of chemistry, which includes CHEM 4360, and approval of the department chairperson and a faculty director. 2 hrs.

CHEM 5980  Readings in Chemistry In consultation with a faculty member, the student will design a reading list in a specialized area. The student will master the material independently and will prepare a paper or other summary work as agreed with the faculty member. May be repeated up to a total of six hours. Graded on a Credit/No Credit basis. Prerequisites: 12 hours of Chemistry or graduate enrollment 1-4 hrs.

CHEM 5990  Independent Research Under the direction of a faculty member, highly qualified advanced students or small groups may pursue student-initiated research projects. The results will be summarized in a paper or other work as agreed with the faculty member. May be repeated up to a total of six hours. Graded on a Credit/No Credit basis. Prerequisite: 12 hours of Chemistry or graduate enrollment 1-3 hrs.

CHEM 6010  Graduate Seminar Graduate seminar in chemistry. Required of all candidates for advanced degrees in chemistry. 1 hr.

CHEM 6090  Advanced Topics in Chemistry Topics are presented at a more advanced level than that used for undergraduate courses. Representative topics would be Organometallic Chemistry, Theories of Liquids and Solutions, Organic Quantum Chemistry, etc., the offering of which would depend on student interest. Prerequisite: Consent of instructor. 3 hrs.

CHEM 6100  Advanced Inorganic Chemistry Covers the principles in inorganic chemistry and the chemical elements. Such topics as extranuclear structure of the atoms, periodic classification of the elements, valency and the chemical bond, complex ions and coordination compounds, acids and bases, and nonaqueous solvents are included in the study of chemical principles. The remainder of the course concerns the chemical elements and their compounds. Prerequisite: CHEM 5150. 3 hrs.

CHEM 6110  Advanced Inorganic Chemistry The chemistry of the transition elements. Consideration of the electronic and magnetic states of the transition metals and their compounds; the symmetry, stability, and reaction mechanisms of coordination compounds; application of bonding theories; systematic chemistry of the transition and inner transition elements. Prerequisite: CHEM 5150. 3 hrs.
CHEM 6220 Theory of Analytical Chemistry  A course in the fundamental principles underlying chemical methods of analysis. Special emphasis is placed on equilibria, kinetics, and mechanisms of the important types of chemical reactions (acid-base, precipitation, complex formation, and redox) involved in chemical analysis; on methods of separation (precipitation, electrodeposition, and distillation techniques); and on the application of statistical methods of sampling, experiment design, and interpretation of results. Prerequisite: CHEM 4310. 3 hrs.

CHEM 6240 Analytical Spectroscopy  A comprehensive treatment of those instrumental techniques which are based upon either the emission or absorption of energy by matter. Emission spectroscopy; Raman spectroscopy; mass spectrometry; ultraviolet, visible, and infrared absorption spectroscopy; fluorimetry; and other selected topics. Prerequisite: CHEM 5200. 3 hrs.

CHEM 6250 Electroanalytical Chemistry  The theory and application of electrochemical measurements are discussed with particular emphasis on the theoretical aspects of polarography, potentiometry, amperometry, conductometric titrations, and other selected topics. Prerequisite: CHEM 5200. 3 hrs.

CHEM 6260 Chemical Instrumentation  Principles and characteristics of construction and design for chemical and optical instruments. Prerequisite: CHEM 5200. 3 hrs.

CHEM 6270 Spectrochemical Instrumentation and Techniques in Environmental Analysis  This course will cover how optical and mass spectrometric methods can be applied to the analysis of environmental samples. The scope will include both theory and applications involving instrumental techniques used for elemental and molecular spectrometric analysis. The course will be arranged in such a manner as to point out that the choice of analytical technique will depend on the type of information being sought, the characteristics of the analyte, and the sample form. Prerequisite: CHEM 5200. 3 hrs.

CHEM 6310 Computational Chemistry  Introduction to the basic theory and practice of computational chemistry. Topics include molecular orbital theory, molecular mechanics and dynamics simulation, analyses of reactivity, chemical structure, intermolecular interactions and spectroscopic properties, and applications to environmental problems. Prerequisite: CHEM 4310. 3 hrs.

CHEM 6330 Chemical Thermodynamics  Includes a review of the three laws of thermodynamics, state functions, activities, partial molar qualities, thermodynamics of solutions, equilibrium, and statistical thermodynamics. Prerequisite: CHEM 4310. 3 hrs.

CHEM 6350 Chemical Kinetics  Measurement of reaction rates, reaction rate theory, mechanisms of elementary processes, reactions in solution and on surfaces, complex reactions, application of kinetics to mechanisms, and photochemistry. Prerequisite: CHEM 4310. 3 hrs.

CHEM 6370 Aquatic Chemistry  This course will examine the physical and chemical processes that control the chemical composition of natural water systems, including lakes, rivers, estuaries, oceans, and groundwater. It will examine what effects pertinent factors like pH, Eh, temperature, and salinity have on these processes, and how these processes control the fate of a pollutant when it enters a natural water
system. This course requires a knowledge of basic physical chemistry. Prerequisite: CHEM 4300 or equivalent. 3 hrs.

CHEM 6380 Surfaces in the Environment This course will examine the physical and analytical chemistry of environmentally important interfaces. Topics will include: dry deposition, heterogeneous catalysis, and surface photochemistry in the atmosphere; surface phenomena in liquid-gas exchange; and soil binding of pollutants. Prerequisites: MATH 1230, CHEM 4300, 4310, or equivalent. (MATH 2300 recommended.) 3 hrs.

CHEM 6500 Proteins and Nucleic Acids Physical techniques for studying proteins and nucleic acids. Molecular evolutions and binding interactions of proteins and nucleic acids. Prerequisite: CHEM 5500. 3 hrs.

CHEM 6540 Environmental Influences on Biomolecules An examination of how environmental factors influence biomolecule expression, stability, and function. Prerequisites: CHEM 5500 and 5540. 3 hrs.

CHEM 6550 Environmental Carcinogenesis The effect of environmental agents such as ultraviolet light, ozone, components of cigarette smoke, and auto emissions on human health will be discussed with an emphasis on the biochemical interaction of these agents with DNA and how DNA repair enzymes act to protect organisms from the harmful effects of these agents. Prerequisite: Consent of instructor. 3 hrs.

CHEM 6630 Mechanisms in Organic Chemistry Fundamental principles of advanced organic chemistry that are not generally covered in introductory courses in organic chemistry. Emphasis on structure and bonding, stereochemistry, conformational analysis, reaction energetics, and mechanistic tools. Prerequisites: CHEM 3770, 3780. 3 hrs.

CHEM 6650 Organic Synthesis Survey of reactions that are of value in organic synthesis. Using current chemical literature, the course discusses scope and limitations of important synthetic methods. Prerequisites: CHEM 377, 378. 3 hrs.

CHEM 6670 Atmospheric Chemistry An examination of the fundamental physical and chemical processes in the lower and middle atmosphere. Relationships with biogeochemical cycles will be investigated, and issues of human influence will be discussed. Prerequisites: CHEM 3770, 4300. 3 hrs.

CHEM 6680 Environmental Organic Chemistry An examination of how the environmental fate of organic compounds is influenced both by the physical and chemical properties of those compounds and by the phases occurring in environmental compartments. Focuses on aquatic systems. Prerequisites: CHEM 3770, 4310. 3 hrs.

CHEM 6900 Special Investigations in Chemistry Research or independent study in one of the specialties of a member of the Chemistry Department. Prerequisite: Consent of Instructor. 1-6 hrs.
CHEM 6950 Graduate Coop/Internship  Research or practical training experience outside the
department or university. This work is to be summarized in a written report. Consent of the instructor is
required so that students can be assigned to an employer in order to best serve both student and
employer.  Prerequisite: Consent of instructor.  1-4 hrs.

CHEM 7000 Master's Thesis  6 hrs.
CHEM 7300 Doctoral Dissertation  15 hrs.

Communication

COM 5410 Telecommunications Law and Policy Provides an overview of the essential regulatory and
policy issues governing the field of telecommunications. Special attention is given to such topics as
libel, privacy, access and right to reply, and copyright. A case study approach is used for the purpose of
understanding legal precedent.  Prerequisites: COM 2000 and COM 2400  3 hrs.

COM 5510 Methods of Media Analysis  An investigation of the approaches to media analysis
(auteurist, internationalist, sociological, structural, historical, ideological, psychological) by intensive
“reading” and shot sequence examination and evaluation of widely divergent works.  Prerequisite:
COM 2410 or 2560 or graduate standing.  3 hrs.

COM 5540 Communication Technology  This course provides an overview of telecommunications
technology and services. The course is intended for the manager who requires a “practical”
understanding of the design and performance characteristics of such telecommunication technology as
satellite, optical fiber, PBX, and cellular telephone communications. In addition, this course will include
an appropriate measure of economic, regulatory, and policy issues as they pertain to the development of
new and enhanced telecommunication services.  Prerequisites: COM 2000 and COM 2400.  3 hrs.

COM 5550 Multi-media Production  This course is designed to help students develop
competencies required to produce linear and non-linear interactive multimedia projects. By the end of
the semester students will gain an understanding and appreciation of the steps necessary to produce
multimedia projects and the concepts, tools, and techniques involved in the design and delivery of
interactive multimedia projects. Students will also be able to create a fully functional multimedia
document delivered via a CD-ROM. Prerequisite: COM 2410 or COM 2560.  3 hrs.

COM 5600 Teaching Communication  This course provides an overview of the concepts,
materials, and methods used in teaching communication courses. The focus will be on the following: (a)
philosophies and theories of speech communication, (b) development of instructional strategies and
objectives, and (c) development and evaluation of teaching materials. Students will take part in, observe,
and evaluate teaching-learning processes.  Prerequisites: COM 1040, 1700, 2000, or consent of the
department.  3 hrs.

COM 5640 Telecommunications Networks  This course provides an overview of
telecommunications networking technologies, standards, and protocols. Network configurations,
switching technologies and signaling standards that sustain voice and data communications networks,
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 6010</td>
<td>Introduction to Communication Inquiry</td>
<td>This course introduces the various research paradigms in the field of communication. Through examination of current communication literature, students will examine a broad range of methodologies and approaches to communication research.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>COM 6020</td>
<td>Quantitative Communication Research</td>
<td>This course provides an introduction to social scientific methods, techniques, and instruments for conducting communication research. The course examines methodologies including experimental and survey research designs and statistical analysis including descriptive and inferential statistics.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>COM 6040</td>
<td>Seminar in Communication Ethics</td>
<td>An in-depth examination of a central issue in communication ethics as it manifests itself in different contexts, including mass communication, organizational communication, and interpersonal communication. Issues may vary from term to term. Examples include deception, confidentiality, autonomy, and privacy.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>COM 6050</td>
<td>Qualitative Communication Research</td>
<td>This course will examine the philosophies, methods and techniques used in qualitative research. The focus of the seminar will be on teaching, and putting into practice, specific qualitative methodological processes within the study of communication phenomena. Students will be required to engage in project(s) which develop the ability to write qualitatively as well.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>COM 6400</td>
<td>Seminar in Mass Communication</td>
<td>Exploration of various topics in mass communication. Possible topics may include the history of film, media criticism, news and public affairs, international telecommunications, cultural diversity and the media or others.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>COM 6410</td>
<td>Technologies and Communication Processes</td>
<td>The course surveys the current literature on the impact of technology mediation on communication processes in a variety of interpersonal, domestic, organizational, social, and public communication contexts. Ethical and philosophical issues pertaining to technological persuasion and control, invasion of personal privacy, and knowledge management are also discussed.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>COM 6430</td>
<td>Telecommunications and Organizational Planning</td>
<td>An overview of the basic principles involved in the management and implementation of telecommunications services within public and private organizations. Participants are introduced to three sectors of the telecommunications field, including broadcasting, cable, and telephone communications.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>COM 6450</td>
<td>Mass Communication</td>
<td>Students will survey a broad range of mass communication theories that address media production, analysis, and reception. More specifically, the course will examine the development of mass communication as a field of academic study, including the major questions that have guided and challenged research in this area. Traditional and contemporary theoretical perspectives and research will be covered.</td>
<td>3 hrs</td>
</tr>
</tbody>
</table>
COM 6470 Corporate and Organizational Video An extensive survey of the many ways television is used by organizations, including sales presentations, on-the-job training, customer information, and employee news. The role of the organizational television (OTV) department and the duties of an OTV producer are discussed. Teleconferencing, interactive video, and conventional delivery methods will be compared. 3 hrs.

COM 6700 Seminar in Interpersonal Communication Exploration of selected topics in interpersonal communication. Possible topics may include female-male interaction, intercultural communication, health communication, family communication or others. 3 hrs.

COM 6730 Conflict Management Based on the assumption that conflict pervades human life, the course explores the strategies of productive and nonproductive interpersonal and social conflict within the organizational setting. Theories of conflict are examined, and explanations of the sources that stimulate conflict in humans are reviewed. 3 hrs.

COM 6740 Interpersonal Communication Examination of traditional and contemporary theoretical perspectives and research in interpersonal communication. Students will apply theory to interpersonal settings and will critique the contributions and limitations of various theoretical approaches to the understanding of interpersonal relationships. 3 hrs.

COM 6800 Seminar in Organizational Communication Exploration of selected topics in organizational communication. Possible topics may include corporate advocacy, communication and customer service, training and development, climate and culture in organization or others. 3 hrs.

COM 6810 Group Communication Processes A study of small group communication as it affects problem solving and decision making procedures. Emphases will be on developing an understanding of how participants in problem solving groups work together and how they can be made more effective through leader facilitation. The student will have practical experience in studying problem-solving and decision-making methods. 3 hrs.

COM 6820 Organizational Communication Examination of traditional and contemporary theoretical perspectives and research in organizational communication. Demonstrates the contributions of intradisciplinary and interdiscipline perspectives to the study of organizational communication. 3 hrs.

COM 6830 Power and Leadership in Organizational Communication This course is designed to study power and leadership within the organization from a communication perspective of sender and receiver of messages. Students will examine research in power, leadership traits, styles, contingency theories, and group leadership approaches and make application to individual career development. 3 hrs.

COM 6900 Topics in Communication Research Methods Focused training in specialized methods of communication research. Possible methods may include survey research, specific advanced statistical analysis techniques, ethnomethodology or others. Prerequisite: COM 6020 or 6050 or equivalent graduate level research methods course. 3 hrs.
Comparative Religion

REL 5000 Historical Studies in Religion The topic to be announced in the Schedule of Course Offerings. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Zen Buddhism; Buddhism; Taoism; Shinto; New Religions of Japan; Religion in Japanese Literature; Islam in the Modern World; Christian Theology to 1500; Renaissance and Reformation Theology; Mystical Dimensions of Islam. 2-4 hrs.

REL 5100 Morphological and Phenomenological Studies in Religion The topic to be announced in the Schedule of Course Offerings. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Millennium, Utopia, and Revolution; Femininity as a Religious Form; Great Islamic Thinkers; the Hindu Yogas; the Occult Tradition. 2-4 hrs.

REL 5110 Women in Religion Drawing together materials from many religious traditions, this course explores religion's effect on women, and women's effect on religion. It attends especially to women's roles in traditions studied—both roles allotted to women and roles women shape for themselves. It also traces repeating patterns in women's religious experience and evaluates common explanations for such patterns. 3 hrs.

REL 5200 Methodological Studies in Religion The topic to be announced in the Schedule of Course Offerings. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Scientific Issues in the Study of Religion; the Critical Theory; Myth and Symbol in Religion and Literature. 2-4 hrs.

REL 5210 The Teaching of Religion in the Public School This course focuses on methods and issues involved in the teaching of religion in the public school. Particular attention given to the problems of its constitutionality, the distinction between the academic study of religion and religious instruction, and the question of meaning. Various approaches to the teaching of religion are critically evaluated. Teaching methods appropriate to the level of instruction, availability, organization, selection, and use of materials will be discussed. Required of all students following a Secondary Education Curriculum which includes the academic study of religions as a minor. 2 hrs.

REL 5980 Readings in Religion Research on some selected period or topic under supervision of a member of the Religion faculty. Approval of instructor involved and Chairperson of the Department must be secured in advance of registration. 1-4 hrs.

REL 6000 Classics in Comparative Religion A systematic study of the most important scholarly works in Comparative Religion. Special attention will be paid to the historical context in which these
classics were produced, their role in intellectual history, and their contributions to the humanities and the social sciences. 3 hrs.

REL 6010 Classics II A continuation of REL 600 with an emphasis upon more recent works in the humanities and the sciences that have precipitated new forms of inquiry about religious thought and practice. Special attention will be paid to the arguments about interpretive methods typical of the humanities versus explanatory theorizing typical of the sciences and their relevance for understanding religion in comparative perspective. 3 hrs.

REL 6100 Theory and Method I An examination of the major theoretical options for understanding and explaining religion in comparative perspective and the major methods employed by theoreticians in their development of such theoretical options. Particular attention will be paid to intellectualist, symbolist, and structuralist, ideological, emotivist, and cognitive method and theory. 3 hrs.

REL 6110 Theory and Method II A continuation of REL 6100 with an emphasis upon case studies for specific historical and cultural contexts. The course will focus specifically on the contributions that the cognitive sciences have made and continue to make to causal explanations of religion. Particular attention will be paid to the developmental literature having to do with the conditions for the acquisition and the transmission of cultural knowledge. 3 hrs.

REL 6150 Survey of Religions of the World A survey of ten major religious traditions; each tradition will be studied through its historical development, its unified system (symbols, beliefs, and rituals), and dynamics (actual practices such as annual celebrations, rites of passage). While learning the content of individual traditions and exploring the comparative questions between/among traditions, students will focus on the issues of teaching about religion generally and the problematics of presenting individual traditions. This course will balance content of religious traditions and pedagogical techniques as a way of preparing students to teach basic courses in religion. 3 hrs.

REL 6160 Teaching Comparative Religion A course introducing the content and pedagogy of comparative religion, focusing on ten major religious traditions and the teaching methods appropriate for the undergraduate classroom. Particular attention will be paid to learning theory, teaching methods, course preparation, syllabus design, computer use (especially the PASS program), audiovisual materials, and text selection. Students will be introduced to the classroom situation under the mentorship of a faculty member by leading discussions, delivering lectures, and preparing and grading examinations. 3 hrs.

REL 6200 Advanced Seminar in Comparative Religion Advanced study in a major problem area of comparative research in the religions of humankind. Prerequisite: Consent of instructor. 3 hrs.

REL 6950 Dissertation Tutorial Planning and preparation for the dissertation, including selection of an appropriate topic. The student will work with an advisor to develop a dissertation proposal to be submitted to his/her Ph.D. committee. The tutorial will entail preparation of a preliminary bibliography, readings in basic sources and examination of the ideas and materials related to the subject, selection of essential sources, and sketching of the dissertation outline. (This course is a prerequisite for REL 7300, Doctoral Dissertation). 3 hrs.
REL  7000  Master's Thesis  6 hrs.
REL  7100  Independent Research  2-6 hrs.
REL  7120  Professional Field Experience  2-12 hrs.

Economics

ECON 5030  Economic Computing This course provides students with basic skills needed for gaining access to economics databases and for using data management programs on personal and mainframe computers. It provides instruction and lab experience in transferring files and performing operations widely employed by economists. Prerequisites: ECON 4030 and 4060 or permission of instructor. 3 hrs.

ECON 5040  Mathematics for Economists This course presents the mathematical material necessary as background for the topics covered in graduate-level economics courses. Topics covered include differential calculus, optimization, comparative statics, and mathematical programming. These techniques are applied to selected economic problems. Prerequisites: ECON 2010 and 2020, MATH 1220 or consent of instructor. 3 hrs.

ECON 5050  History of Economic Thought This course surveys the origins and developments of economic analysis from the Ancient Greeks to the present. Prerequisites: ECON 2010, 2020. 3 hrs.

ECON 5880  Economic Development An analysis of the economic factors such as population, resources, innovation, and capital formation that affect economic growth. Selected underdeveloped areas will be studied to understand the cultural pattern and economic reasons for lack of development and the steps necessary to promote economic progress. Prerequisites: ECON 2010 and 2020. 3 hrs.

ECON 5910  Guest Economist Seminar Seminar series on a topic of current interest featuring invited visiting economists. Prerequisites: ECON 2010 and 2020. 1 hr.

ECON 5920  Guest Economist Seminar Seminar series on a topic of current interest featuring invited visiting economists. Prerequisites: ECON 2010 and 2020. 1 hr.

ECON 5980  Readings in Economics An independent program of study for qualified students to be arranged in consultation with the instructor. Prerequisites: Twelve (12) credit hours of Economics and the consent of instructor and Department Chairperson. 1-3 hrs.

ECON 6010  Basic Economic Analysis This course is designed to provide students with an understanding of fundamental economic concepts. Students become acquainted with the basic tools that economists use to analyze issues and apply the science of economics. After completing the course, students will be better able to understand and analyze problems from an economic perspective. Students are introduced to basic concepts in the fields of microeconomics and macroeconomics. Knowledge of these concepts is prerequisite for further study in business, public and development administration. Prerequisite: Not open to Economics graduate students. 3 hrs.
ECON 6030  Advanced Price Theory  An advanced study in the logic of the pure theory of production; joint production and joint costs, and introduction to the multi-periodic production theory. Advanced theory of consumer behavior; aggregation problems in product supply, factor demand and consumer demand analysis; review of selected empirical studies on consumer demand analysis; consumer surplus; problems involving optimization over time and under conditions of uncertainty; role of savings in consumer demand theory (utility maximization over time).  Prerequisite: MATH 1220 or equivalent.  3 hrs.

ECON 6040  Introduction to Mathematical Economics  This course is intended to introduce graduate students to the concepts of multivariate calculus and mathematical analysis commonly used in the mathematical analysis of economic problems. Its primary objective is to teach students the rudiments of mathematical programming as they apply to economic theory. Thus, students will also be introduced to selected topics from consumer theory and the theory of the firm.  Prerequisites: MATH 1220, MATH 1230 or equivalents.  3 hrs.

ECON 6070  Uncertainty and Information  Analysis of individual decision-making and market equilibria under conditions where economic agents are unsure about their own situations and/or the opportunities offered them by market dealings. Topics covered include expected utility, decisions to produce and acquire information, information and contract design, and the effect of information in situations of strategic economic interaction.  Prerequisite: ECON 5040 or ECON 6030.  3 hrs.

ECON 6090  Seminar in Economics  Offers the graduate an opportunity to investigate contemporary problems in economic theory and analysis.  Prerequisite: Four (4) credit hours of advanced economic theory or consent of instructor. Topics will vary, and course  3 hrs.

ECON 6100  Human Resources I  This course is an introduction to human resource economics. Its objective is to provide students with the theoretical background needed to undertake studies relating to human resource and labor problems. Thus, this course will present a general survey of the theory that forms the core of modern labor economics.  Prerequisite: ECON 6030 or equivalent.  3 hrs.

ECON 6110  Human Resources II  This course is the second course in a two course sequence required for the Ph.D. field in human resource economics. The objective of this course is to apply theory and quantitative methods to various topic areas in human resource and labor economics, such as discrimination, employment and training policies, income distribution, turnover and migration, unions and collective bargaining, and household production and family decisions. Prerequisite: ECON 6100.  3 hrs.

ECON 6160  Collective Bargaining in Public Employment  This course examines collective bargaining developments in local, state, and federal governments, including bargaining units, negotiations, grievance procedures, strikes, and dispute settlements.  Prerequisites: ECON 2010 and 2020 or consent of instructor. Not open to Economics graduate students.  3 hrs.

ECON 6190  Introduction to Econometrics  This course is an introduction to econometric models and their use in economic analysis. The course covers multiple regression models, the implications and treatment of serial correlation and heteroskedasticity.  Prerequisite: ECON 6220 or equivalent.  3 hrs.
ECON 6200 Economic Statistics This course focuses on the theory and practice of testing hypotheses, statistical estimation theory, the basic theory underlying the linear model, and introduction to econometric models, and the nature of difficulties that arise in applying statistical models to economic research problems. Prerequisites: MATH 1220 or equivalent, ECON 4020 or equivalent. 3 hrs.

ECON 6240 Public Finance I This course is devoted to a study of welfare and public sector economics. The objective is to acquaint students with the framework used by economists to analyze and evaluate public policy. Prerequisite: ECON 6030 or equivalent. 3 hrs.

ECON 6250 Public Finance II Selected topics from public sector economics will be presented. Foremost among these is benefit-cost analysis. Thus, consumers' surplus, the social discount rate, and decision-making under uncertainty are other topics that will be covered regularly. The main purpose of this course is to provide students with the background necessary to conduct research in public finance. Prerequisites: ECON 6240, ECON 6650. 3 hrs.

ECON 6500 Industrial Organization/Business Economics I This course will survey the major topics in industrial organization, antitrust economics, and the economics of regulation. Prerequisite: ECON 6030 or equivalent. 3 hrs.

ECON 6510 Industrial Organization/Business Economics II This course will cover selected topics in industrial organization, antitrust economics, and the economics of regulation. Prerequisites: ECON 6500, ECON 6650. 3 hrs.

ECON 6620 National Income Analysis A basic course in economic theory with emphasis on modern theories of output of the economy as a whole and on the uses of these theories as guides to policy. Prerequisites: ECON 4030 and 4060. 3 hrs.

ECON 6650 Microeconomic Theory I Core ideas in theoretical microeconomics will be introduced. The course will address a number of standard microeconomic topics, including the theories of consumption and production, cost and expenditure functions, market structures, and input demand. Prerequisites: MATH 1220, MATH 1230 or equivalents. 3 hrs.

ECON 6660 Microeconomic Theory II This course presents an advanced treatment of consumer and producer theory. It will be composed of selected topics in microeconomic theory, including general equilibrium and welfare analysis. Prerequisites: ECON 6040, ECON 6650. 3 hrs.

ECON 6700 Advanced Econometrics I The first course in the advanced econometrics sequence. This course presents sample distribution theory for the estimation and testing of econometric models. Applications will be made to SUR systems, error components, nonlinear regression, limited dependent variables, and sample selection bias. Prerequisite: ECON 6190. 3 hrs.

ECON 6710 Advanced Econometrics II This is the second course in the advanced econometrics sequence. This course considers the specification and evaluation of dynamic econometric models. Both single and multiple time series models are examined. The issue of nonstationarity and the role of vector autoregressions and cointegration are emphasized. Prerequisite: ECON 6700. 3 hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 6750</td>
<td>Macroeconomic Theory I</td>
<td>This course develops a general equilibrium macroeconomic model reflecting the recent developments in the literature. Prerequisites: MATH 1220, MATH 1230 or equivalents.</td>
<td>3 hrs.</td>
<td></td>
</tr>
<tr>
<td>ECON 6760</td>
<td>Macroeconomic Theory II</td>
<td>The second course in the Ph.D. level macro sequence. A rigorous analysis of macro theory and macro policy issues with an emphasis on empirical testing. Prerequisites: ECON 6040, ECON 6750.</td>
<td>3 hrs.</td>
<td></td>
</tr>
<tr>
<td>ECON 6800</td>
<td>International Economics I</td>
<td>In this course the interaction of the domestic economy with the international financial world will be studied. Topics include: Exchange rate determination, balance of payments, and the international monetary system. Prerequisites: ECON 6220, ECON 6620 or equivalents.</td>
<td>3 hrs.</td>
<td></td>
</tr>
<tr>
<td>ECON 6810</td>
<td>International Economics II</td>
<td>This course examines the reasons for and implications of international trade. Topics include: Models of international trade, policies used to influence trade and the welfare effects of international trade policies. Prerequisite: ECON 6030 or equivalent.</td>
<td>3 hrs.</td>
<td></td>
</tr>
<tr>
<td>ECON 6860</td>
<td>Monetary Economics</td>
<td>In this course the interaction between macroeconomic activity and the quantity of money in the economy is studied. Both theoretical and empirical models are examined. Topics include empirical evidence on money and output, money and transactions, money and procedures, and interest rates and monetary policy. Prerequisites: ECON 6190 and ECON 6760 or equivalent.</td>
<td>3 hrs.</td>
<td></td>
</tr>
<tr>
<td>ECON 6870</td>
<td>Monetary Policy</td>
<td>In this course the interaction between macroeconomic activity and central bank monetary policy is studied. Both theoretical and empirical models are examined. However, the emphasis is on empirical models. Topics include: empirical evidence on money and output, money and public finance, the credit channel of monetary policy, monetary-policy operating procedures, and interest rates and monetary policy. Prerequisites: ECON 6750 and 6190, or equivalents.</td>
<td>3 hrs.</td>
<td></td>
</tr>
<tr>
<td>ECON 6880</td>
<td>Economic Development I</td>
<td>An intensive examination of a number of selected key topics in development economics, centering on issues of crucial importance to developing nations. Examples of such issues are primary products, capital formation, technological change, inflation, debt servicing, population, etc. Prerequisites: ECON 2010 and 2020.</td>
<td>3 hrs.</td>
<td></td>
</tr>
<tr>
<td>ECON 6890</td>
<td>Economic Development II</td>
<td>This course will concentrate on analysis of development theory and examine its relevance to the problems facing extant developing economies. Different approaches to economic development will be examined using advanced economic theory and methodology. Prerequisites: ECON 6650, ECON 6750, ECON 6880.</td>
<td>3 hrs.</td>
<td></td>
</tr>
<tr>
<td>ECON 6990</td>
<td>Economics Workshop</td>
<td>A workshop designed to deepen a student's understanding of theoretical and empirical economics by discussing the research being conducted by the Department's faculty, economists from other institutions, and Ph.D. candidate graduate students. Prerequisites: ECON 6660, ECON 6700, ECON 6760. Topics will vary and course may be repeated up to 18 hours.</td>
<td>3 hrs.</td>
<td></td>
</tr>
<tr>
<td>ECON 7000</td>
<td>Master's Thesis</td>
<td>6 hrs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 7100</td>
<td>Independent Research</td>
<td>2-6 hrs.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ECON 7120  Professional Field Experience  2-12 hrs.
ECON 7300  Doctoral Dissertation  12 hrs.

English
ENGL 5220  Studies in American Literature  Study of a movement or a recurring theme in American literature, such as romanticism, realism, naturalism, humor, or racial issues. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies.  3 hrs.

ENGL 5300  Medieval Literature  Readings in the medieval literary tradition. Some Middle English works will be studied in the original; works in Old English and continental literature will be studied mainly in translation. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies.  3 hrs.

ENGL 5320  English Renaissance Literature  Readings in representative writers of the period 1500-1660. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies.  3 hrs.

ENGL 5340  Restoration and Eighteenth Century Literature  Readings in representative writers of the period 1660-1800, focusing on the diversity of literary forms in the period. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies.  3 hrs.

ENGL 5360  Romantic Literature  Readings in poetry and criticism, with emphasis on such writers as Blake, Burns, the Wordsworths, Coleridge, Scott, Byron, the Shelleys, and Keats. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies.  3 hrs.

ENGL 5370  Victorian Literature  Readings emphasizing such writers as Carlyle, Mill, Dickens, Thackeray, Eliot, Tennyson, the Brownings, and Arnold. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies.  3 hrs.

ENGL 5380  Modern Literature  Readings in representative writers in the period 1890-1945, not exclusively in British and American literature. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies.  3 hrs.

ENGL 5390  Post-Colonial Literature  Readings in representative writers from colonial and post-colonial cultures. Prerequisites to 5000-level courses are 18 hours of English courses, including
eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies. 3 hrs.

ENGL 5400 Contemporary Literature  Readings in representative writers who have come to prominence chiefly since 1945. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies. 3 hrs.

ENGL 5550 Studies in Major Writers  Study of the works of classical, European, British, or American writers. Limited to one or two authors. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies. 3 hrs.

ENGL 5660 Creative Writing Workshop  An advanced course in the writing of poetry, fiction, or drama, with class criticism of each student's writing. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies. 4 hrs.

ENGL 5740 Grammar in Teaching Writing  Dealing with issues and methods in the teaching of grammar, this course for teachers focuses on using grammar to develop content, style and voice, and skill in revising and editing writing. Prerequisites: 18 hrs of English course work, including 8 or more hours at the 3000- or 4000-level, and second semester junior status. 4 hrs.

ENGL 5820 Studies in Children's Literature  A study in depth of significant themes, movements, and types of children's literature. Prerequisite: ENGL 2820 or permission of the department. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director 3 hrs.

ENGL 5830 Multi-Cultural American Literature for Children  A course designed to develop an understanding of the cultural diversity of the American experience through multi-cultural oral and written literature for young people. Attention will be paid to developing criteria for selecting and evaluating literature which reflects diversity within the American heritage. Prerequisites: 16 hrs. of English course work, including ENGL 2820. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director 3 hrs.

ENGL 5970 Studies in English: Variable Topics  Group study of special topics in literature, film, English language, and writing. Many of these special courses are organized around special events or speakers on campus or in the community, or in response to special needs or interests of students. Some topics are announced in the Schedule of Course Offerings; some are added during the semester. Further information and full listing of topics may be obtained from the English Department, sixth floor Sprau Tower. Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies. 1-3 hrs.
ENGL 5980  Readings in English  Advanced students with good scholastic records may elect to pursue independently the study of some topic having special interest for them. Topics are chosen and arrangements are made to suit the needs of each student. Approval of English advisor required.

Prerequisites to 5000-level courses are 18 hours of English courses, including eight or more hours at the 3000/4000-level and second semester junior status; exemption only by permission of Director of Undergraduate Studies.  1-4 hrs.

ENGL 6100  Seminar  Study of a problem in literary history or criticism.  3 hrs.

ENGL 6110  Literary Forms  A study in form and technique in one of the four major literary genres: poetry, fiction, drama, and creative non-fiction.  3 hrs.

ENGL 6150  Literary Criticism  Readings in several significant theorists on the nature of literature, the characteristics of audience response to literature, and principles underlying the analysis and evaluation of literature. Works in at least two genres will be examined in light of these theoretical writings.  3 hrs.

ENGL 6210  Studies in British Literature  The advanced study of selected aspects of British literature.  3 hrs.

ENGL 6220  Studies in American Literature  The advanced study of a topic in American Literary history, such as The American “Renaissance”, The 1920's, The Transcendental Tradition in American Literature, Fiction (or Poetry, or Drama) in America, or The Development of Modern American Prose Style.  3 hrs.

ENGL 6300  Introduction to Graduate Studies  This course is intended to provide graduate students with an introduction to the theory and practice of literary criticism at the professional level. The goal of course readings and discussion generally will be to aid students in the completion of a substantial research project of a kind suitable for publication.  3 hrs.

ENGL 6310  Essay Writing  A course in the writing of informal expository prose in the forms used for addressing general audiences. There will be a generous amount of reading in exemplary works and a concern for understanding the rhetorical principles underlying good modern prose. Prerequisite: A bachelor's degree.  3 hrs.

ENGL 6320  Article Writing  A course in the writing of informative prose directed toward a non-specialist audience. There will be study and practice in the methods of gathering and analyzing information and in the effective organization and presentation of factual material.  3 hrs.

ENGL 6330  Professional Writing: Form and Technique  A course in writing in the various formats needed by large institutions, whether academic, corporate, or public. Particular emphasis will be placed on the use of the interview to gather information, on preparing speeches, brochures, newsletters, and other publications, and on the techniques of non-personal prose.  3 hrs.

ENGL 6400  The Nature of Poetry  A study of styles, techniques, forms, and conceptions of poetry, involving practice in explication, both oral and written, of individual poems.  3 hrs.
ENGL 6410  Studies in Modern Poetry  An intensive study of the work of several modern poets.  3 hrs.

ENGL 6420  Studies in Drama  Selected areas of drama from classical times to the present.  3 hrs.

ENGL 6440  Studies in the Novel  An examination of significant forms and techniques employed in the novel from its beginnings to the modern age.  3 hrs.

ENGL 6450  Studies in the Modern Novel  An intensive study of the works of some important novelists of the twentieth century.  3 hrs.

ENGL 6520  Studies in Shakespeare: Tragedy  Selected tragedies of Shakespeare.  3 hrs.

ENGL 6530  Studies in Shakespeare: Comedy  Selected comedies of Shakespeare.  3 hrs.

ENGL 6660  Graduate Writing Workshop  Any given section of this course will focus on either poetry, fiction, or drama. Course organization will emphasize roundtable discussion of student writing. Course may be taken more than once; a student may elect up to 12 credit hours in one genre and up to 18 hours in all. M.F.A. candidates must take at least 6 hours in their area of specialization. Prerequisite: Open to graduate students accepted into the M.F.A. program and, with the permission of the instructor, to other graduate students.  3 hrs.

ENGL 6690  Methods of Teaching College Writing  A course required of those teaching the freshman composition course, ENGL 1050, for the first time. Establishes the basic structure and methodology for teaching such a course. Participants prepare assignment sequences for their classes, design appropriate learning activities, and practice evaluating and responding to student writing. Participants are introduced to activities that reflect different theories and approaches to the teaching of composition.  3 hrs.

ENGL 6720  Language, Dialects, and Sociolinguistics  A course focusing on specific varieties of American English studied from historical, linguistic, literary, and/or social perspectives as the basis for application of sociolinguistic theory and research to a variety of topics. These may include the study of American culture and literature, educational implications of dialect diversity in monolingual and multilingual settings, the links between language and social identity, and gender/ethnic differences in language. Issues such as language change, attitudes toward language, and implications for teaching English will be explored in detail.  3 hrs.

ENGL 6730  Psycholinguistics in Reading  An examination of psycholinguistic insights into the nature of the reading process, with emphasis on practical implications and applications for the classroom.  3 hrs.

ENGL 6760  Old English  A course dealing with the grammatical structures of Old English and the sociolinguistic context in which this language was spoken and written, with a view to applying such linguistic study to translating and interpreting pre-1066 English literary texts, both poetry and prose, including Beowulf.  3 hrs.
ENGL 6770 Middle English A course dealing with the grammatical structures of Middle English and the sociocultural context in which this language was spoken and written, with a view to applying such linguistic study to translating and interpreting Middle English texts, both prose and poetic, Chaucerian and non-Chaucerian, stemming from various regions of English-speaking Britain. 3 hrs.

ENGL 6790 Studies in Composition Theory A course that examines various approaches to the teaching of composition. Aims to increase awareness of the relationship between theory and practice, acquaint participants with ongoing dialogues within the field, and help them identify and formulate their own professional stances. Attention will be given to the impact on composition theory of scholarship in fields such as classical rhetoric, linguistics, literary theory, cognitive psychology, human development and learning, social constructionism, and ethnology. Prerequisite: Teaching experience. 3 hrs.

ENGL 6800 Advanced Methods in Teaching Literature A study of theories and methods of teaching literature. 3 hrs.

ENGL 6810 Advanced Methods in Teaching Language and Composition A study of theories and methods of teaching language and composition. 3 hrs.

ENGL 6900 Scholarship and Writing in the Profession In this seminar students will prepare the capstone Essay to be submitted as the culminating requirement for the M.A. in English. The course will include analysis and evaluation of journals and articles in areas relevant to the student's research topic, "workshop" review and editing of the paper, and preparation for oral presentation and discussion of the student's work in a Master's Colloquium. Prerequisites: ENGL 6300 and prior completion of at least 21 hours of credit toward the Master of Arts in English. 3 hrs.

ENGL 6910 Research and Scholarship in English Education As reflective practitioners in English classrooms, participants in this seminar will develop a research question, review relevant professional literature, conduct classroom and/or academic research using appropriate research techniques, and present findings orally and in a written paper or report that will be the capstone paper for the MA in English with an Emphasis on Teaching. Prerequisites: Students in the program who have completed at least 24 hours of the course of study and who have completed the core courses, the teaching of English courses, the English language course and the multicultural literature course may enroll. 3 hrs.

ENGL 6970 Studies in English: Variable Topics Group study of special topics in language, literature, and composition. These special courses and workshops may be offered on campus, in the off-campus centers, or as in-service work in schools. 1-3 hrs.

ENGL 6990 M.F.A. Project A collection of short fiction, a collection of poetry, a collection of one-act plays, a full-length play, or a novel. The work presented in fulfillment of this requirement must be judged by a committee of the graduate faculty to be worthy of publication or production; a public reading or performance is required. 3-6 hrs.

ENGL 7000 Master's Thesis 6 hrs.
ENGL 7100 Independent Research 2-6 hrs.
ENGL 7110  Readings in Doctoral Specialization  In consultation with a faculty member, the doctoral student will design a reading list of 20 to 30 books in a specialized area; students wishing additional guided reading may register a second time. The student will master these works independently and, in consultation with faculty members, select a representative list of approximately 20 works on which to be evaluated in a two-hour oral exam, conducted by a committee of at least two faculty members.  
Prerequisite: Doctoral candidacy.  3-6 hrs.

ENGL 7120  Professional Field Experience  2-12 hrs.

ENGL 7130  Practicum in Teaching in the Discipline  A practicum in teaching in the discipline will be done as collaborative teaching with an experienced faculty member in a broad-based undergraduate course in literature, language, creative writing, or advanced composition. There will opportunity for both guided praxis and reflection on praxis. Prerequisite: Consent of advisor.  3 hrs.

ENGL 7300  Doctoral Dissertation  15 hrs.

Environmental Studies

ENVS 5000  Advanced Environmental Topics  An intensive, focused study of a current environmental issue. The role of interdisciplinary research in addressing such issues will be explored through examples drawn both from the different disciplinary backgrounds of the students and especially from the current research of the faculty instructor.  Prerequisite: Approval of a program advisor. 3 hrs.

Foreign Languages

AMEL 5000  Special Topics in World Languages  The topic(s) to be announced in the Schedule of Course Offerings. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different.  3 hrs.

ARAB 5020  Arabic for Graduate Study  Arabic instruction for graduate students enrolled in a degree program who need knowledge of Arabic for their field of study. Students will sit in appropriate level course for their learning.  Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages.  3-4 hrs.

ARAB 5200  Topics in Arabic Linguistics and Language Science  See the entry for LANG 5200.  Prerequisites: Completion of four ARAB courses.  3 hrs.

ARAB 5500  Independent Study in Arabic  Directed individual study of a specific topic in Arabic literature or linguistics.  Prerequisites: ARAB 1010 and prior permission of departmental advisor.  1-3 hrs.

CHIN 5020  Chinese for Graduate Study  Chinese instruction for graduate students enrolled in a degree program who need knowledge of Chinese for their field of study. Students will sit in appropriate level course for their learning.  Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages.  3-4 hrs.
CHIN 5200  Topics in Chinese Linguistics and Language Science  See the entry for LANG 5200. Prerequisites: Completion of four CHIN courses.  3 hrs.

CHN 5500  Independent Study in Chinese  Directed individual study of a specific topic in Chinese language, literature, or culture. Prerequisites: Completion of four courses in Chinese or equivalent; minimum grade point average of 3.0 in Chinese; departmental approval required.  1-3 hrs.

FREN 5000  Elementary French for Reading Proficiency  Intensive grammar and elementary reading for translation and research purposes. The course is primarily for the graduate who has had little or no study in the language. However, undergraduates who desire a thorough reading knowledge may also apply. Undergraduates must secure permission of department. No oral work. This course does not count toward a major or minor in French.  4 hrs.

FREN 5010  Intermediate French for Reading Proficiency  Readings in the language at intermediate and advanced levels for translation and research purposes. Special attention will be given to students' major fields. Completion of FREN 401 with a minimum of “B” constitutes graduate proficiency in the language. Undergraduates must secure permission of the Department. This course does not count toward a major or minor in French. Prerequisite: FREN 5000 or equivalent.  4 hrs.

FREN 5020  French for Graduate Study  French instruction for graduate students enrolled in a degree program who need knowledge of French for their field of study. Students will sit in appropriate level course for their learning. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages.  3-4 hrs.

FREN 5100  Studies in French and Francophone Culture  An intensive study of selected aspects of French and Francophone culture. Course varies according to topic and Prerequisites: FREN 3160 and 3220 or 3230 or 3250.  3 hrs.

FREN 5200  Topics in French Linguistics and Language Science  See the entry for LANG 5200. Prerequisites: FREN 3160 and 3220 or 3230 or 3250.  3 hrs.

FREN 5280  French Literature from the Middle Ages to the Revolution  The study of selected literary texts from the Middle Ages to the end of the eighteenth century. Prerequisites: FREN 3160, 3250.  3 hrs.

FREN 5290  French Literature from the Revolution to the Present  The study of selected literary texts from the late eighteenth century to the present. Prerequisites: FREN 3160, 3250.  3 hrs.

FREN 5500  Independent Study in French  Directed, individual study of a specific topic in a French literary or linguistic area. Departmental approval required for admission. Prerequisite: A minimum grade point average of 3.0 in the major.  1-3 hrs.

FREN 5600  Advanced Readings in French  Topics of literary, cultural, or linguistic merit will be analyzed. Topics will vary from semester to semester. Prerequisites: FREN 3160, 3250.  3 hrs.
GER 5000 Elementary German for Reading Proficiency Intensive grammar and elementary reading for translation and research purposes. The course is primarily for the graduate student who has had little or no study in the language. However, undergraduates who desire a thorough reading knowledge may also apply. Undergraduates must secure permission of Department. No oral work. This course does not count toward a major or minor in German. 4 hrs.

GER 5010 Intermediate German for Reading Proficiency Readings in the language at intermediate and advanced levels for translation and research purposes. Special attention will be given to students' major fields. Completion of GER 401 with a minimum of “B” constitutes graduate proficiency in the language. Undergraduates must secure permission of the Department. This course does not count toward a major or minor in German. Prerequisite: GER 5000 or equivalent. 4 hrs.

GER 5020 German for Graduate Study German instruction for graduate students enrolled in a degree program who need knowledge of German for their field of study. Students will sit in appropriate level course for their learning. 3-4 hrs.

GER 5200 Topics in German Linguistics and Language Science See the entry for LANG 5200. Prerequisites: Completion of four GER courses. 3 hrs.

GER 5280 Survey of German Literature A comprehensive study of German literature from its beginning through Romanticism. Prerequisites: GER 3160, 3170; 3220 or 3250 or equivalent. 3 hrs.

GER 5290 Survey of German Literature A comprehensive study of German literature from German Realism to the present. Prerequisites: GER 3160, 3170; 3220 or 3250 or equivalent. 3 hrs.

GER 5500 Independent Study in German Directed, individual study of a specific topic in a German literary or linguistic area. Departmental approval is required for admission. Prerequisite: One 5000-level course in the major; a minimum grade point average of 3.0 in the major. 1-3 hrs.

GER 5590 History of the German Language Survey of the development of the German language. Prerequisite: Six hours of 3000-level German or above. 3 hrs.

GER 5600 Studies in German Literature Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 5600. Thus, a student may take any or all of the offerings at various times. Prerequisites: German 3160, 3170; 3220 or 3250 or equivalent. Representative topics which may be treated in this area include: The Novelle -Survey of the development with representative selections. Lyric Poetry-Survey of the development with significant s 3 hrs.

GREK 5020 Greek for Graduate Study Classical Greek instruction for graduate students enrolled in a degree program who need knowledge of Greek for their field of study. Students will sit in appropriate level course for their learning. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

GREK 5200 Topics in Greek Linguistics and Language Science See the entry for LANG 5200. Prerequisites: Completion of four GREK courses. 3 hrs.
GREK 5500  Independent Study in Greek  Directed, individual study of a specific topic in ancient Greek Literature.  Prerequisites: GREK 1010 and departmental approval.  1-3 hrs.

ITAL  5020  Italian for Graduate Study  Italian instruction for graduate students enrolled in a degree program who need knowledge of Italian for their field of study. Students will sit in appropriate level course for their learning.  Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages.  3-4 hrs.

ITAL  5200  Topics in Italian Linguistics and Language Science  See the entry for LANG 5200.  Prerequisites: Completion of four ITAL courses.  3 hrs.

JPNS  5020  Japanese for Graduate Study  Japanese instruction for graduate students enrolled in a degree program who need knowledge of Japanese for their field of study. Students will sit in appropriate level course for their learning.  Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages.  3-4 hrs.

JPNS  5200  Topics in Japanese Linguistics and Language Science  See the entry for LANG 5200.  Prerequisites: Completion of four JPNS courses.  3 hrs.

JPNS  5500  Independent Study in Japanese  Directed individual study of a specific topic in Japanese language, literature, or culture.  Prerequisites: Completion of four courses in Japanese or equivalent; minimum grade point average of 3.0 in Japanese; departmental approval required.  1-3 hrs.

LANG  5200  Topics in Linguistics and Language Sciences  The advanced study of a language or a group of languages from a scientific point of view, such as the function and status of languages in society, the comparative history of different language families or the manipulation of language for pragmatic needs across cultures.  3 hrs.

LANG  5500  Independent Study in Classics  Directed, individual study of a specific topic related to Classical languages, literature, and/or culture. Department approval required for admission.  Prerequisite: Completion of four courses or equivalent in classics; minimum grade point average of 3.0 in the major; departmental approval required.  1-3 hrs.

LANG  5580  Second Language Acquisition and Teaching Instruction (in French, German, Spanish, or other language)  Required of modern language teaching majors and minors. There will be a dual focus: a theoretical focus on second language acquisition and the ways by which non-native speakers come to acquire a foreign language; and a practical focus on methods of teaching in a proficiency-oriented program, as well as on the teaching and learning of culture and the pedagogical use of technologies. Students must complete this course before completing directed teaching.  3 hrs.

LANG  5800  Foreign Language for Special Purposes

LANG  7100  Independent Research  2-6 hrs.
LAT 5020 Latin for Graduate Study Latin instruction for graduate students enrolled in a degree program who need knowledge of Latin for their field of study. Students will sit in appropriate level course for their learning. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

LAT 5200 Topics in Latin Linguistics and Language Science See the entry for LANG 5200. Prerequisites: Completion of four LAT courses. 3 hrs.

LAT 5500 Independent Study in Latin Directed individual study of a specific topic in Latin literature or linguistics. Departmental approval required for admission. Prerequisite: A minimum grade point average of 3.0 in the major. 1-3 hrs.

LAT 5570 Teaching of Latin The purpose of the course is to acquaint the prospective teacher with theory and practice appropriate to the Latin language, literature and culture in its classical context and as it relates to the modern world. Required of Latin teaching majors and minors. 3 hrs.

LAT 5600 Medieval Latin A survey of the development of Medieval Latin from late antiquity to the Renaissance. Specimens will include major literary and documentary sources of the medieval centuries including new genres such as hagiography, monastic rules, hymns, and homilies. Prerequisite: One of LAT 2000, LAT 2010, LAT 2040, LAT 3240, or equivalent, or permission of department. 4 hrs.

LATV 5500 Independent Study in Latvian Directed individual study of a specific topic in a Latvian language, literature, or culture area. Department approval required for admission. Prerequisite: Permission of Department and instructor. 1-3 hrs.

RUSS 5020 Russian for Graduate Study Russian instruction for graduate students enrolled in a degree program who need knowledge of Russian for their field of study. Students will sit in appropriate level course for their learning. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

RUSS 5200 Topics in Russian Linguistics and Language Science See the entry for LANG 5200. Prerequisites: Completion of four RUSS courses. 3 hrs.

RUSS 5500 Independent Study in Russian Directed individual study of a specific topic in Russian language, literature, or culture. 1-3 hrs.

Geography

GEOG 5010 Introduction to Geographic Information Systems Introduction to basic principles of Geographic Information Systems (GIS) with applications to a variety of problems using established data sources and repositories. Includes fundamental principles of cartographic design and communication. A first course in a curricular sequence developing GIS professional expertise. Prerequisite: Computer proficiency. 4 hrs.
GEOG 5100 Anglo American Review of the physical, cultural, and economic geography of the United States and Canada. Focus on regional problems and outlooks. Lectures, assigned readings, and periodic seminars. 3 hrs.

GEOG 5130 Western and Southern Europe Examination from western Europe from a regional perspective. The environmental and historical backgrounds serve as a foundation for more intensive study of contemporary conditions, problems, and issues. 3 hrs.

GEOG 5180 The Pacific Realm Analysis of the human and physical geography of the Southwest Pacific, with concentration on Australia, New Zealand, and Polynesia. 3 hrs.

GEOG 5210 Studies in Climatology and Meteorology Studies at an advanced level in climatology and meteorology. Topics of current interest to atmospheric scientists, such as global climate change, are examined in depth. Regional climatic phenomena and their relation to atmospheric circulation patterns are also investigated. Prerequisite: GEOG 2250 or consent. 3 hrs.

GEOG 5440 Studies in Economic Geography Presents world patterns of agriculture, manufacture, or transportation which link global production and consumption. In any term, the course focuses upon one of these three economic sectors. 1. Agriculture. Describes and analyzes agricultural systems throughout the world; focuses on selected crop-livestock systems and the changing character of agricultural land use in the United States. 2. Manufacture. Examination of theories and strategies of industrial plant location, the relationship of industrialization to regional economic growth and development, and selected industry case studies evaluating the interrelations of locational, economic, technological, and political factors in the respective industry's historic evolution. 3. Transportation. Examination of the historic evolution of transport systems in developed and developing nations, transport factors in location theory, techniques of transport analysis, the urban transport dilemma, and competitive and complementary characteristics of the different transport modes. Prerequisite: GEOG 2050 or 2440 or consent. 2-3 hrs.

GEOG 5450 Studies in Human Geography Each course listed under this general title is a concentrated study of one of the principal subdivisions of human geography. The scope and principal themes of each specialized field are reviewed, with consideration given to current research on selected problems. 1. Cultural Geography. Techniques of spatial analysis applicable to the study of humans and their environment. The place of origin, diffusion and present distribution of selected cultural patterns will be traced with emphasis given to cultural traits which strongly influence human occupancy of the earth's surface. 2. Historical Geography. Studies of geographic and related features which have combined to influence the course of historical development. This course will concentrate on a particular region and/or period of time during each semester in which it is offered. Each specialization will be designated in the Schedule of Course Offerings. 3. Political Geography. General survey of the principles and the applied aspects of political geography; primary emphasis on the physical and cultural resource bases and conflicts of national states, the assessment of location, boundary delimitation and the territorial sea, politically-organized territories within the administrative hierarchy, and electoral geography. Prerequisite: GEOG 2030 or GEOG 2050 or GEOG 2440, or by consent of instructor. Course 2-3 hrs.
GEOG 5530 Water Resources Management Examination of water resources management with emphasis on the effects of water uses and runoff on water quality and quantity. Topics include water resource systems, estimating consumptive and nonconsumptive water uses and runoff with computer models, and multiple socio-economic and hydrological factors in water resources management. Prerequisite: Graduate, senior, or junior standing. 3 hrs.

GEOG 5540 Outdoor Recreation: Resources and Planning Examination of extensive, resource-based outdoor recreation (such as parks, wilderness, wild rivers, hunting and fishing, hiking, etc.) with emphasis upon recreational planning. Topics include supply and demand for outdoor recreation, identification of present and future recreational needs, policy considerations, administration of recreational land uses, and various problems associated with outdoor recreation. Readings, discussion, and student-designed and executed individual studies provide professional orientation. 3 hrs.

GEOG 5550 Contemporary Issues in Resources Management Examination of selected contemporary natural resource and environmental problems, such as questions of natural resource adequacy, environmental pollution, energy shortages, political and economic problems related to resource management, and individual studies of local environmental problems. Prerequisite: GEOG 3500 or consent. 3 hrs.

GEOG 5560 Studies in Urban and Regional Planning Each of the courses listed under this number focuses on a major aspect of planning, including a review of the objectives of the planning process, legislation pertaining to planning operations, and methods of field and library investigation required for analysis and policy formulation in matters related to planning.

1. Urban Planning and Zoning. The Planning Process and the development of Comprehensive Plans as practiced in American communities. The legal foundations of zoning and subdivision regulations, and the implementation of the comprehensive plan. The organization, role, and relationship of the planning commission, the zoning board, and the planning department in the community. Prerequisite: GEOG 3560 or consent.

2. Regional Planning. Studies in the administration and coordination of planning programs at the regional level, e.g., transportation and communications, land use and conservation, drainage systems and wastewater treatment, residential and industrial development. The evolution and current status of planning methodologies are examined with emphasis on economic and environmental tradeoffs, and on problems of implementing regionally-oriented planning programs.

3. Public Lands and Parks. Specific programs and policies relating to the preservation and/or development of government-controlled lands. Prerequisite: GEOG 3560 or Graduate standing. 3 hrs.

GEOG 5570 Environmental Impact Assessment Alteration of the natural and human environment for perceived economic and social benefits often has significant adverse consequences. Recognition of this problem is reflected in federal, state, and local laws and regulations requiring environmental impact statements. The course provides an introduction to the analysis and preparation of environmental impact assessments. Prerequisites: Senior standing and GEOG 3500 or permission. 3 hrs.

GEOG 5660 Field Geography The theory and application of geographic techniques and instruments of field investigations: collection and analysis of field data, preparation and presentation of
materials. The course is based primarily upon field observations. Prerequisites: GEOG 2650. 2-4 hrs.

GEOG 5670  Geodata Handling and Mapping  Introduction to fundamental principles and procedures of representation and analysis of geographic data, in a variety of applications. The course combines theoretical discussions with practical data analysis. Topics include geographic measurement and representation; methods and software for descriptive and inferential statistics, with emphasis on spatial data analysis; computer mapping techniques; geographic modeling; and exploration of data resources. Prerequisites: GEOG 5010 and STAT 3660. 4 hrs.

GEOG 5680  Quantitative Methodology  Introduction to the application of quantitative concepts and methods in the analysis of geographic problems. Emphasis is placed on data base management, computer applications of common numeric and statistical methods, and utility assessment of various research designs and strategies. Prerequisite: GEOG 5670 or consent 3 hrs.

GEOG 5690  Intermediate Geographic Systems  Principles and applications of Geographic Information Systems (GIS). Examines the nature and accuracy of spatially referenced data, as well as methods of data capture, storage, retrieval, visualization, and output. Emphasis is placed on developing solutions to problems involving spatial entities and attributes by employing logical conceptual analysis using the tools provided by a typical geographic information system. Prerequisite: GEOG 5010. 4 hrs.

GEOG 5700  Cities and Urban Systems  Study of processes and forms of urban settlement highlighting problems relating to 1. political and geographical realities of urbanized regions; 2. factors in city growth (or decline); 3. size, function, and geographical distribution of cities; and 4. land use and population patterns in contemporary cities. Activities are designed to provide the student with experience in the use of source materials and methods of analysis utilized in urban geography. 3-4 hrs.

GEOG 5820  Remote Sensing of the Environment  The student will acquire proficiency in the fundamental techniques and skills of photogrammetry and photointerpretation during the first part of the course. The remainder of the semester will be spent in interpreting photos dealing with such topics as geomorphology, archaeology, vegetation and soils, water resources, rural and urban land use, as well as topics adapted to the interest and anticipated future work of the student. 3 hrs.

GEOG 5970  Independent Study  Designed for highly qualified majors and graduate students who wish to study in depth some aspect of their field of specialization under a member of the departmental staff. Prerequisite: Written consent of departmental advisor and instructor. 1-3 hrs.

GEOG 6090  Studies in Regional Geography  An investigation of selected topics in physical and human geography of a region, e.g., Latin America, Anglo-America, Europe. Regional concentration will vary from semester to semester, with the region being indicated at time of enrollment. Prerequisite: An appropriate introductory course at either the undergraduate or graduate level. 2-3 hrs.

GEOG 6200  Seminar in Physical Geography  A review of current literature and recent developments in several disciplines which form the basis of physical geography. Since each seminar
emphasizes different subject areas, such as landforms, soils, and vegetation, this seminar may be repeated. A final research project is required.  2-3 hrs.

GEOG 6610  Geographic Research  Problem formulation and research design are introduced in light of modern geographic thought and current practices. Other course emphases are sources of geographic information, search strategies, and the written presentation of research materials. Graduate students in geography are urged to complete this course as soon as possible.  Prerequisite: GEOG 5670.  4 hrs.

GEOG 6650  Seminar in Geography  Designed for the advanced student interested in analyzing problems related to various topics in geography.  Prerequisite: Consent of instructor.  1-3 hrs.

GEOG 6660  Professional Development Seminar  Students participate in selected activities related to professional development. These activities include critiques of professional presentations, participation in professional meetings, and presentations of papers to faculty and colleagues.  1 hr.

GEOG 6690  Advanced GIS Seminar  This course extends the focus of GEOG 5690, Geographic Information Systems, from concepts and procedures to project applications and techniques in both individual projects and in seminar. Each student will be required to determine a Geographic Information Systems (GIS) problem and devise an efficient, innovative, and practical solution using advanced techniques in spatial analysis, spatial statistics, and cartographic programming. This course will increase the exposure to the state of the art in GIS software, theory, and practice. Seminar topics will include professionally relevant issues such as interfaces of GIS with spatial analysis, spatial statistics, remote sensing, and spatial remodeling and customizing GIS with internal and external programming languages, project design, and management.  Prerequisite: GEOG 5690.  3 hrs.

GEOG 6700  Seminar in Urban Geography and Planning  A review of the current literature and recent methodological developments in the field of urban geography and planning.  Prerequisite: GEOG 5560.  2-3 hrs.

GEOG 6820  Advanced Remote Sensing  This course focuses on acquisition and interpretation of remotely sensed data, including data collection with several instruments. The main body of this course stresses interactive interpretation of digital image data collected from aircraft or satellites and manipulated within image processing/geographic information system software.  Prerequisite: GEOG 5820.  3 hrs.

GEOG 6860  Content Standards in Geography/Social Studies Teaching  The course develops the content that is essential for teaching content standards based social studies in Michigan schools with an emphasis upon geography. The content basis, including theories, concepts, and principles of the social sciences and the inquiry processes they employ, will be applied to the instructional expectation of social studies teachers.  Prerequisite: Consent of departmental advisor.  3 hrs.

GEOG 6870  Assessment in Geography/Social Studies  The course develops classroom and large-group assessment theory and principles of practice in geography/social studies for grades 5-12 students. Selected, constructed and extended response items that conform to the MEAP model for social studies are the assessment form for development, design, and analysis. Emphasis will be on classroom tests that
assess higher level thinking skills in geography/social studies.  Prerequisite: Consent of departmental advisor and instructor.  3 hrs.

GEOG 7000  Master's Thesis  6 hrs.
GEOG 7100  Independent Research  2-6 hrs.
GEOG 7120  Professional Field Experience  2-12 hrs.

Geosciences

GEOS 5270  Principles of Well Drilling and Installation  An introduction to hollow-stem auger drilling and well installation, rotary drilling with mud and air, cable tool drilling, monitoring well design, sample collection and description; cuttings, spit spoon, and Shelby tube, borehole geophysics, and installation and development of wells.  Prerequisite: GEOS 4120 or GEOS 5120.  1 hr.

GEOS 5280  Principles/Practices of Groundwater Sampling/Monitoring  An introduction to state-of-the-art techniques for sampling, monitoring, and evaluating groundwater systems and surface water interactions. Includes quality control and assurance procedures, groundwater sampling equipment and procedures, field hydrochemical equipment and procedures, and vadose zone sampling of water and gas.  Prerequisite: GEOS 4120 or GEOS 5120.  1 hr.

GEOS 5300  Plate Tectonics and Earth Structure  Major tectonic features and internal structure of the earth in relation to plate tectonics, critical examination of the tenets of plate tectonics.  Prerequisites: GEOS 3010 or GEOS 3350, 4300, or consent of instructor.  3 hrs.

GEOS 5350  Numerical and Spatial Data Analysis in the Geosciences  Application of various of elementary statistical methods (including elementary geostatistics) and computer-based software applications (including Arcview GIS) to the management, analysis, and display of multidimensional, sold earth, geosciences data through completion of a special project using established geological data sources or original, research project data.  Prerequisites: MATH 1600, GEOG 3750.  3 hrs.

GEOS 5020  Problems in Geology and Earth Science  Individual problems involving topical reading and/or research problems in earth sciences.  Prerequisites: GEOS 3000, 3010, 4400, or consent of instructor.  1-3 hrs.

GEOS 5030  Environmental Consulting Practice  An introduction to the principles and practices that are peculiar to environmental consulting. Emphasis is placed on the legal, business, and practical considerations needed to conduct a consulting practice. This course is not to be counted toward the 60 credits beyond the master's in the Ph.D. program.  Prerequisite: Graduate standing in Geology or Earth Science.  2 hrs.

GEOS 5060  Introduction to Soils  Properties of natural and engineered soils. Interactions between soils and plants, microorganisms, water, atmosphere, and contaminants. Soil uses, remediation, and conservation.  Prerequisites: GEOS 3010 or 3350, MATH 1220 OR 1700 or 1700 and CHEM 1000/1110; Corequisite MATH 1230 or 1710.  3 hrs.
GEOS 5090 Surface Water Hydrology  Hydrology describes the waters of the earth, their occurrence, circulation and distribution, and their reaction with the environment. Emphasis is on quantitative aspects of surface water. Topics include, stream flow, precipitation, evapotranspiration, hydrographs, runoff, probability analysis and modeling. Prerequisites: MATH 1230 or 1710. 3 hrs.

GEOS 5120 Hydrogeology  The study of surface water and groundwater with special emphasis on groundwater movement and relation to the geologic environment. Prerequisites: GEOS 3010 or GEOS 3350; MATH 1220 or 1700. MATH 1230 or 1710 to be taken concurrently. 3 hrs.

GEOS 5140 Isotope Hydrology  Principles of isotope fractionation. Experimental techniques in isotope mass spectrometry. Carbon, oxygen, and hydrogen isotope systematics in the hydrologic cycle. Application of stable isotope techniques to study ground water – surface water interaction. Use of nitrogen isotope measurements in understanding round water nitrogen cycling and fate of nitrate load. Introduction to developments in the application of chlorine isotopes in hydrology. The course will include a seminar style approach requiring summarizing of recent research papers. Prerequisite: Instructor’s consent. 3 hrs.

GEOS 5150 Applied Hydrology  Application of hydrogeologic theory to water supply networks. Topics include: well installation, well testing, aquifer testing, and distribution systems. Prerequisite: 12 hours of geology, earth science, or consent of instructor. 3 hrs.

GEOS 5160 Geochronology and Global Change  Application of the concepts of nuclear physics and chemistry to geological problems. Topics to include absolute and relative dating, formation of the elements, global change and causes of global change. Prerequisites: Basic knowledge of chemistry, physics, and math; GEOS 3350. 3 hrs.

GEOS 5200 Economic Geology  Origin, occurrence, and utilization of metallic and non-metallic mineral deposits, and mineral fuels. Prerequisite: GEOS 3010 or GEOS 3500. 3 hrs.

GEOS 5210 Geological and Environmental Remote Sensing  The course provides rigorous (70% of student’s effort) hands-on-exercises on the applications of remote sensing techniques in geological and in environmental sciences. The hands-on exercises are primarily based on case studies that were published in peer-reviewed articles, data downloaded from our receiving station, and/or data collected by the students using hand-held VNIR spectro-radiometer. In the process of solving the lab exercise, the students will master image processing techniques. The fundamentals of remote sensing will be covered as well, since the student cannot start dealing with applications unless he or she knows the fundamentals. Throughout the course, the students will work with a wide-range of space-borne data sets including CORONA, Landsat MSS, Landsat TM, SPOT, ASTER, SIR-C, SRTM, AVIRIS, ASAR, and ERS. 4 hrs.

GEOS 5230 Hazardous Waste Operation and Emergency Response  Training in safety procedures for working on hazardous sites. Training in the safe handling of hazardous materials which might be encountered during drilling, soil sampling, or water sampling. Review of State and Federal regulations. Use of personal protection equipment. Satisfies OSHA 40 hour training requirements. Prerequisites: GEOS 4120 or 5120. 1 hr.
GEOS 5240 Remediation Design and Implementation  Principles and techniques for the remediation or cleanup of ground water and soils contamination. Introduction to pump and treat systems, bioremediation, soil vapor extraction, air sparging, and others. Choosing the appropriate system and sizing it for economical application to a specific site. Field trips required.  Prerequisites: GEOS 4120 or 5120.  1 hr.

GEOS 5250 Surface Geophysics  An introduction to the use of those surface geophysical methods used in the investigation of ground water. Includes shallow seismic, electrical, and magnetic methods; and ground penetrating radar. Prerequisite: GEOS 4120 or GEOS 5120.  1 hr.

GEOS 5260 Principles and Practices of Aquifer Testing  Introduction to the methods of aquifer testing with emphasis on step drawdown pump tests, forty-hour pumping test with recovery, slug tests and bail tests data processing, using computer software, water level recorders, data loggers and water level measuring equipment.  Prerequisite: GEOS 4120 or GEOS 5120.  1 hr.

GEOS 5360 Glacial Geology  A study of the mechanics of glacial movement, processes of glacial erosion and deposition, and the distribution of glacial features in space and time. Special emphasis will be placed on the glacial geology of the Great Lakes area.  Prerequisite: GEOS 3010 or GEOS 3350.  3 hrs.

GEOS 5400 Igneous and Metamorphic Petrology  Advanced discussion of origins and positions of igneous and metamorphic rocks in light of recent experimental evidence and concepts of global tectonics.  Prerequisite: GEOS 4400 or equivalent.  4 hrs.

GEOS 5450 Hazardous Waste Remediation  Content includes chemical, physical, and biological processes affecting contaminants in the subsurface. Topics include environmental regulations, remediation, site characterization, contaminant characterization, detailed engineering and management considerations related to the design and operation of hazardous waste remediation systems involving water pollution, air pollution, solid waste, and groundwater pollution.  Prerequisites: CHEM 1120/1130; MATH 1220 or 1700. Corequisite MATH 1230 or 1710.  3 hrs.

GEOS 5550 Introduction to Geochemistry  An introduction to high and low temperature geochemistry. Topics to be discussed include cosmochemistry, crystal chemistry, thermodynamics and kinetics, aqueous geochemistry, stable and radiogenic isotope geochemistry, organic geochemistry, and biogeochemistry.  Prerequisites: GEOS 3350, CHEM 1120/1130.  3 hrs.

GEOS 5600 Introduction to Applied Geophysics  Seismology, gravity, geomagnetism, electrical resistivity, and heat measurements applied to the determination of the internal structure of the earth. Prerequisites: GEOS 3010 or GEOS 4400; GEOS 4300; MATH 1220 OR 1700; two semesters of college physics; or consent of instructor.  3 hrs.

GEOS 5610 Reflection Seismology  Reflection seismology and related techniques as applied to petroleum exploration and deep crustal exploration. Theoretical background, data collection, data processing and interpretation will be discussed.  Prerequisites: GEOS 5600 and MATH 1230 or 1710.  3 hrs.
GEOS 5620  Gravity and Magnetic Exploration  Gravity and magnetic methods applied to tectonic, mineral exploration, hydrogeologic, and crustal studies. Theoretical background, instrumentation, surveying techniques, data reduction, processing, computer modeling, and interpretation will be discussed. Prerequisites: GEOS 5600 and MATH 1230 or 1710. 3 hrs.

GEOS 5630  Electrical Methods  Resistivity sounding and profiling, induced polarization, spontaneous potential, electromagnetic methods using natural and artificial fields. Prerequisites: GEOS 5600, MATH 1230 or 1710, and (PHYS 4400 recommended). 3 hrs.

GEOS 5640  Environmental Field Geophysics  Field studies utilizing seismic gravity, and magnetic, electromagnetic, georadar, and electrical resistivity methods for glacial geology and groundwater, engineering, and environmental problems in the Kalamazoo area. Course also includes field work at local sites. Prerequisite: GEOS 5600, or consent of instructor. 3 hrs.

GEOS 6000  Hydrogeochemistry  Geochemical origin and characteristics of surface water and groundwater; equilibrium thermodynamics, the carbonate system, redox processes, ion exchange, organic compounds and isotopes. Prerequisite: GEOS 5120 or consent of instructor. 3 hrs.

GEOS 6050  Groundwater Modeling  Study of groundwater flow and contaminant transport rates using analytical and numerical models. Prerequisites: GEOS 5120 and MATH 1230 or 1710. 3 hrs.

GEOS 6080  Advanced Hydrogeochemistry  Investigation of selected topics in hydrogeochemistry. A problem-oriented approach to the study of classical and current topics dealing with natural and contaminated groundwaters. Prerequisite: GEOS 6000. 3 hrs.

GEOS 6100  Geochemistry  An introduction to the basic principles and theories of geochemistry. Prerequisites: GEOS 4400 or permission. 3 hrs.

GEOS 6110  Mineral Analysis  X-ray diffraction and fluorescence techniques applied to mineralogical and petrological problems. Prerequisites: GEOS 3350 or permission. 3 hrs.

GEOS 6120  Advanced Hydrology  Analytical and numerical analysis of groundwater flow and contaminant transport. Topics include well hydraulics, flow in unsaturated soils, multiphase flow, and advection-dispersion. Prerequisites: GEOS 5120, 6050, and MATH 1230 or 1710. 3 hrs.

GEOS 6130  Wetlands Hydrology  Introduction to hydrologic function of wetlands, wetlands classification, and the relationship between hydrology and soil and plants. Emphasis will be placed on the use of these parameters in wetlands delineation. Prerequisite: GEOS 5120 or consent of instructor. 3 hrs.

GEOS 6140  Environmental Regulatory Overview  Study of those federal and state laws that govern the distribution, use and pollution of natural waters. Emphasis is placed on current interpretations and policy. 3 hrs.
GEOS 6150 Contaminant Hydrology  Theory and field methods related to the transport of contaminants in groundwater. Includes theoretical considerations, case histories, law, analysis of problems, and preparation of hydrogeological reports.  3 hrs.

GEOS 6170 Stable Isotope Geochemistry  Application of stable isotopes in the study of hydrologic cycle, global change, and atmospheric processes. Cosmochemical implications of stable isotope systematics in extra-terrestrial samples.  3 hrs.

GEOS 6300 Structural Analysis  The theory of and methods involved in the geometric, kinematic, and dynamic analysis of deformed rock bodies. All scales of observation are considered from hand specimens to large map areas. Prerequisites: GEOS 4300 and consent.  3 hrs.

GEOS 6340 Research in Geology and Earth Science  Advanced readings or research in an area to be selected after consultation with a supervising staff member.  1-4 hrs.

GEOS 6450 Carbonate and Clastic Petrology  Identification, recognition, and analysis of sedimentary rocks in hand specimen and thin section. Study of the distribution of sediments in basinal settings. Prerequisites: GEOS 4330 and 4350, or consent of instructor.  3 hrs.

GEOS 6460 Carbonate and Evaporite Depositional Systems  Processes, characteristics, and relationships of modern and ancient basinal carbonate and evaporite facies. Course includes an 11-day field trip (Winter break) to investigate Holocene, Pleistocene, and Tertiary carbonate environments and facies in Florida; and a 3-day trip to northern Indiana and Ohio to examine Silurian Platform carbonates. Student projects include logging, description, and interpretation of cores and slabs at the mesoscopic level. Prerequisites: GEOS 4330, GEOS 4350.  3 hrs.

GEOS 6500 Topics in Geology and Earth Science  An intensive study of specific subjects in the area of Earth Science as listed. Prerequisite: Consent of instructor. Subject to be offered during a semester or term. Will be announced in advance.  2-4 hrs.

GEOS 6550 Quantitative Basin Analysis  Theory and practical application of sequence stratigraphy and backstripping; two fundamental tools of the petroleum industry and academic community. Prerequisites: GEOS 4350 and GEOS 5600 or consent of instructor.  3 hrs.

GEOS 6560 Clastic Depositional Systems  Description and analysis of clastic depositional systems and discussion of the sediment they produce. Laboratory investigations include stratigraphic and seismic analysis. Prerequisite: GEOS 4350 or consent of instructor.  3 hrs.

GEOS 6600 Seminar in Geology and Earth Science  A seminar designed to provide students with the opportunity to examine and discuss important problems in Earth Science. Oral presentations will be required. Prerequisite: Consent of instructor.  1 hr.

GEOS 6660 Advanced Hydrology Seminar  Topics in theoretical and applied hydrology. Prerequisite: Graduate standing.  1-3 hrs.

GEOS 7000 Master's Thesis  6 hrs.
GEOS 7100  Independent Research  2-6 hrs.
GEOS 7120  Professional Field Experience  2-12 hrs.
GEOS 7300  Doctoral Dissertation  15 hrs.
GEOS 7350  Graduate Research  2-10 hrs.

History
HIST 5000  Studies in History  Topics announced in Schedule of Course Offerings.  1-3 hrs.

HIST 5150  Topics in Public History  Selected topics in aspects of public history including museology, historic preservation and cultural resource management, historical administration, information science, and applied research. Topics listed in Schedule of Course Offerings. Prerequisite: Departmental approval.  1-3 hrs.

HIST 5170  Topics in Economic and Social History  Selected topics in the history of economic and social conditions and change such as the development of world trade and world economy, development and modernization, urbanization, social and political movements, demography and migration, family structure, etc. Topics announced in Schedule of Course Offerings.  1-3 hrs.

HIST 5190  Topics in Intellectual and Cultural History  Selected topics in the history of ideas, literary and artistic expression, intellectual and cultural character of various periods and civilizations, examination of historical conditions through philosophy and the arts, etc. Topics announced in Schedule of Course Offerings.  1-3 hrs.

HIST 5300  Studies in Early American History  Topics listed in Schedule of Course Offerings.  3 hrs.

HIST 5350  Studies in Recent American History  Topics listed in Schedule of Course Offerings.  3 hrs.

HIST 5500  Studies in Medieval History  3 hrs.

HIST 5650  Studies in Modern European History  Selected approaches to European history since the Renaissance. Topics listed in Schedule of Course Offerings.  3 hrs.

HIST 5850  Studies in Asian and African History  Topics listed in Schedule of Course Offerings.  3 hrs.

HIST 5900  Proseminar  Research and writing on selected themes. Topics listed in Schedule of Course Offerings.  3 hrs.

HIST 5910  Topics in Theory and Practice  Selected theoretical, technical, and interpretive issues in the field of history: interaction with methodologies of other social science and humanities disciplines; innovative forms and techniques of documentation and data collection; major historical
interpretations currently before the academic world and the public. Topics listed in Schedule of Course Offerings. Prerequisite: Graduate students only. 1-3 hrs.

HIST 5920 Computers in Historical Research Computer applications to historical and related research projects including manuscript analysis techniques, text-oriented databases, museum and historical agency database and registration systems, simulations, etc. Survey of applications in closely related disciplines. 1-3 hrs.

HIST 5950 History Writing Workshop Practicum in the writing of history: editing and publishing; preparation of written materials for lay readers and audiences outside the discipline. 1-3 hrs.

HIST 5960 Local History Workshop Practicum in research techniques for problems in local and small community history, including oral tradition, genealogy, and interdisciplinary method. Prerequisite: Departmental approval. 1-3 hrs.

HIST 6000 Historical Method Introduction to the field of history and its recent development. Practice in the use of oral and written communication skills for conveying historical knowledge to various audiences. Survey of major journals and bibliographical tools for general research. Examination of interaction between historical techniques and those of related disciplines. 3 hrs.

HIST 6010 Historiography Study of the major figures, ideas, and developments in historiography. Students may conduct research in their fields of concentration. 3 hrs.

HIST 6050 Readings in Early United States History Intensive study of historiography interpretations, major works, serials, and databases in United States history from colonial times until the late nineteenth century. 3 hrs.

HIST 6060 Readings in African American History Intensive study of historiography, interpretations, major works, serials, and databases in African American History from the era of the transatlantic slave trade to the present. 3 hrs.

HIST 6080 Readings in Recent United States History Intensive study of historiography, interpretations, major works, serials, and databases in United States history from the late nineteenth century to the present. 3 hrs.

HIST 6090 Ethnohistory Seminar Ethnohistory is the study of cultures combining research techniques and theoretical approaches from the fields of history and anthropology. This course will survey ethnohistorical research on a hemispheric level, including the United States, Canada, Mexico, Central and South America. We will read works in the areas of culture contact, colonialism, material analysis, historiography, oral history, gender, historical archaeology, ethnography, tribalization, globalization, and modernization. The core of ethnohistory lies in the realization shared by practitioners of the benefits obtained through the use of multiple lines of evidence to study history and culture. Ethnohistorians recognize that documents, archaeological findings, oral histories, and ethnographies can be profitable compared, contrasted, and integrated to elucidate the histories and cultural contexts of groups that have been ignored in conventional historical accounts. Thus, interdisciplinary study is
incumbent in ethnohistory. By juxtaposing multiple lines of evidence, the ethnohistorian can at once examine the distant and the local, the general and the particular, bringing human experience into better focus. 3 hrs.

HIST 6100  Readings in Islamic History  Intensive study of the historiography of the medieval Muslim Middle East, from the rise of Islam until the Ottoman conquest of Egypt and Syria. Topic may vary from year to year. 3 hrs.

HIST 6110  Readings in Byzantine History  The course examines central issues in the modern historiography of the Byzantine Empire. Readings cover the institutions of the Byzantine Empire, Byzantine culture, the Byzantine economy, the Orthodox Church, the rise of the Byzantine aristocracy, Byzantine peasantry and agrarian relations, Byzantine women, and the dissemination of Byzantine culture among the Slavs. 3 hrs.

HIST 6120  Readings in Medieval History  Intensive study of historiography, major works, serials, and databases in medieval history. 3 hrs.

HIST 6160  Readings in Modern European History  Intensive study of historiography, major works, serials, and databases in European history from approximately 1750 to the present. 3 hrs.

HIST 6180  Readings in Global and Contemporary History  Intensive study of historiography, interpretations, major works, serials, and databases dealing with issues in modern world history, such as colonialism, nationalism, international conflict and cooperation, economic integration, etc. Topics may be listed in Schedule of Course Offerings. 3 hrs.

HIST 6200  Bibliographical Research  Research in the literature of specialized topics and issues as they pertain to thesis or dissertation preparation, and preparation of a bibliographical essay. Topics may be listed in Schedule of Course Offerings. Prerequisite: Departmental approval. 1-3 hrs.

HIST 6250  Problems in Cultural Resource Management History and practice of various facets of administration, conservation, development and interpretation of cultural and historical sites, agencies and institutions. Topics may be listed in Schedule of Course Offerings. 1-3 hrs.

HIST 6350  Research Techniques in Medieval History  Introduction to the sources and methods used in the study of medieval Europe. Interpretation of written sources including narratives, chronicles, charters, early government records, etc., with emphasis on authentication, dating and localizing these materials. Survey of techniques for interpreting artifacts and material culture such as archaeology, numismatics, and epigraphy. 3 hrs.

HIST 6360  Documentary Latin Paleography, 1100-1500  Introduction to medieval Latin paleography and diplomacy, focusing on the Latin, scripts, abbreviations, and form of documents from historical archives of the High and Late Middle Ages, i.e., 1100-1500. Taught as a practicum offering students maximum practice in the transcription and reading of materials reproduced from various Spanish and Italian ecclesiastical and notarial archives, and from the royal Aragonese and papal chancelleries. 3 hrs.
HIST 6400  Museums Practicum  Supervised field assignment with focus on a research project dealing with a specific aspect of museum or site administration such as registration, collections development, conservation, interpretation, etc. Registration requires approval of the Department Chair. Prerequisite: Departmental approval. 3-6 hrs.

HIST 6420  Oral History  Techniques and methodology of orally transmitted historical data. Considers oral history in various cultural settings under both literate and nonliterate conditions. 3 hrs.

HIST 6440  Material Culture and the Built Environment  Social and cultural studies of artifacts, the design and furnishing of domestic space, and the social construction of the built environment in selected historical periods. Topics listed in Schedule of Course Offerings. 3 hrs.

HIST 6460  Historical Archaeology  Development of approaches and perspectives that link documentary sources and material culture. Considers archaeology’s artifactual focus and its application in areas such as ethnohistory, art history, the history of technology, and submerged cultural resources. Topics listed in Schedule of Course Offerings. 3 hrs.

HIST 6500  Special Projects  Participation in departmental research and interpretive projects. Topics may be listed in Schedule of Course Offerings. Registration requires approval of the Department Chair. Prerequisite: Departmental approval. 1-3 hrs.

HIST 6600  Theories of Gender and History  This readings seminar explores the variety of ways in which gender as a theoretical perspective and as an object of study has affected the discipline of history. Students will review and evaluate gender as a theoretical perspective, assessing its development as a field of study. They will then read and critique a series of texts illustrative of the new insights that a gender perspective has brought to historical research. Specific works consulted will depend on the interests of the seminar members. Studies on gender have reconsidered fundamental historical categories—modernity, progress, and the state—and range widely. Students will present their own research in a substantial paper, applying the lens of gender to their specialization. 3 hrs.

HIST 6620  The Construction of Gender  This graduate seminar explores constructions of “gender” as a method of historical analysis; the historical developments of the categories of “man”, “woman”, masculinity and/or femininity; and how these categories were produced and historically contested. Students will become familiar with a range of theoretical and methodological approaches to studying gender in history; and will study the application of gender as a method of analysis in a particular historical, geographical, and/or topical context determined by the instructor. The instructor will determine whether the course is a reading or research seminar. 3 hrs.

HIST 6680  Gender and Migration  This course explores the intersection of gender with the movement of peoples, goods, and ideas and the consequent encounters, exchanges, and transformations that result from these movements. The focus of the course will vary by chronology and geography depending on the instructor. Envisioned as one of several cluster courses in the History Department’s graduate emphasis on gender, this course might be offered as either a readings seminar or research seminar, again depending on the intent of the instructor and goals of the course. 3 hrs.
HIST 6700 Seminar in History  Selected issues and problems in historical studies. Topics announced in Schedule of Course Offerings.  3 hrs.

HIST 6720 Seminar in Local History Methodology  Research design and execution organized around interdisciplinary methodology. Presentations and research supervision by faculty with interest in exhaustive, small-scale historical reconstruction in a variety of time periods and geographical settings such as American, medieval, African and non-Western traditional, etc. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6750 Seminar in Early United States History  Advanced research. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6760 Seminar in African American History  Advanced research in African American history. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6780 Seminar in Recent United States History  Advanced research. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6810 Byzantium and the West, 900—1400: Research Seminar  The seminar explores the political, economic, and cultural relations between the Byzantine Empire and Western Europe in the period between 900 and 1400. In the first half of the course, students will discuss accounts of Western travelers (pilgrims, diplomats, and crusaders) to Byzantium and will familiarize themselves with relevant secondary works. The second half of the course centers on a close reading and analysis of a Latin travel narrative. Prerequisites: HIST 6350 or permission by the instructor.  3 hrs.

HIST 6820 Seminar in Medieval History  Advanced research. Topics may be listed in Schedule of Course Offerings. Prerequisites: HIST 6350 or consent of instructor.  3 hrs.

HIST 6840 Readings in Atlantic History  Atlantic history as an area of academic inquiry focuses on the connections among the peoples of Africa, Europe, and the Americas. This readings course will introduce students to this field, enabling them to acquire the necessary conceptual and methodological framework to pursue further studies in Atlantic history. In this course, we will examine scholarly works that address key topics in Atlantic history, from the seventeenth to the nineteenth centuries. Topics may include the nature of African, European, and American societies on the eve of contact; the transfer of peoples and pathogens to the Americas; the movement of commodities; slavery and emancipation; revolution and the transfer of revolutionary ideas.  3 hrs.

HIST 6850 Seminar in Atlantic History  Advanced research in the history of the Atlantic world, ca. 1500 to present. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6860 Seminar in Modern European History  Advanced research. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6880 Seminar in Global and Contemporary History  Advanced research. Topics may be listed in Schedule of Course Offerings.  3 hrs.
HIST 6890  Seminar in Public History  Advanced research. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6980  College Teaching and Professional Activity  Introduces students to full range of teaching and other professional activities of historians as well as how to prepare for the job market: syllabi preparation and writing, class presentations, evaluation methods, grant applications techniques, publishing, conference presentations and vita preparation. Instructor mentors students in independent teaching assignments.  3 hrs.

HIST 7000  Master's Thesis  Prerequisite: Departmental approval. 6 hrs.
HIST 7100  Independent Research  Prerequisite: Departmental approval. 2-6 hrs.
HIST 7120  Professional Field Experience  Prerequisite: Departmental approval. 2-12 hrs.
HIST 7300  Doctoral Dissertation  Prerequisite: Departmental approval. 12-18 hrs.
HIST 7350  Graduate Research  Prerequisite: Departmental approval. 2-10 hrs.

International and Area Studies
INTL 5000  Topics in Global and International Studies  Topics may be listed in Schedule of Course Offerings.  1-3 hrs.

INTL 6040  Graduate Foreign Studies Seminar  Seminars in the Social Sciences conducted outside the U.S. Students may receive credit in Africana Studies, Anthropology, Economics, Geography, History, Political Science, or Sociology, if the credit is approved by the chairperson of the department prior to registering for the seminar. Topics may be listed in the Schedule of Course Offerings. Prerequisite: Approval of the student's graduate advisor and the instructor.  1-6 hrs.

INTL 6050  Graduate Foreign Studies Seminar  Seminars in the Humanities conducted outside the U.S. Students who complete such a seminar may receive credit in Communication, Comparative Religion, English, Foreign Languages, Philosophy, Spanish, and the departments of the College of Fine Arts, if the credit is approved by the chairperson of the department prior to registering for the seminar. Topics may be listed in the Schedule of Course Offerings. Prerequisite: Approval of the student's graduate advisor and the instructor.  1-6 hrs.

Mathematics
MATH5070  Numerical Analysis I  The analysis and use of numerical algorithms for the solution of nonlinear equations, systems of linear equations, interpolation, numerical differentiation and integration. Prerequisites: MATH 3740 and a computer programming language beyond Basic, e.g., FORTRAN or C.  3 hrs.

MATH5100  Applied Matrix Algebra  An introduction to the study of methods to solve linear systems of equations, least squares approximation problems, and eigenvalue problems. Topics covered include the algebra of real and complex matrices with particular emphasis on LU-decompositions, QR-decompositions, singular value decompositions, generalized inverses, Hermitian symmetric matrices,
positive definite matrices and the Spectral Theorem. Applications from multivariate calculus will be discussed. Prerequisites: Either MATH 2300 or (MATH 2720 and MATH 3740). 3 hrs.

MATH5220 Introduction to Topology Topics to be chosen from: Topological spaces and continuous functions, metric spaces, connectivity, separation axioms, compactness, product and quotient spaces, paracompactness, and manifolds. Prerequisite: MATH 3300 or MATH 5700. 3 hrs.

MATH5270 Differential Geometry of Curves and Surfaces An introduction to Riemannian Geometry with emphasis on curves and surfaces. Topics may include isometries, orientation, differential forms, curvature, metrics, and geodesics. Prerequisites: MATH 2720 and either MATH 2300 or 3740. (MATH 3140 is recommended.) 3 hrs.

MATH5300 Linear Algebra Properties of finite dimensional abstract vector spaces, linear transformations, and matrix algebra are studied. Prerequisite: MATH 3300. 3 hrs.

MATH5540 Algebra in the Elementary/Middle School Curriculum This course is devoted to the teaching and learning of algebra in elementary and middle grades. Concepts and skills are developed and reinforced using a variety of approaches and materials. Calculators and computers are used throughout the course to develop concepts; to explore the connections among numeric, graphic, and symbolic representations of mathematical ideas; and to model and solve problems involving quantitative variables. Prerequisites: MATH 1500, 1510, 2650, and 3520 with grades of “B” or better or consent of instructor. 4 hrs.

MATH5550 Mathematical Modeling and Problem Solving in the Elementary/Middle School Curriculum This course provides experiences in mathematical modeling and problem solving for elementary/middle school teachers. Problem contexts are selected to deepen students understanding of important ideas in number theory, algebra, geometry, probability, statistics, and the conceptual underpinnings of calculus. Calculators and computers are used extensively. Prerequisites: MATH 5540 with a grade of “C” or better or consent of instructor. 4 hrs.

MATH5700 Advanced Calculus I Properties of real numbers, Cauchy sequences, series, limits, continuity, differentiation, Riemann integral, sequences and series of functions. Prerequisites: MATH 2720 and 3140 (MATH 3300 is recommended.) 4 hrs.

MATH5710 Advanced Calculus II Topology of n-dimensional space, continuity and differentiability of functions of one variable; Riemann-Stieltjes integral; convergence of sequences and series of functions; Fourier series; analysis of functions of several variables. Prerequisite: MATH 5700 or approval of advisor. 3 hrs.

MATH5720 Vector Calculus and Complex Variables Functions of several variables, implicit and inverse functions, Jacobians, multiple integrals, Green’s Theorem, divergence, curl, the Laplacian, Stokes’ Theorem, analytic functions, Laurent expansions, residues, argument principle, and conformal mapping. Prerequisite: MATH 3740. 4 hrs.

MATH5740 Advanced Differential Equations Series solutions at ordinary and singular points of linear ordinary differential equations, Bessel and Legendre functions, self-adjoint boundary value
problems, Fourier series, solution of partial differential equations by separation of variables.  
Prerequisite: MATH 3740. 3 hrs.

MATH 5800 Number Theory Diophantine equations, congruences, quadratic residues, and properties of number-theoretic functions. Prerequisite: MATH 3300. 3 hrs.

MATH 5900 In-Service Professional Development in Mathematics This course develops specific professional skills related to the teaching and learning of pre-college mathematics. Final course outcomes have demonstrated applications to the mathematics classroom. Prerequisite: Permission of instructor. 1-3 hrs.

MATH 5950 Topics in Elementary/Middle School Mathematics This course addresses topics in mathematics content and pedagogy relative to the teaching and learning of elementary/middle school mathematics. Prerequisite: MATH 3520 or consent of instructor. 3 hrs.

MATH 5990 Independent Study in Mathematics Advanced students with good scholastic records may elect to pursue independently the study of some topic having special interest for them. Topics are chosen and arrangements are made to suit the needs of each particular student. Prerequisite: Approval of chairperson of department. 1-6 hrs.

MATH 6020 Mathematical Modeling I This course considers the methodology of modeling a series of practical problems. The mathematical tools used may include dimensional analysis, optimization, differential and difference equations, graph theory and network flow theory. The practical problems may include population dynamics, economic theory of prices and production, scale models, scheduling problems, pollution, social group interaction, epidemics, and facility location. Prerequisite: MATH 5740 or consent of instructor. 3 hrs.

MATH 6050 Optimization This course will cover one or several topics from the area of optimization. The topic(s) may include nonlinear programming, dynamic programming, optimal control, variational analysis, discrete optimization, stochastic optimization, and network optimization. If the material covered is significantly different, this course may be repeated for credit with approval of the instructor. Prerequisites: MATH 2720 and consent of the instructor. 3 hrs.

MATH 6070 Numerical Analysis II The analysis and use of numerical algorithms for the solution of ordinary and partial differential equations, and approximation theory. Prerequisite: MATH 5070. 3 hrs.

MATH 6080 Linear Programming Linear inequalities; convex geometry; optimization in linear systems; zero-sum games; applications. Prerequisite: An introductory course in linear algebra. 3 hrs.

MATH 6090 Studies in Applied Math Advanced work organized around topics related to the field of study indicated at the time the course is scheduled. Students may take this course more than once. 3 hrs.
MATH 6110 Mathematical Applications  An introduction to the philosophy of, machinery for, and methodology in applications of mathematics. Topics will be chosen from graph theory, linear algebra, numerical approximation, optimization and graphical linear programming, probability, and linear differential equations. Prerequisite: Consent of the advisor. 3 hrs.

MATH 6120 Data Analysis  Variation is the central concept of the course—how to understand it, what techniques to use, how to draw conclusions from data and evaluate the strength of such conclusions. Emphasis will be placed on graphical methods, simulations, computer usage, sampling, and experience with real data from the world around us and from experiments. Statistical thinking will be stressed. Prerequisite: Consent of advisor. 3 hrs.

MATH 6150 Intermediate Analysis  This course will include the following topics: limits, continuity, differentiation, integration, applications. It will stress concepts rather than techniques. Prerequisite: Consent of advisor. 3 hrs.

MATH 6160 Survey of Algebra  This course will discuss groups, rings, integral domains and fields, including such topics as homomorphisms and isomorphisms, subalgebras and ideals, with examples involving permutation groups, transformation groups, polynomial rings and finite fields. Prerequisite: Consent of advisor. 3 hrs.

MATH 6170 Discrete Dynamical Systems  This course features a blend of theory and experimentation using computer software to study dynamical systems with a special emphasis on chaotic systems. Topics investigated include iteration and orbits, graphical analysis, periodic points, bifurcation theory, fractals, Julia Sets, the Mandelbrot Set, and symbolic dynamics. Prerequisite: Consent of advisor. 3 hrs.

MATH 6190 Computer Methods in Secondary School Mathematics  This course emphasizes the applications of computing technology to the teaching and learning of mathematics in grades 7-12. Particular attention is given to the role of technology in mathematical problem solving and concept development. Technology-oriented curriculum materials will be examined and developed. Prerequisite: Consent of advisor. 3 hrs.

MATH 6210 Algebraic Topology—Fundamental Group  Topics may include: Homotopy, the fundamental group, covering spaces, the classification of covering spaces, the classification of compact surfaces, the Seifert-Van Kampen Theorem, and applications. Prerequisite: MATH 5220. 3 hrs.

MATH 6240 Algebraic Topology—Homology Theory  Topics will include simplicial complexes, homology and cohomology theories, including singular homology theory. Prerequisite: MATH 5220. 3 hrs.

MATH 6250 Differential Topology  Topics may include: Differentiable manifolds and smooth maps, tangent bundles, immersions, embeddings, submanifolds, transversality, Sard’s Theorem, intersection theory, and additional topics. Prerequisite: MATH 5220. 3 hrs.

MATH 6290 Studies in Topology  Advanced work organized around topics related to the field of study indicated in the above title. 3-4 hrs.
MATH 6300 Abstract Algebra I A general study of groups, rings, and modules. A specific study of finite groups, polynomial rings, and Euclidean domains. Prerequisite: MATH 5300. 3 hrs.

MATH 6310 Abstract Algebra II A continuation of MATH 6300. Modules, structure theory of modules over principal ideal domains, applications to finitely generated abelian groups, rational and Jordan canonical forms of a linear transformation, bilinear and quadratic forms. Prerequisite: MATH 6300. 3 hrs.

MATH 6370 Numerical Linear Algebra The analysis and use of numerical algorithms for solving problems from linear algebra, including matrix norms, singular value decompositions, Gaussian elimination, least squares methods, eigenvalues and iterative methods. Prerequisites: MATH 5100 or 5300, and 5070. 3 hrs.

MATH 6390 Studies in Algebra Advanced work organized around topics related to the field of study indicated in the above title. 3 hrs.

MATH 6400 Graph Theory I This course and MATH 641 cover the following topics: Fundamental concepts; eulerian graphs; adjacency and incidence matrices; trees; planar graphs; graph embeddings; connectivity; hamiltonian graphs; matchings; factorization; graphs and groups; Cayley color graphs; line graphs; the Reconstruction Problem; spectra of graphs; graph and map colorings; extremal graph theory; Ramsey theory. Prerequisite: Approval of advisor. 4 hrs.

MATH 6410 Graph Theory II Continuation of MATH 6400. Prerequisite: MATH 6400. 4 hrs.

MATH 6440 Graphs, Groups, and Surfaces Study of the interaction of graphs, groups, and surfaces. Topics covered include map-coloring problems, symmetrical maps, automorphism groups of graphs, Cayley graphs of groups, genus of graphs, generation of block designs, and applications to church bell ringing. Prerequisite: Consent of instructor. 3 hrs.

MATH 6450 Studies in Combinatorics Advanced work organized around topics related to the field of study indicated in the above title. Students may take this course more than once. Prerequisite: Approval of instructor. 3 hrs.

MATH 6490 Studies in Geometry Advanced work organized around topics related to the field of study indicated in the above title. 3 hrs.

MATH 6510 Studies in Teaching Elementary School Mathematics This is an advanced methods class devoted to analysis of current theoretical and research-based perspectives on mathematics teaching and learning and their implications for instructional practice and evaluation of student performance at the elementary school level. Explicit attention is given to the impact of technology on the teaching/learning process. Prerequisite: Consent of advisor. 3 hrs.

MATH 6520 Studies in Teaching Middle School Mathematics This is an advanced methods class devoted to analysis of current theoretical and research-based perspectives on mathematics teaching and learning and their implications for instructional practice and evaluation of student performance at the
middle school level. Explicit attention is given to the impact of technology on the teaching/learning process. Prerequisite: Consent of advisor. 3 hrs.

MATH6530 Studies in Teaching Secondary School Mathematics This is an advanced methods class devoted to analysis of current theoretical and research-based perspectives on mathematics teaching and learning and their implications for instructional practice and evaluation of student performance at the secondary school level. Explicit attention is given to the impact of technology on the teaching/learning process. Prerequisite: Consent of advisor. 3 hrs.

MATH6540 Secondary School Mathematics Curriculum Studies Participants in this course examine curricular issues and trends in secondary school mathematics and analyze recent experimental and commercial curriculum materials. This course may be taken more than once with the approval of the student’s advisor. Prerequisite: Consent of advisor. 3 hrs.

MATH6550 Issues and Trends in Secondary School Mathematics This course examines current policy issues and curricular and instructional trends in secondary school mathematics and related research studies. It is designed to provide a transition to advanced graduate work in mathematics education. Prerequisites: Completion of at least 21 graduate credit hours, including MATH 6530 (or MATH 6520) and MATH 6540, or consent of advisor. 3 hrs.

MATH6560 Teaching of College Mathematics In this course consideration is given to curricular problems and trends in post-high school mathematics; research on specific problems of teaching mathematics effectively to college students will be emphasized. Prerequisite: Consent of advisor. 2 hrs.

MATH6570 Mathematics Curriculum Issues and Trends This course focuses on curricular and instructional issues and trends in K-14 mathematics education, including an examination of major historical themes that have shaped mathematics policy and practice at these levels. Prerequisite: Consent of advisor. 3 hrs.

MATH6580 Psychology of Learning Mathematics This course focuses on theories of mathematical thinking and knowing and on an examination of major research paradigms and research findings on mathematical learning in children and adults and their implications for instruction. Prerequisite: Consent of advisor. 3 hrs.

MATH6590 Research in Mathematics Education This course focuses on research issues, methodologies, and trends within mathematics education along with techniques for critical analysis of research. Students are expected to design and present an individual research study. Prerequisite: Consent of advisor. 3 hrs.

MATH6700 Real Analysis I The first of a two semester sequence in real analysis. Topics covered in the two semesters will include topology and continuous functions, Lebesgue and general measure and integration, differentiation and the Radon-Nikodym theorem. Hilbert spaces, Banach spaces, and product spaces and Fubini’s theorem. Prerequisites: MATH 5220 and 5710. 3 hrs.
MATH 6710  Real Analysis II  The second of a two semester sequence in real analysis. Topics covered in the two semesters will include topology and continuous functions; Lebesgue and general measure and integration, differentiation and the Radon-Nikodym theorem; Hilbert spaces, Banach spaces, and product spaces and Fubini’s theorem.  Prerequisite: MATH 670.  3 hrs.

MATH 6760  Complex Analysis  Topics include: Cauchy Theory, series expansion, power series, types of singularities, calculus of residues.  Prerequisite: MATH 5710.  3 hrs.

MATH 6780  Introduction to Functional Analysis  Metric spaces; category; compactness; Banach spaces; Hahn-Banach theorem; completely continuous operators; Hilbert spaces; self-adjoint operators; elementary spectral theory.  Prerequisite: MATH 6710.  3 hrs.

MATH 6790  Studies in Analysis  Advanced work organized around topics related to the field of study indicated in the above title. Students may take this course more than once.  3 hrs.

MATH 6880  Research Tools in the Mathematical Sciences  This course consists of various computer applications and computer network activities that are commonly used in the mathematical community, including mathematical word processing, computer algebra systems, literature searches, and the use of internet resources. Enrollment is limited to students in a graduate degree program in mathematics or mathematics education. Students must satisfactorily complete an approved number of modules per credit hour selected. If the course is repeated, different modules must be completed. Certain departmental degree programs may require the completion of specific modules.  Prerequisite: Permission of the department chairperson.  1-3 hrs.

MATH 6890  Studies in Number Theory  Advanced work organized around topics related to the field of study indicated in the title. Students may take this course more than once.  3 hrs.

MATH 6900  Seminar in Applied Mathematics  1-3 hrs.

MATH 6920  Seminar in Topology  1-3 hrs.

MATH 6930  Seminar in Algebra  1-3 hrs.

MATH 6940  Seminar in Graph Theory  1-3 hrs.

MATH 6950  Seminar in Mathematics Education  1-4 hrs.

MATH 6970  Seminar in Analysis  1-3 hrs.

MATH 6990  Reading and Research  1-6 hrs.

MATH 7120  Professional Field Experience  2-12 hrs.

MATH 7250  Doctoral Research Seminar  2-6 hrs.

MATH 7300  Doctoral Dissertation  15 hrs.

MATH 7350  Graduate Research  2-10 hrs.
Medieval Studies

**MDVL 5000 Interdisciplinary Studies in Medieval Culture**  An interdisciplinary course organized around selected topics in medieval and Renaissance studies. The focus may be in a specific period (The Twelfth Century), a religious movement (Monasticism), a political structure (Venice-A Renaissance City-State), or the social fabric (Medieval People: Image and Reality). In each case faculty from several departments will approach the semester's topic from the perspective and with the methodological tools of their respective disciplines, such as art, history, literature, music, philosophy, political science, and religion. The overall aim of the course is to demonstrate to students why one needs to acquire a variety of disciplines to understand a single complex problem, and how to put traditional building blocks together in new ways. 3 hrs.

**MDVL 5970 Directed Study**  Research on a selected topic in the field of Medieval Studies directed and supervised by a faculty member. Prerequisites: Registration requires at least junior standing and approval by the Director of the Medieval Institute. 1-3 hrs.

**MDVL 6000 Advanced Seminar in Medieval Studies**  A research seminar for advanced graduate students with the focus on research and the preparation of papers in highly specialized areas of Medieval Studies. The specific topic of each seminar will be announced in the Schedule of Course Offerings. 2-4 hrs.

**MDVL 7000 Master's Thesis**  6 hrs.

**MDVL 7100 Independent Research**  2-6 hrs.

**MDVL 7120 Professional Field Experience**  2-12 hrs.

**Philosophy**

**PHIL 5070 The Continental Tradition in Philosophy**  An examination of the Continental tradition in Philosophy. Topics may vary from term to term. Examples include: phenomenology, existentialism, post-modernism, structuralism, deconstructionism, critical theory, and hermeneutics. Prerequisites: 12 credit hours in Philosophy, including PHIL 301. 2-4 hrs.

**PHIL 5120 Aesthetics**  An investigation of the many philosophical issues which arise from the study of the arts and aesthetic experience. Topics include such issues as the ontology and identity of works of art, whether art can be defined so as to distinguish art from non-art, the status of aesthetic values, the relation of ethics to aesthetics, the status of feminist perspectives in the arts, and significance of the arts in human life. Prerequisite: 12 credit hours in philosophy. 3 hrs.

**PHIL 5200 Philosophical Applications of Symbolic Logic**  This course is designed to expose graduate students to the range of philosophical applications of modern symbolic logic. Starting with the sentential and predicate calculi, the course explores various extensions which may include alethic modal logic, deontic logic, tense logic, relevance logic and counterfactuals. In addition, the course will address salient issues in the philosophy of logic and may include an investigation of the logical paradoxes and/or the controversy surrounding quantified modal logic. Prerequisites: 12 hours of philosophy, including either PHIL 2250 or PHIL 3200. 3 hrs.
PHIL 5250 Decision Theory Can there be a formal theory of what it is to be rational in one's beliefs and actions? This course is an introduction to decision theory, which claims to be just such a theory of rationality. Attention will be given to both its mathematical development and the issues it raises in the philosophy of science, the theory of knowledge, and action theory. A working knowledge of high school algebra is assumed. Prerequisites: PHIL 2200, 2250 or 3200; and two other courses in philosophy, mathematics (above the level of MATH 1100), or computer science (above the level of CS 1050). 4 hrs.

PHIL 5340 Moral and Philosophical Foundations of Health Care In this course philosophical reflection and biological science are combined in a critical examination of the nature and purpose of the health sciences. Topics to be considered include: the aims of the health sciences, the interplay of fact and value in health care, competing images of humankind embedded in health science, patient autonomy, dignity and medical paternalism. Prerequisite: Permission of instructor. 3 hrs.

PHIL 5400 Philosophy of Mind A study of the philosophical problems surrounding our understanding of the nature of mind, mental states, and consciousness, and their relation to matter, and states of the brain and/or central nervous system. Possible topics include cognitive science, artificial intelligence, the relation of mind to body and/or behavior, teleological and mechanistic explanations of human behavior, the philosophical foundations of psychology, behaviorism, functionalism, the nature of intentionality, the concept of a person, the privacy of mental states, knowledge of other minds, and questions regarding free will and determinism. Prerequisite: 12 credit hours in Philosophy, including PHIL 3010. 2-4 hrs.

PHIL 5440 Practical Ethics This course will examine the relationships between ethical theory and practice, especially in the area of professional life. We will consider questions concerning moral imagination, deliberation, and justification, as well as how principles and norms guide our complex activities. Case illustrations from various professions (e.g., medicine, laws, government, science, psychiatry, etc.) will be used to highlight some of these issues. Prerequisite: 12 credit hours in philosophy. 3 hrs.

PHIL 5550 Advanced Philosophy of Science A detailed examination of some of the central problems in contemporary philosophy of science. Topics may vary from term to term. Typical topics include: nature of scientific explanation, theory structure and change, scientific realism vs. various anti-realisms, or issues in the special sciences, e.g., the physical, biological or social sciences. Prerequisite: 12 credit hours in Philosophy. 2-4 hrs.

PHIL 5600 Philosophy at Pre-College Levels A content-oriented course that explores topics, reading materials, and ways of approaching them in the teaching of philosophy at the pre-college level. A special emphasis is put on critical and creative thinking. 2-4 hrs.

PHIL 5700 Philosophical Topics An examination of special philosophical topics. Topics to be listed in the Schedule of Course Offerings. Prerequisite: Permission of instructor. 1-4 hrs.

PHIL 5980 Readings in Philosophy Research on some selected period or topic under supervision of a member of the Philosophy faculty. 1-4 hrs.
PHIL 6000 Colloquium A seminar in which one or more faculty involve the students in their current research. Topics may vary from term to term. 2-4 hrs.

PHIL 6100 Seminar in the History of Philosophy A close reading and discussion of selected classics written by major philosophers from the ancient, medieval, or modern period. Selections may vary from term to term. 2-4 hrs.

PHIL 6200 Philosophy of Language and Logic An examination of the relation of language to the world, and/or the philosophical basis of standard and nonstandard logics. Possible topics include the nature of reference and predication, the distinctions between a priori and a posteriori, between analytic and synthetic, and between necessary and contingent propositions, the roles of proper names, general terms, and pronouns, and the truth conditions of sentences, as well as questions concerning the philosophy of modal logic, tense logic, free logic, deontic logic, epistemic logic, paraconsistent logic, first and second order logics, and probability calculus. 2-4 hrs.

PHIL 6310 Ethical Theory A study of theories of ethics and morality. Topics may vary from semester to semester. 2-4 hrs.

PHIL 6320 Theory of Knowledge An examination of the nature of truth, belief, and evidence. Topics may vary from term to term. Examples include: questions about the nature of perception, a priori and a posteriori knowledge, skepticism, epistemic foundations, epistemic justification, and other related topics. 2-4 hrs.

PHIL 6330 Metaphysics An examination of the underlying nature of reality. Topics may vary from term to term. Examples include: questions about the fundamental kinds of entities that comprise reality, the existence of God, universals and particulars, space and time, causation and free will, mind and matter, identity and change, and other related topics. 2-4 hrs.

PHIL 6500 Philosophy of Religion An examination of philosophical issues related to religion. Topics may vary from term to term. Examples include: the nature and existence of God, the problem of evil, theistic and scientific explanations, pantheism, the relation between faith and reason, the nature of religious experience, life after death, miracles, religious epistemology, and the theological foundations of ethics. 2-4 hrs.

PHIL 7000 Master's Thesis 1-6 hrs.
PHIL 7100 Independent Research 2-6 hrs.

Physics

PHYS 5620 Atomic and Molecular Physics This course consists of some applications of quantum mechanics. Topics include the helium atom, multielectron atoms, the Raman, Zeeman, and Stark effects, stimulated emission, transition rates, selection rules, the diatomic molecule, and molecular physics. Prerequisite: PHYS 4600 or consent of instructor. 3 hrs.
PHYS 5630 Solid State Physics  After an initial study of symmetry and crystal structure, quantum mechanics is used to describe the cohesion of solids, x-ray and neutron diffraction, the elasticity of solids, lattice vibrations, and the thermal and electrical properties of solids, with particular emphasis on metals. Prerequisite: PHYS 4600 or consent of instructor. 3 hrs.

PHYS 5640 Nuclear and Particle Physics  This course covers such topics as properties of nuclei, collision theory, nuclear reactions, nuclear models, fundamental interactions, and classification techniques used in particle physics. Discussions of experimental methods as well as theoretical treatments using quantum mechanics are included. Prerequisite: PHYS 4600 or consent of instructor. 3 hrs.

PHYS 5980 Selected Topics  This course affords an opportunity for advanced students with good scholastic records in physics to pursue independently the study of some subject of interest to them. Prerequisite: Consent of instructor. 1-4 hrs.

PHYS 6100 Research Seminar  This is a required course for the first-year graduate students and will be offered every winter semester. The course consists of faculty research talks and student talks (one by each student) on papers chosen by the students and approved by the faculty members. 1 hr.

PHYS 6150 Mathematical Physics  This course provides the background needed for the application of mathematics to physical problems encountered in graduate physics courses. Relevant topics in group theory, complex variables, and functional analysis are included. 3 hrs.

PHYS 6220 Quantum Mechanics I  This course is designed to provide a foundation of fundamental techniques for more advanced work in the physics and chemistry of atoms, molecules, nuclei, and solids. The Schroedinger equation and operator theory are applied to simple systems such as the one-electron atom and potential scattering. 3 hrs.

PHYS 6230 Quantum Mechanics II  This course is a continuation of 6220. It employs state-vector formulation to study several problems of general interest, such as time-dependent perturbation theory, systems of identical particles, and angular momentum. Prerequisite: PHYS 6220. 3 hrs.

PHYS 6240 Statistical Mechanics  Statistical methods, employing ensemble theory, are used to study the equilibrium properties of systems having many degrees of freedom. Classical and quantum theories are developed and applied to selected problems of interest in physics and chemistry. The relationships between microscopic models and macroscopic properties are emphasized. 3 hrs.

PHYS 6300 Classical Mechanics  Lagrange's equations are developed early in the course and are used in the analysis of both point-mass and rigid-body problems. The modifications of classical mechanics required by the theory of relativity are reviewed. The Hamilton equations of motion and Hamilton-Jacobi theory are introduced, and some of the analogies between classical and quantum mechanics are discussed. 4 hrs.
PHYS 6500 Relativistic Quantum Mechanics  This course deals with the Dirac and Klein-Gordon equations, quantum electrodynamics, Feynman diagrams, and the properties of the strong and electroweak interaction of elementary particles.  Prerequisite: PHYS 6230.  3 hrs.

PHYS 6620 Electricity and Magnetism I  This course deals with the static electromagnetic field, its interaction with matter, time-varying fields, Maxwell's equations, wave propagation, wave guides, and simple radiating systems.  4 hrs.

PHYS 6630 Electricity and Magnetism II  This course deals with the scattering of electromagnetic waves, plasma physics, special relativity, relativistic dynamics, collisions between charged particles, bremsstrahlung, and multipole fields. Prerequisite: PHYS 6620.  4 hrs.

PHYS 6700 Atomic Physics  This course covers atomic structure, atomic spectra, second quantization of the electromagnetic field, the interaction of radiation and matter, resonance phenomena, and the formal theory of scattering with applications to atomic collisions.  Prerequisite: PHYS 6230 or consent of instructor.  3 hrs.

PHYS 6710 Nuclear Physics  This course covers nuclear models, nuclear matter, electromagnetic properties, reactions, and scattering.  Prerequisite: PHYS 6230 or consent of instructor.  3 hrs.

PHYS 6720 Condensed Matter Physics  This course includes both static and dynamic properties of condensed matter with particular emphasis on transport properties, optical properties, magnetism, and superconductivity.  Prerequisites: PHYS 6220 and 6240 or consent of instructor.  3 hrs.

PHYS 6800 Research in Atomic Physics  This course is available for students performing doctoral research in atomic physics. A student must have a research advisor to enroll in PHYS 6800.
Prerequisite: Consent of research advisor.  1-6 hrs.

PHYS 6810 Research in Nuclear Physics  This course is available for students performing doctoral research in nuclear physics. A student must have a research advisor to enroll in PHYS 6810.
Prerequisite: Consent of research advisor.  1-6 hrs.

PHYS 6820 Research in Condensed Matter Physics  This course is available for students performing doctoral research in condensed matter physics. A student must have a research advisor to enroll in PHYS 6820. Prerequisite: Consent of research advisor.  1-6 hrs.

PHYS 7000 Master's Thesis  6 hrs.
PHYS 7100 Independent Research  2-6 hrs.
PHYS 7300 Doctoral Dissertation  15 hrs.
PHYS 7350 Graduate Research  2-10 hrs.

Political Science
PSCI 5060 Topics in American Government  A critical examination of selected issues facing national, state, or local governments with emphasis upon contemporary theoretical and applied
perspectives on the question. Prerequisites: Junior status, PSCI 2000, PSCI 2400 or PSCI 2500, and two additional courses in Political Science. 3-4 hrs.

PSCI 5260 Administrative Law and Public Regulation A study of the requirements for, and the limits on, the exercise of administrative powers by public officials charged with regulating significant aspects of the social and economic life of the nation. Special attention is paid to governmental regulation and the means of safeguarding individual rights through fair administrative procedures and judicial control over administrative determination. Prerequisites: Junior status, PSCI 2000, PSCI 2400 or PSCI 2500, and two additional courses in Political Science. 3 hrs.

PSCI 5320 Administration in Developing Countries This course compares public administration systems in a development context. It analyzes the role of the administrator in developing countries, notably the administrator's varied responsibilities as a career public official, and as an agent of change. The character of the development administrator as both a generalist and specialist is explored. Prerequisites: Junior status, PSCI 2000, PSCI 2400 or PSCI 2500, and two additional courses in Political Science. 3 hrs.

PSCI 5530 United Nations A study of the United Nations in action. Attention is focused on significant political problems confronting world organization, i.e., functional and dysfunctional aspects of the UN; nationalism vs. internationalism; conflict resolution and UN peace-keeping efforts; specific UN accomplishments in maintaining a dynamic international equilibrium; UN weaknesses and the future of world organization. Prerequisites: Junior status, PSCI 2000, PSCI 2400 or PSCI 2500, and two additional courses in Political Science. 3 hrs.

PSCI 5550 International Law The theory, sources, development, and general principles of international law, and the relationship of law to the dynamics of international politics. Decisions of international and municipal tribunals and the practices of states will be used to demonstrate the basic rights and obligations of states in time of peace and war. Such topics as recognition of states, diplomatic practice, treaties, and neutrality will also be discussed. Prerequisite: Junior status, PSCI 2000, PSCI 2400 or PSCI 2500, and two additional courses in Political Science. 3 hrs.

PSCI 5980 Studies in Political Science An opportunity for advanced students with good scholastic records to pursue independently the study of some subject of interest to them. Subjects are chosen and arrangements made to suit the needs of individual students. Prerequisite: Approval of department chairperson and instructor. 1-4 hrs.

PSCI 6000 Seminar in American Politics Research and study in selected topics in American politics. 3 hrs.

PSCI 6010 Foundations of American Politics An examination of the formal institutions of government at the national level and the representation of citizen interest through political participation including elections, political parties and interest groups, and public opinion. 3 hrs.

PSCI 6030 Seminar in American Political Behavior This course will review current literature in the area of political behavior and psychology. Special attention will be paid to controversies in voting behavior and the meaning and significance of vital concepts such as partisanship, ideology, issue voting,
belief systems, political sophistication, affective reactions to politics, and the dynamics of citizen participation. 3 hrs.

PSCI 6040 American National Politics and Public Policy This course provides a graduate-level introduction to American public policy. The focus of this course is on the stages or elements of the policy process as a means of analysis. While this approach has traditionally included policy formation, implementation and evaluation, it is expanded to include policy studies and other important theoretical aspects of public policy. Consequently, the course will attempt to provide a synthesis between classical and behavioral political science. 3 hrs.

PSCI 6200 Topics in Public Administration An examination of selected issues in the field of public policy. 3-4 hrs.

PSCI 6300 Seminar: Public Administration Study of selected topics in public administration. 3 hrs.

PSCI 6330 The Political Environment of Public Administration This course examines the interaction between the administrative agency and the social, economic, and political forces which constitute its external environment. Emphasizes the sources of bureaucratic power, the nature of administrative and political elites, and the strategies which agencies pursue in seeking to survive and expand their programs. Explores the impact of the political system on administrative decision-making and agency responsiveness. 3 hrs.

PSCI 6360 Seminar: Development Administration The seminar is devoted to research related to administration in developing areas. Topics may range from general subjects dealing with various aspects of bureaucracy in one or more countries to narrow problems at the level of a ministry or sub-ministry. The research experience and final papers will be shared with the other students in the seminar. 3 hrs.

PSCI 6380 Seminar: Implementing Development Policy As a capstone to the MDA program, this research seminar calls upon the student to examine the problems encountered in the implementation of a particular development policy. Attention will be given to socio-economic, political and cultural impediments, and the strategies that are judged appropriate in circumstances where resistance to change is significant. Permission of the MDA Director required to enroll. 3 hrs.

PSCI 6390 Peace Corps Field Paper As a capstone to the MDA program for students taking the Peace Corps Option, this course calls upon the student to analyze a particular development policy, program or project that has been underway for at least a significant period of time in a developing country. A typical field paper might address the country context, the program plan, expected impacts, organizational arrangement, monitoring and evaluation systems, experiences with implementation, the evolving strategy, program results, and lessons to be learned. This course is restricted to students taking the MDA Peace Corps Option. 6 hrs.

PSCI 6400 Seminar in Comparative Politics Research and study in selected topics in comparative politics. Topics will usually be thematic but may also encompass a regional or country study. In all cases significant issues in the study of the field will be stressed. 3 hrs.
PSCI 6410 Foundations of Comparative Politics This course surveys the core of the research field of comparative politics, which is concerned principally with the discovery and confirmation of knowledge about institutions and behavior of their governments and their citizens. The course introduces students to the history of the field, important approaches and theories, major concepts and topics, and its eclectic methodologies. 3 hrs.

PSCI 6440 Seminar: Comparative Strategies of Development The course focuses on the developing areas and uses an interdisciplinary approach. The strategies of development are examined in selected countries or typically on a cross-national basis. 3 hrs.

PSCI 6460 Comparative Public Policy This course focuses on the development of policy over time and across state and national boundaries. It deals with how and why policies emerge in particular forms in different countries. Selected substantive issues will be examined comparatively in greater detail. 3 hrs.

PSCI 6490 Sustainable Rural Development A seminar concerning changing perceptions of rural development in the academic world and in national and international development agencies. The links between rural development, agriculture, food security, health, population pressures, and resource availability are analyzed. The challenges of designing and/or reforming administrative structures to pursue effective rural development are reviewed. 3 hrs.

PSCI 6500 Third World Seminar Variable topics examining the course of political development among the developing countries, with special reference to the relationship between administrative needs and democratic objectives. 3 hrs.

PSCI 6600 Seminar: Political Thought An analysis of problems and subject matter considered by political philosophers that are significant to the social sciences. Various issues arising in political thought, certain periods in history, or regions of the world may be considered. 3 hrs.

PSCI 6610 Contemporary Political Theory Focus will be on twentieth and twenty-first century writers. Topics may include contemporary forms of liberalism, contemporary theories of justice, contemporary civic republican theory, communitarian theory, critical theory, Continental theory, post-structuralist theory, feminist theory, multicultural political theory, Marxian theory, pragmatism, contemporary forms of conservatism, libertarianism, and rational choice theory. Basic concepts and political processes will be examined critically. 3 hrs.

PSCI 6620 Political Philosophy I A synthesis of the history of political philosophy and the formal analysis of those positive and normative concepts and processes necessary to the understanding of political systems. The course covers the period from classical Greece through the Renaissance. Superimposed on the overall chronological format are critical inquiries into basic concepts and processes. 3 hrs.

PSCI 6630 Political Philosophy II A synthesis of the history of political philosophy from the seventeenth century to contemporary times. The course also includes a formal analysis of applicable positive and normative concepts necessary to the understanding of political systems. Superimposed on the overall chronological format are critical inquiries into basic concepts and processes. 3 hrs.
PSCI 6640 The Nature of Political Inquiry and Analysis An examination of the principles underlying the systematic study of politics. Included are discussions of such basic questions as: How do we obtain knowledge of politics?; How do we explain political phenomena? and What is the relationship between the empirical analysis and normative evaluation of political phenomena? Attention will be given to leading approaches to the study of politics and the formulation and use of concepts, generalizations and theories. 3 hrs.

PSCI 6650 Modern Democratic Theory A comprehensive survey of the main currents in modern democratic theory, including elitist, participatory, deliberative, agonistic, feminist and radical perspectives. The course will also cover important topics within each of these currents, such as theories of representation, identity politics and social movements. 3 hrs.

PSCI 6900 Seminar in Advanced Political Analysis Variable topics in advanced political analysis and research methods are addressed. Topics may include time-series analysis, experimental design, formal methods, game theory, and comparative methods. 3 hrs.

PSCI 6910 Political Analysis I Introduction to the research process in political science including research design, sampling and case selection, sources of data (e.g., surveys, interviews, archives, government agencies, etc.), and basic descriptive statistics. 3 hrs.

PSCI 6920 Political Analysis II The application of statistical and mathematical models to the analysis of political data with emphasis on methodological assumptions and problems: correlation; analysis of variance; and simple and multiple regression. Prerequisite: PSCI 6910 or equivalent. 3 hrs.

PSCI 6940 Teaching Political Science This course addresses the basics of teaching in higher education: class preparation, leading discussions, classroom policies, university policies, classroom management, dealing with problem situations, and basic teaching skills, among others. 1 hr.

PSCI 6950 Teaching Excellence This course introduces advanced graduate students and teaching assistants to ideas, information and methods that are innovative and encourages them to approach teaching in a way that goes beyond the traditional lecture format. Critical thinking exercises, group projects, project-oriented learning, portfolio learning, computer-aided instruction and computer simulations are possible topics. Recent research on the nature of the learning process, both among late adolescents and adults, will also be included. 2 hrs.

PSCI 6960 Research and Professional Skills Goals in this course include acquaintance with the department's research agenda; familiarization with the state of the discipline; overcoming common writing problems faced by professionals; demystifying certain professional activities such as conference participation, article submission and grant writing; familiarization with on-campus facilities, including library and computer support; and introduction to computer programs and databases commonly used in political science. 2 hrs.

PSCI 6970 Proposal Workshop During the course of this workshop, the student will develop a dissertation proposal (and attending grant proposals, where appropriate). While this will be done
primarily in conjunction with the committee, the workshop will provide a weekly support structure in which students will discuss their research question, progress and any complications. 1 hr.

PSCI 7000 Master's Thesis 6 hrs.
PSCI 7100 Independent Research 2-6 hrs.
PSCI 7120 Professional Field Experience 2-12 hrs.
PSCI 7300 Dissertation 21 hrs.

Psychology

PSY 5100 Advanced General Psychology Readings, lecture, and discussion designed to introduce students to modern behavior theory. Emphasis will be upon human behavior, both normal and abnormal, with a significant portion of the course devoted to the higher cognitive processes. Recommended as a cognate course in Psychology. Prerequisites: Majors only and permission of instructor. 3 hrs.

PSY 5170 Psychology in the Schools This course provides an overview of psychology in the schools, with an emphasis on interventions for children or adolescents presenting difficulties with learning or behavior. This course will provide an overview of how to design, implement and evaluate interventions in schools for individual and groups of children. An overview of the role of the school psychologist will be provided. Prerequisite: Psychology majors only. 3 hrs.

PSY 5240 Human Sexuality In this course students will learn about the range of human sexual behaviors. Topics covered will include anatomical and physiological functioning as well as psychological aspects of sexual behavior. Class time will involve lectures, discussions, in-class activities, videos, and guest speakers. The course is not intended to provide therapy training. Prerequisite: Psychology majors only. 3 hrs.

PSY 5260 Human Drug Use and Abuse This course provides a general overview of basic pharmacological principles, discusses the behavioral and physiological mechanisms of action of several classes of medicinal and recreational drugs, and surveys the factors thought to contribute to responsible and irresponsible drug intake. Although human drug use and abuse are the primary focus of the course, nonhuman research findings are emphasized where appropriate. Prerequisite: Psychology majors only. 3 hrs.

PSY 5400 Psychology of Safety The purpose of this course is to teach students about current research and trends in the psychology of safety. Students review, critically analyze and discuss current trends in safety research, including behavior-based safety, injury/illness prevention and other relevant topics. Students receive training in the application of behavioral principles to solve specific safety problems in organizations through changing behavior and improving performance. Students gain valuable, practical experience by completing behavior-based safety assessments in business settings under the supervision of the course instructor. The assessment site is obtained by the student, with the assistance of the instructor. Prerequisite: Psychology majors or permission of instructor. 3 hrs.
PSY 5470 Practicum: Organizational Performance Improvement  Training in the application of principles of behavior to solve specific organizational problems through changing behavior and improving performance. Students conduct a performance improvement project in a local organization and empirically evaluate the results. The practicum site is obtained by the student, and with the assistance of the instructor. Practicum students meet as a group frequently with the instructor to discuss and troubleshoot the projects. Prerequisite: Permission of instructor. 3 hrs.

PSY 5610 Introduction to Clinical Psychology  This course addresses the subdiscipline of clinical psychology in a manner that provides the psychology major with useful information regarding it as a potential specialty. In addition to coverage of contemporary professional activity engaged in by specialists in this field, like practice and research, it addresses career development issues such as selecting graduate schools, training models used by universities and private schools, internship training, licensure, and the types of degrees granted. It is a course appropriate for mid- to upper-level undergraduates and graduate students who are returning to study after having been away from the field for some time. Prerequisites: Psychology majors; Psychology graduate students with permission of instructor. 3 hrs.

PSY 5740 Cross Cultural Psychology  This course is designed to introduce the psychology major to the general area and basic concepts of Cross Cultural Psychology. Through readings and lectures the students will become familiar with the role culture plays in various indigenous psychologies including those commonly found in Western, Japanese, Chinese, Arabic, and African cultures. This course is specifically not a course in American ethnicity. It will instead explore a variety of world cultures in search of an understanding of how human behavior is interpreted according to cultural tenets that are unique to a region’s history and evolution. The course will also examine the importance, especially in contemporary Western Society, of professional psychologists developing more than casual familiarity with predominant indigenous psychologies. The plight of persons undergoing increasingly forced and voluntary migration in today’s world provides one foundation for exploring the need for such understanding. The course will prepare the student to read and interpret the psychological literature from several cultures, to conduct library research addressing the influence of culture on the interpretation of human behavior, and to appreciate the importance of cultural considerations in the wide variety of psychological specialties. Prerequisites: Psychology majors; Psychology graduate students with permission of instructor. 3 hrs.

PSY 5950 History of Psychology  The historical and philosophical foundations of contemporary psychology are examined. Approximately equal emphasis is placed upon theoretical and applied aspects of the evolution of the modern science. The origin and development of current behavioral approaches constitute a major focus. Prerequisite: Psychology majors; Psychology graduate students. 3 hrs.

PSY 5970 Topical Studies in Psychology  A survey and discussion of selected research topics of current interest. Topics may include both basic science and applied aspects of the discipline. Courses Prerequisite: Psychology majors only. 1-4 hrs.

PSY 5980 Special Projects in Psychology  This course provides the graduate student with the opportunity for independent reading and/or research under the direction of a faculty member. Prerequisites: Permission of instructor. Approved application required. 1-5 hrs.
PSY 5990 Practicum in Psychology This course provides training in the application of the principles of psychology to a specific and restricted problem area in the discipline. The practicum application is often identified by the location of the research site or professional service agency published in the Schedule of Course Offerings. Each one-hour of credit requires 100 clock hours.

Prerequisite: Approved application required. 1-4 hrs.

PSY 6010 An Introduction to Assessment This course is designed to introduce the student of professional psychology to the general area of psychological assessment. Through course readings and lectures the student will acquire a background in issues such as Principles of Measurement, Types of Measurement Tools, Use of Rapid Assessment Devices, and criteria for selecting measures for practice. Additional areas covered will compare and contrast traditional psychometric considerations with behavioral assessment concerns, examine the latest version of the diagnostic and statistical manual of the DSM and behavioral assessment, address behavioral interviewing, as well as direct observation of behavior. The course will prepare the student to operate with sufficient understanding of assessment issues in the various clinical and research roles anticipated during the early professional psychology training career at Western Michigan University.

1 hr.

PSY 6020 Introduction to Theoretical Issues This course is designed to introduce the student of professional psychology to selected systems of behavior change and their theoretical underpinnings. Problems characteristically addressed by these theoretical models will be outlined. Client populations most suitably treated by the various systems will also be identified. Considerable emphasis will be devoted to comparing and contrasting a radical behavioral model with alternative conceptual schemes. Freudian analytical, cognitive, and behavioral approaches will be considered in lecture and readings. The student will develop an appreciation for the position of technical eclecticism while maintaining a theoretical preference.

1 hr.

PSY 6030 Introduction to Professional Issues This course is designed to introduce the student of professional psychology to many of the professional and ethical standards as well as contemporary issues affecting practice. Covered will be topics considering the American Psychological Association's Ethical Standards for Psychologists, Standards for Providers of Psychological Services, Ethical Principles for Research with Human Subjects, The Licensing Rules for Psychologists in the State of Michigan, issues concerning Professional Training, and Ethnic and Gender in Research and Practice. Students will develop an appreciation for the contemporary complexity of the field as it pertains to professional practice and related activity. This content will be addressed through course reading and lectures, as well as special projects conducted by students.

3 hrs.

PSY 6080 Research Methods in Applied Behavior Analysis This advanced course on research methods in behavior analysis addresses research with human and nonhuman subjects, placing an emphasis on applied, human research. Research issues and specific research methods are discussed at philosophical, strategic, and practical levels. Research decisions are placed within the context of the philosophy of science underlying all scientific research endeavors. Topics include: the mission of science; behavioral assessment and measurement; experimental design, with emphasis on single-subject designs; analysis and interpretation of data; dissemination of scientific research; and, ethical issues in research. Students demonstrate their mastery of research issues through the proposal of a research project.

Prerequisites: Courses in applied behavior analysis.

3 hrs.
PSY 6090  Advanced Seminar in Applied Behavior Analysis Research An advanced course emphasizing: a) research, conceptual and professional issues in applied behavior analysis; b) review, integration and critical analysis of research topics in psychology. Prerequisites: Previous enrollment in PSY 6080 and permission of instructor. 3 hrs.

PSY 6100  Conditioning and Learning  This course examines conditioning and learning from the perspective of the experimental analysis of behavior. Emphasis is placed on basic laboratory research procedures and findings. 3 hrs.

PSY 6110  Current Research in Experimental Analysis  This course examines basic research areas of current interest to behavior analysts. A central component of the course is detailed consideration of articles published in the Journal of the Experimental Analysis of Behavior. Prerequisite: PSY 6100. 3 hrs.

PSY 6120  Advanced Physiological Psychology  A survey of the interrelationships of physiological and behavioral processes. Lecture and laboratory. Prerequisite: Permission of the instructor. 3 hrs.

PSY 6130  Behavioral Pharmacology  This course examines drug effects from a behavior-analytic perspective. Emphasis is placed on general mechanisms of drug action, variables that modulate drug effects, strategies for studying those effects, and the behavioral actions of commonly encountered drugs. Prerequisite: PSY 6100. 3 hrs.

PSY 6170  Applied Behavior Analysis in Education  This course is designed to teach principles of learning and behavior and the application of those principles to individual and classroom instruction for teachers, school psychologists, and other educational professionals. Also, this course provides information needed for planning effective, data-based classroom interventions. Further, it provides important basic knowledge for future courses in assessment, interventions, behavioral research methods, and school psychology practicum. It is expected that students will bring to class a basic entry knowledge of learning theory, with an emphasis on operant methodology. 3 hrs.

PSY 6190  Academic Interventions  This course is intended to teach school psychologists methods for resolving learners’ academic performance problems. Whether the professional is attempting to improve child performance prior to classification (pre-referral intervention) or following classification (modification for a student with a disability), the same basic principles of learning apply and, therefore, the same standards of professional behavior should be maintained. In this course, a model for improving learner outcomes that is grounded in data-based decision making and effective educational practices will be presented. The model will be applied to adapting curricula and classroom environments. There will be particular emphasis on evaluating decisions and child outcomes. This course will cover empirical research as well as conceptual and strategic issues that should guide practical applications in adapting learning environments to meet students’ needs. Prerequisite: Graduate standing in psychology or education, or permission of instructor. 3 hrs.

PSY 6200  Analysis of Abnormal Behavior  An advanced study of behavioral disorders as characterized by the standard classification systems, the DMS III-R and ICD-9-M, with respect to their etiology, prognosis and treatment. 3 hrs.
PSY 6210 Developmental Psychopathology The purpose of this course is to provide students with exposure to theories and empirical findings in contemporary child psychopathology. The goals of the course are to help students (1) acquire a working knowledge of the disorders described in the current classification system (DSM-IV) as they pertain to children and adolescents; (2) gain a critical understanding of the conceptual issues surrounding classification and an appreciation for alternative perspectives; (3) understand prominent theories attempting to explain/describe the variables leading to and/or maintaining psychopathological behavior; and (4) evaluate the empirical data base that informs treatment for the various disorders. 3 hrs.

PSY 6250 Treatment of Sexual Problems This treatment course will cover both sexual dysfunction and deviant sexual behavior. Assessment and diagnostic issues will also be covered. Prerequisite: Graduate student in psychology or permission of the instructor. 3 hrs.

PSY 6340 Experimental Design and Analysis I Topics include statistical decision theory, one factor analysis of variance, multiple comparison procedures, factorial designs, randomized block designs, fixed, random and mixed models, and basic issues in experimental design. Prerequisite: An elementary course on statistics. 3 hrs.

PSY 6350 Correlation and Regression Analysis An advanced course covering simple correlation methods, inferential methods for one or many correlations (including meta-analysis), interpretation issues (including sampling error, sampling bias, scaling error, measurement error, functional form, cause, homoscedasticity) variants of and alternatives to Pearson correlation, multiple correlation and regression, part and partial correlation, analysis of variance of regression for simple and complex models, model comparison procedures, methods for nonlinear data (including polynomial regression and logistic regression models) and regression diagnostics. Prerequisite: PSY 6340 (or some other course covering the analysis of variance). 3 hrs.

PSY 6360 Experimental Design and Analysis II Advanced methods for designing, analyzing, and interpreting complex between-subjects and repeated-measurement design. Topics include power analysis for planning experiments, and inferential analysis methods including ANOVA, multiple comparison procedures, simple main effects tests, interaction contrasts tests, simultaneous confidence intervals, nonparametric methods, monotone alternative tests, and analysis of covariance for univariate experiments. Also discussed are methods for analyzing nonorthogonal design, procedures for analyzing experiments containing multiple response measures (such as multivariate analysis of variance and modified Bonferroni procedures), and current concepts of experimental validity. Prerequisites: PSY 6340 and 6350. 3 hrs.

PSY 6370 The Design and Analysis of Quasi-experiments and Observational Studies This course covers the design and analysis of studies in which it is not feasible to randomly assign subjects to treatment. The focus is on three useful quasi-experimental designs (viz. The regression-discontinuity design, the interrupted time-series design, and the nonequivalent-group quasi-experiment) and the observational study. Analytic procedures recently developed for these designs are covered in detail. Opaque methods that have recently become popular for analyzing observational studies are critiqued. The conceptual framework for much of the course is based on the Rubin causal model. Prerequisites: PSY 6340 and 6350. 3 hrs.
PSY 6410 Systems Analysis  The purpose of this course is to teach individuals how to conduct analyses at three critical levels within an organization: the organizational level, the process level, and the individual performer level. Organizational-level analyses focus on identifying (a) the customers of an organization and its financial shareholders, (b) the organization’s strategic goals with respect to its products and services, (c) its competitors in the market place, (d) the resources that the organization requires to produce its products or services, (e) environmental influences that affect the organization, and (f) its external feedback procedures that enable the organization to determine how well it is satisfying its customers. Process-level analyses identify critical business processes and specify the series of steps that are taken to produce each of the organization’s major products and services. Performer-level analyses focus on identifying the factors that enable employees to perform well given the organizational and process goals identified by the organizational and process level analyses. 3 hrs.

PSY 6420 Performance Management  The purpose of this course is to teach individuals how to (a) implement performance management and performance improvement techniques in the workplace and (b) evaluate their effectiveness. Change strategies that employ objective measures of work performance, goal setting, performance feedback, and rewards will be emphasized. Applications of the use of these strategies to improve productivity (performance quantity, timeliness, and volume), safety, and quality will be examined. Evaluation strategies based on the on-going analysis of work performance over time will also be emphasized so that individuals will be able to make data-based management decisions about new and existing performance management systems. 3 hrs.

PSY 6430 Personnel Selection and Placement  This course is designed to teach students: (1) the legal and professional requirements for personnel selection and placement programs; (2) how to design and conduct job analyses, interviews, and tests that conform to the legal and professional requirements; and (3) how to evaluate the adequacy (the reliability and validity) of personnel selection and placement instruments. Prerequisite: An undergraduate course in statistics. 3 hrs.

PSY 6440 Personnel Training and Development  The course emphasizes the principles of learning as well as techniques and administrative procedures used in the development of human resources at all levels. 3 hrs.

PSY 6450 Psychology of Work  This course is an advanced course designed to examine human behavior in organizations from a behavioral psychology perspective. Topics covered include: the history of industrial/organizational psychology, motivation, performance improvement techniques, compensation, quality, job satisfaction and its relation to productivity, and the ethics of personnel management. Students entering the course are expected to have an understanding of the basic principles of operant and respondent conditioning because these concepts are used to interpret and analyze worker behavior. Prerequisite: PSY 5100 or PSY 6100 or permission of instructor. 3 hrs.

PSY 6480 Instructional Technology I  The purpose of this course is to teach individuals how to construct and evaluate training materials for the work place. After completing the course, students will be able to (a) identify employee performances that affect business results, (b) specify the desired results of training in objective, measurable terms, (c) conduct front-end analyses that identify training methods, (d) conceptually analyze the desired performances, (e) identify appropriate training methods, (f) design training materials, and (g) evaluate the impact of training. The course is appropriate for those interested in developing training materials in business and industry and in public sector organizations. 3 hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 6490</td>
<td>Instructional Technology II</td>
<td>The purpose of this course is to teach individuals how to develop and evaluate computer-based and web-based instructional materials for the workplace. Principles of learning will be applied to the design and construction of effective instructional materials. Students will create computer-based instructional materials as part of the course. The course is appropriate for those interested in developing training materials in business and industry and in public sector organizations. Prerequisite: PSY 6480.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>PSY 6510</td>
<td>Applied Behavior Analysis: A Systems Approach</td>
<td>The application of systems analysis concepts to the design of systems which yield behavioral measures of complex social situations.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>PSY 6520</td>
<td>Advanced Systems Analysis</td>
<td>An advanced course stressing integration of behavior analysis and systems analysis applied to the design, creation, and management of human performance systems. Students analyze complex systems, propose alternative systems, and develop objective measures to determine whether organizational systems are consistent with and effectively contributing to the organization's mission, goals and objectives. Prerequisite: PSY 6510 or permission of instructor.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>PSY 6550</td>
<td>Seminar in School Psychology</td>
<td>A seminar devoted to current professional practices in School Psychology. Focus is on studying various model systems for delivery of special services in the schools, as well as the various legal, ethical, and practical constraints on operation of such systems. Techniques of system analyses and synthesis are covered as well as consultation methods employed to implement or facilitate operation of new school programs.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>PSY 6560</td>
<td>School-Based Consultation</td>
<td>This course is designed to provide school psychology graduate students the opportunity to acquire knowledge and skills relevant to school-based consultation and problem solving. Students will learn about theories of consultation, empirical work, and practical application. This course will prepare students for the role of school-based behavioral consultant through course reading, lectures, in-class activities, and practical experiences. Although an emphasis will be on triadic consultation, students will be introduced to systems and organizational consultation models for schools.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>PSY 6570</td>
<td>Autism: Etiology, Assessment, and Behavioral Treatment</td>
<td>This is a course for psychology graduate students who intend to work with individuals with autism. The course provides a survey of etiological theories of autism, a review of best practices in diagnosis with accompanying practice ion assessment, and an overview of best practices in behavioral treatment of autism. Lectures are supplemented by course projects, invited speakers, and homework exercises that are designed to increase student proficiency in assessing and treating individuals with autism. Prerequisite: Full-time graduate student status in Psychology.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>PSY 6580</td>
<td>Social and Cognitive Development in Children</td>
<td>Consideration and evaluation of theories and empirical findings for a broad range of topics in social and cognitive development. Students will encounter general information on the main theories and research methods in developmental psychology. They will also read articles that address current social crises and/or controversies in the area of child development. The first half of the course will focus on cognitive development and will cover areas such as language development, memory, and intelligence/early intervention. The second half will focus on social development including theories of social competence, social skills assessment and</td>
<td></td>
</tr>
</tbody>
</table>
intervention, peer relations, and antisocial behavior. Prerequisite: Graduate student in psychology or counseling psychology or permission of the instructor. 3 hrs.

PSY 6590  Treatment of Anxiety Disorders  This course provides a review of selected anxiety disorders and their treatment. Specific treatment techniques will be reviewed in detail and their relevance to theory and empirical literature discussed. Through lecture, demonstration, and audio-visual presentations the course addresses basic approaches to understanding anxious behavior and associated emotions. Also covered are historical and scientific concerns, paradigms for the study of anxiety, classification and assessment of anxiety, and research methods appropriate for the study of anxiety. Finally, the course examines the role played by anxiety across several disorders otherwise officially classified. The course is conducted in seminar fashion and student participation is expected and encouraged. Prerequisites: PSY 6200. 3 hrs.

PSY 6610  Psychotherapy: Theory and Methods  This is a treatment course which reviews several theoretical approaches to, and problem solving strategies for, a variety of client disorders. The course concentrates on the stages of treatment, the issues involved in treatment and various techniques of treatment. Prerequisite: Permission of instructor. 3 hrs.

PSY 6630  Marital Therapy  Theory and application of problem solving interventions for a variety of problems associated with couples. A social learning and strategic systems approach is emphasized. Prerequisite: Permission of instructor. 3 hrs.

PSY 6640  Behavior Therapy  This is a treatment course designed to familiarize the student with the methods, applications, theory and clinical literature of behavior therapy. Prerequisite: Permission of the instructor. 3 hrs.

PSY 6650  Behavioral Approaches to Treatment  This is a treatment course designed to familiarize the students with pragmatic issues in the application of behavior management and behavior analysis techniques and the underlying conceptual foundations. Among the topics to be covered are: functional analysis, token economies, behavioral contracting, response accelerating and decelerating techniques, and packaged behavior-management programs in areas such as social skills and assertiveness. 3 hrs.

PSY 6660  Family Therapy  This is a treatment course involving problem solving interventions for a variety of problems associated with family units. The specific intervention model emphasized in the course may vary with the instructor. Prerequisite: Permission of instructor. 3 hrs.

PSY 6680  Analysis and Treatment of Developmental Disabilities  This is a treatment course designed to familiarize students with pragmatic issues in the application of behavior management and behavior analysis techniques to clients who are mentally retarded or traumatically brain injured. Prerequisite: PSY 6080 AND PSY 6100. 3 hrs.

PSY 6690  Child Behavior Therapy  An introduction to behavioral clinical approaches to emotional, social, and behavioral problems of children. The course content emphasizes both the theoretical basis and practical implementation of a range of behavioral therapeutic techniques, including those based on classical and operant conditioning processes, social learning, and cognitive-behavioral models. Prerequisite: PSY 6100. 3 hrs.
PSY 6710  Higher-order Behavioral Processes and Their Applications  This course is a continuation of PSY 6700. The emphasis is on the rule governance of complex behavior of verbal human beings. Areas of analysis include behavioral medicine, and rehabilitation, behavioral anthropology, family life, child rearing, community interventions, education, self-management, organizational behavior management, developmental disabilities, autistic behavior, neurotic behavior, and sexual behavior. PSY 6700 and 6710 combine to provide a behavior-analytic world view. Prerequisite: PSY 6700. 3 hrs.

PSY 6740  Verbal Behavior  This course covers the experimental analysis of language and verbal behavior, with an emphasis upon the analysis of language as presented in the writings of B. F. Skinner. Prerequisites: PSY 6080 and PSY 6100. 3 hrs.

PSY 6760  Skinner's Behaviorism  A consideration of About Behaviorism, Beyond Freedom and Dignity, and Contingencies of Reinforcement, especially as they consider issues of broad scientific, philosophic, and social significance. Prerequisite: PSY 6740. 3 hrs.

PSY 6810  Personality Assessment  Survey of the theory of personality assessment and the basic concepts of nonprojective measurement, with emphasis on the administration, scoring and interpretation of various instruments for personality evaluation. The course includes, but is not limited to, the supervised practice in the administration of the MMPI, clinical analysis questionnaire, and observational rating scales. Prerequisites: PSY 6010 or equivalent and graduate program status. 4 hrs.

PSY 6830  Cognitive/Intellectual Assessment  A course in individual assessment with particular emphasis on assessing cognitive functioning. This course covers basic psychometric concepts directly related to test administration and interpretation, and examines the complexities of measuring theoretical notions like intelligence. It also covers administration, scoring, and interpretation of individual assessment techniques. Prerequisites: Graduate program status in clinical psychology or permission of the instructor. 3 hrs.

PSY 6860  Psychoeducational Assessment  A combined lecture and applied course covering both basic measurement principles and concepts and applications to norm-referenced, criterion-referenced, and direct assessment methods. Supervised experience in administering, scoring, and interpreting assessment devices, as well as developing and monitoring individualized intervention plans. There will be particular emphasis on academic and social behavior. Prerequisite: Permission of the instructor. 3 hrs.

PSY 6880  Advanced Behavioral Assessment  The course is intended to develop knowledge in the functional analysis of behavior using self-report measures, behavioral interviewing, direct observation techniques, and physical recording. Reliability and validity issues with respect to each assessment method are covered. Behavioral consultation, and efficient alternative to one-on-one counseling in which therapist contact is primarily with the mediator rather than the client, is introduced. Prerequisite: PSY 6020. 3 hrs.

PSY 6900  Behavioral Approaches to Training and Education  This course addresses selection and use of text materials, the role of lecture and discussion, examinations, grading practices, all considered from a behavioral perspective. Higher education is emphasized. 3 hrs.
PSY 6910 College Teaching Practicum Supervised practice in the instruction of psychology at the undergraduate level. The student will be responsible for the design, execution, and evaluation of a college course section involving undergraduate students. 3 hrs.

PSY 6950 Doctoral Internship in Behavior Analysis This is an off-campus internship course for doctoral students in the Behavior Analysis Program. Requires a written application and permission from the Behavior Analysis Program Committee. Prerequisite: Approved application required. 1-3 hrs

PSY 6970 Advanced Topical Studies in Psychology An in depth examination, discussion, and survey of selected research and/or professional topics. Prerequisite: Permission of instructor. 2-4 hrs.

PSY 6980 Clinical Practicum in Psychology I This is the entry-level practicum for students in the Clinical Psychology program. Students enrolled in this course will gain a range of therapy and assessment experiences in the Psychology Clinic under the supervision of licensed Clinical faculty. Written permission must be obtained from the Department Clinical Committee. Prerequisites: PSY 6640 and PSY 6880. 1-3 hrs.

PSY 6990 Clinical Practicum in Psychology II Experience in a broad range of professional functions included in the practice of psychology under the supervision of a licensed psychologist. The experience includes, but is not limited to, psychotherapy, diagnostic testing and consultation. The experience involves not less than 500 clock hours (15 weeks) in an organized health care setting. Written permission must be obtained from the Department Clinical Committee. Prerequisite: PSY 6980. 1-3 hrs.

PSY 7000 Master's Thesis 6 hrs.
PSY 7100 Independent Research 1-6 hrs.
PSY 7120 Professional Field Experience 2-12 hrs.
PSY 7200 Specialist Project 6 hrs.
PSY 7250 Doctoral Research Seminar 2-6 hrs.
PSY 7300 Doctoral Dissertation 1-15 hrs.
PSY 7320 Doctoral Clinical Internship 1-4 hrs.
PSY 7350 Graduate Research 1-6 hrs.

Public Affairs and Administration

PADM 5800 Nonprofit Board-Staff Relations This course examines the unique relationship between the governing board and staff of nonprofit organizations. Special attention is given to the relationship between the board and the chief executive officer (CEO) along with strategies for the CEO to build an effective working relationship with the governing board. The role of the governing board with respect to staff in the organization is also examined. 1 hr.

PADM 5810 Strategic Planning Strategic planning in nonprofit organizations should be a leadership activity that is proactive, comprehensive, and long-range. This course examines the theory and practice involved in strategic work and provides real world practice through the creative
development and discussion of cases. The discussion includes an introduction to the skills needed to
determine the guiding values of the organization in its environmental context, and to develop a
corresponding mission, goals, and strategies to achieve these value-grounded ends. 1 hr.

PADM 5820 Volunteer Recruitment and Retention  This course will draw on empirical research
on volunteers, practice-oriented experiences, and case studies to examine central issues in the
recruitment, retention, and development of effective volunteers. 1 hr.

PADM 5830 Grant Writing for Nonprofit Organizations  This course takes students through a
proactive grant proposal writing process. The course is conducted in a workshop format with emphasis
on writing a grant proposal and on logical relationships between sections of a proposal. 2 hrs.

PADM 5840 Promoting Nonprofit Organizations  A practical course in the application of marketing
principles to nonprofit organizations. Emphasis will be placed on techniques for defining and identifying
the organization’s commitment to quality and measurement of market satisfaction will also be covered.
Participants will develop marketing strategies to meet the needs of identified markets. These strategies
will include the identification of market offers, communication messages and methods, location issues,
and the development of market budgets. 2 hrs.

PADM 5860 Budget Development for Nonprofit Organizations  This course will examine procedures
for projecting revenues, the extent to which tax policies affect private contributions to nonprofits, and
the process for developing budgets. Line item and alternative budget formats will also be considered. An
ability to use spreadsheets (e.g., Excel or Lotus) is strongly recommended. 2 hrs.

PADM 5870 Fund Raising for Nonprofit Organizations  A practical course for those who wish to
develop their fund raising skills. Emphasis is on understanding the various forms of fund raising, such as
the annual fund, special events, deferred giving, major gifts, special project campaigns,
corporate/foundation gifts, and direct mail. Students will learn to assess their own organizations’ fund
raising readiness and develop fund raising plans unique to their organizations. 2 hrs.

PADM 5880 Endowment Development/Investments  This course will provide students with the
working knowledge of permanent endowment funds. The course will address the appropriate rationale
for creating an endowment, endowment management, investment strategy, and utilization of earnings in
the nonprofit environment. 2 hrs.

PADM 5890 Accounting and Financial Reporting by Nonprofit Organizations  A study of the
accounting and financial reporting standards applicable to nonprofit organizations. Primary topics in the
course include an overview of the fund structure used by different types of nonprofit organizations, basic
fund accounting entries, and a review of financial reporting models for nonprofit organizations.
Additional topics to be studied include budgeting and financial analysis techniques, applicable internal
controls components, as well as the organization’s relationship with internal and external auditors.
3 hrs.

PADM 5980 Readings in Public Administration  This course offers a program of independent study
to provide well qualified MPA candidates with an opportunity to explore in depth a topic or problem of
interest under the guidance of a faculty member. Planning a topic for investigation is the joint
responsibility of the candidate and supervising faculty. Approval is contingent upon the merits of the proposal. Consent of both the supervising faculty member and the School Director is required prior to enrolling in this course. 1-3 hrs.

PADM 5990 Topics in Public Administration This changing topics course deals with particular issues of interest and concern to students of public affairs and administration. Since content varies, students are advised to read course descriptions distributed by the School prior to enrollment. The course may vary in the number of credit hours awarded and may last more or less than a semester's or session's length. 1-4 hrs.

PADM 6000 Foundations of Public Administration This course is designed to introduce and review major ideas and developments in the field of public administration and ethics. Major emphasis is given to tracing the historical evolution of public administration in the United States through the thought and intellectual activity of the leaders whose writings have most dramatically shaped the theory and practice of public administration in this country. Professional codes of ethics and their role in providing guidance to administrators are also examined. 3 hrs.

PADM 6020 The Political Environment of Public Administration This course examines the interaction between administrative agencies and the social, political, and economic forces which constitute their internal and/or external environment. It emphasizes the sources of bureaucratic power, the characteristics of administrative and political elites, and examines the strategies which administrators pursue in seeking both to ensure the survival of their agencies and to expand the programs which they direct. It also explores the influences of our political system on administrative decision making and attempts to evaluate agency responsiveness. This course should be taken as soon as circumstances permit. 3 hrs.

PADM 6040 Political Economy This course reviews basic economic concepts. The course also examines the impact of globalization on local economies, the constraints history, culture, politics, and economics impose on a jurisdiction’s policy options, the implications of privatization and public/private partnerships for the production of public goods and services, and the use of cost-benefit analysis to examine the behaviors of public agencies. 3 hrs.

PADM 6060 Applied Research Methods This course focuses on effective writing for research; the formulation of applied research questions; design and utilization of various research methods and techniques; the essential distinctions between qualitative and quantitative methods; the collection, manipulation, interpretation, and presentation of data gathered; and the use of information thus obtained in the solution of policy problems confronting professional administrators. 3 hrs.

PADM 6070 Data Analysis for Administrators This course is an introduction to statistical analysis as employed by professional administrators in the collection, manipulation, interpretation, and presentation of data utilized to analyze policy problems. The purpose is to develop basic statistical competency with emphasis upon the use and interpretation of frequency distribution, sampling techniques, measures of central tendency, probability, variability, regression, correlation, and various other applied quantitative measures. MPA students should not enrol in this course until a research methods course has been completed. 3 hrs.
PADM 6080 Organization Theory and Behavior This course has the following objectives: a) to familiarize participants with the basic concepts, models, and theories of organization; b) to develop a better understanding of individual, group, and organization behavior; c) to provide a conceptual foundation upon which theoretical knowledge can be applied to organizational and managerial problems. In pursuit of these objectives, the following subjects will be considered: theories of organization and management; individual behavior; group dynamics; organization change; organizational performance, efficiency, and effectiveness. 3 hrs.

PADM 6090 Organization Development This course is an introduction to the theories, models, and intervention modalities of Organization Development (OD). Topics to be explored and discussed include: the underlying organizational philosophy of OD; the OD view of persons in an organizational setting; the major subdivisions or schools of thought in this field; role playing in selected OD interventions; and specific applications of OD in organizational settings. The objective of this course is to develop competence in the application of OD practices in a variety of agency settings. 3 hrs.

PADM 6110 Administrative Law and Governmental Regulation This course examines how administrative laws and public regulations control and regulate the activities of local, state and federal government officials and the agencies by which they are employed. It will consider the requirements for, and limits on, the exercise of power by elected and appointed officials. Special attention is devoted to the development, adoption, and enforcement of administrative laws and government regulation. 3 hrs.

PADM 6120 Principles of Public Budgeting This course utilizes a combination of “hands-on” exercises and theory to examine the preparation of government budgets. Topics to be addressed include criteria for evaluating sources of government revenue, the politics of budgeting, alternative budget formats such as line item and performance, cost center accounting, and the methodologies for developing revenue projections, capital improvement programs and operating budgets. Ability to use spreadsheets such as Excel or Lotus is required. 3 hrs.

PADM 6130 Local Government Administration This course addresses the management challenges faced by local public administrators in managing American local government under conditions of substantial physical, economic, social, and political change. Students will review current societal trends affecting local communities and then examine how these trends, and the roles and relationships of major stakeholders in local government, impact local policy decision-making and governmental administration. Students will develop skills in applying public administration principles and methods to managing public organizational adaptation and change. 3 hrs.

PADM 6140 Managing Community Growth and Development The course is intended for public managers involved in guiding community growth and/or managing local economic development. The course will focus on the dynamics of developing the community’s economy and managing its physical growth and expansion in ways that enhance and sustain the quality of local and regional community life. Students will examine policies, programs, and techniques in the public management of economic development, business attraction and retention, land use, growth management, housing, public facilities and infrastructure, and environmental preservation. The course will also address the economic, demographic, spatial, and political forces driving urban change and impacting community sustainability. 3 hrs.

455
PADM 6150  State and Local Government Finance This course examines a variety of financial tools that enhance a public official’s ability to cope with the crosscurrents of expanding government responsibilities and public resistance to higher taxes and fees. The tools that are addressed by this course include governmental accounting concepts and procedures; methods of financing infrastructure projects; risk management; calculating the costs of providing goods and services; and cost-benefit, cost effectiveness, and cost revenue analysis. 3 hrs.

PADM 6170  Intergovernmental and Interorganizational Relations This course examines the interactions among governmental and non-governmental entities. A majority of the course examines the political, economic, constitutional, legal, and historical foundations of intergovernmental relations, the types and implications of grants-in-aid, and fluctuations in the powers and responsibilities of local, state, and national governments. The remainder of the course analyzes the relationships among public agencies, legislative bodies, the executive, and interest groups. 3 hrs.

PADM 6270  Human Resources Administration A survey course that examines the concepts and practices of human resource management and reviews the functions performed by human resource administrators and other agency officials. Areas of consideration may include, but are not limited to, human resources planning and recruitment, training and development, compensation, information systems, and employee relations. 3 hrs.

PADM 6290  Supervisory Skills for Administrators This elective course includes a consideration of the five most important functions of middle level managers and first line supervisors: decision making, planning, organizing, leading, and controlling. In order to assist participants develop their supervisory skills, this course utilizes case studies, small group discussions, role playing, simulations, and other practical skill building exercises. 3 hrs.

PADM 6410  Administering Arts Organizations This is a course in arts administration, including a brief review of the implementation of the major areas of administration, i.e., management, planning, and program development; marketing and public relations; funding development, etc. The focus of the course will include both performing and visual arts. The performing arts component will highlight applications of managerial skills to music, dance, and theater, including audience development, union relations, front of house management, concert management techniques, and study of physical facilities. The visual arts component will feature application of management skills to museums, commercial and cooperative galleries, artists’ space, and corporate and individual collections. For students seeking a concentration or certificate in the Nonprofit Leadership and Administration program, this serves as the capstone course. Prerequisite: Completion of 12 hours of Nonprofit Leadership and Administration course work. 2 hrs.

PADM 6420  Administering Human Service Organizations This course deals with how to administer human service organizations (HSOs) and is intended to integrate theoretical and technical skill content from other courses in the program. The course uses a seminar format, along with case studies and problem solving simulations, to focus on a wide range of issues and dilemmas in the administration of HSOs. For students seeking a concentration or certificate in the Nonprofit Leadership and Administration program, this serves as the capstone course. Prerequisite: Completion of 12 hours of Nonprofit Leadership and Administration course work. 2 hrs.
PADM 6440  Human Resources for Nonprofit Organizations  This course provides an overview of the functions of human resources activities as they relate to the broad objectives of the whole organization. Emphasis will be on fundamentals of job design, employment techniques, performance appraisals, pay practices, benefits options, employee relations, and termination practices. 2 hrs.

PADM 6510  Health Services Delivery  This course provides a comprehensive overview of health services delivery systems in the U.S. with an emphasis on access, cost, and quality of care. This course deals with various issues, including causes and characteristics of health services utilization, cost and financing of health services, providers of health services, different dimensions of quality of care, and different delivery systems from other countries. 3 hrs.

PADM 6520  Financial Management of Health Care Organizations  By applying basic accounting and financial management techniques and principles from the intra-organizational perspective, this course examines the use of financial statements to assess financial viability and performance of health care organizations, different ways to allocate cost, pricing and service decision-making, and financial planning and budgeting. 3 hrs.

PADM 6530  Health Policy Analysis  This course examines the public policy process as applicable to the physical and mental health fields. The impact of federal, state, and local policy on the delivery of health services within organizations is discussed and compared with international health delivery systems. Underlying legal and ethical issues confronting today's health delivery system are explored. 3 hrs.

PADM 6540  Strategic Planning and Management in Health Care Organizations  This course provides an overview of the principles and methods of strategic planning and management. It examines the application of health administration principles to several practice settings. Emphasis is placed on decision-making, organizational performance, market analysis, reimbursement control, strategic thinking, strategy formulation, and the importance of leadership in contemporary health care organizations. 3 hrs.

PADM 6550  The Administration of Health Services  This course addresses the managerial functions in health care organizations. The responsibilities of health care managers in leadership, planning, controlling, organizing, staffing, budgeting, and evaluating performance are considered. Underlying ethical issues confronting the administration of health services are also explored. Techniques on how to manage rapid organizational change are an integral part of the course. 3 hrs.

PADM 6560  Applied Health Economics  With tools and techniques of economic analysis, this course covers relationships between economic characteristics and health status, theory of demand for health insurance and medical care, physician as entrepreneur, hospital cost function, and government health care programs such as Medicare and Medicaid. 3 hrs.

PADM 6570  Management of Managed Care Organizations  This course provides an overview of issues related to management and planning of managed care organizations. This course covers the recent evolution of health care reform, different types of managed care organizations, integrated health care delivery systems, open versus closed panel plans, negotiating with providers including physicians and
hospitals, Medicaid and Medicare managed care, and legal issues in provider contracting, how to develop PMPM premium rate, revenue maximization and cost control, and quality and performance measurement. 3 hrs.

PADM 6580 Seminar: Current Issues in Health Service Management and Delivery An advanced seminar that will consider current issues in the organization, finance, and delivery of health services. 3 hrs.

PADM 6610 Intellectual History of Public Administration This course traces the development of public administration theory from the founding of the American colonies to the present day, implementing research techniques in common use by intellectual historians. The course utilizes an historical approach to understand the contextual influence of thinkers and movements related to American public administration. 3 hrs.

PADM 6630 Leading the Public Organization This course uses a theoretical and methodological research literature, documentation in a variety of media, and practical work experiences to examine the roles of leadership, human behaviors, and human resources systems in public organizations. The course addresses leadership and human behaviors within systems and chaos models in the public arena of work. Attention is given to the management of functions of human resources as well as to the activities of the employees in an organization. External influences, competing organizational systems, and identified public outcomes are also examined to complete an understanding of leader and follower roles. 3 hrs.

PADM 6640 Research Design Students will be involved in the development of a comprehensive research design identifying the discovery or solution of problems confronting public and nonprofit leaders and the organization. Components of the research design will consist of an original research question and the methodology for collecting, manipulating, interpreting, and presenting data. 3 hrs.

PADM 6650 Public Policy, Theory, and Research This course will trace the development of theory in thinking about public policy. It will explore alternative models suggesting the way that public policy is formulated and implemented. Each model reflects a different way of perceiving the relationship between government and society. The application component will require students to apply one or more of the models to a substantive policy area. Emphasis will be placed on primary sources in preparing an analytical paper. 3 hrs.

PADM 6660 Contemporary Issues in Public Management Contemporary public management faces critical challenges in its present standing and future role in American society. This seminar focuses on the future of public management in government and the not-for-profit sector by (1) examining current policy and issue trends, as well as reform movements, impacting public management today; (2) reviewing the implications of these trends and movements for the future of administering American public organizations; and (3) exploring scenarios for managing public organizations in the future in selected issue and policy areas. 3 hrs.

PADM 6670 Research Seminar This course provides students an opportunity to develop research that was initiated in earlier doctoral courses into conference presentations or journal submissions. 3 hrs.
PADM 6780  Program Evaluation  Pressure to reduce the nature, size and scope of government has heightened interest in evaluating the impact of governmental activities. This course will focus on how to measure the effectiveness of agency programs.  3 hrs.

PADM 6800  Project Paper Seminar It is in this seminar that MPA candidates write their project paper (thesis) proposing a solution to a major problem or issue facing the agency by which in-career candidates are employed, or to which pre-career candidates have been assigned as interns (field experience). Except with the express prior approval of the MPA Academic Advisor, only candidates who have completed at least 30 semester hours of the MPA degree may enroll in PADM 6800.  3 hrs.

PADM 6840  Management of Public Financial Resources  This course relies on theory, lab assignments, and practical experience to address constitutional, statutory, political, economic, cultural, and social factors affecting fiscal policy. Public finance theory and lab assignments familiarize students with the major facets (revenue projection, capital requests, and operating expenditure requests) of the budgeting process. The role of politics, alternative mechanisms for generating revenue, methods for assessing the fiscal health of organizations, and the implications of utilizing various budget formats are also examined. Students are expected to apply the methodologies from their research courses to a financial issue.  3 hrs.

PADM 6860  State Agency Administration This course examines the organization and administration of state government agencies, with special emphasis on the functions performed by major departments and their principal subunits. Executive agencies in Michigan will serve as a basis for comparing and contrasting services provided by similar agencies in other states. Each course participant will be required to analyze the current status of services provided by a particular state agency and project service demand into the future. Course participants will develop a comprehensive understanding of administration in agencies of state government.  3 hrs.

PADM 6870  Legislative Relations for Public Administrators  This course prepares participants to interact with policy making bodies: city councils, county commissions, or the state legislature. Participants will learn to estimate the possible impact upon their agency of legislation under consideration, to assess the probable effect of proposed legislation upon their clientele, and to project the amount of revenue to be generated by a proposed tax, fine, or fee.  3 hrs.

PADM 6880  Program Planning and Proposal Writing  This course seeks to build skill in program planning, program management, and proposal writing. The first part of this course will be devoted to the grantsmanship process, including how to: formulate and promote a project concept; prepare the project proposal; submit the project proposal; and follow-up after acceptance or rejection of the proposal. Emphasis will be placed upon the project proposal as an integral component of agency planning, program management, and assessment activities, from both grantor and grantee perspectives. In the second part of this course, each participant will prepare a project proposal.  3 hrs.

PADM 6900  Fund Accounting  This course offers an opportunity to become thoroughly familiar with many different aspects of not-for-profit accounting and financial reporting. In addition to the governmental fund accounting system, the student is also able to explore college and trust accounting systems.  3 hrs.
PADM 6920 Quantitative Data Analysis  This course provides an introduction to regression analysis and an overview of limited dependent variable regression and generalized least squares regression. The purpose of the course is to develop a basic statistical competency enabling the student to apply various statistical methods and concepts in the development and evaluation of statistical assertions.  3 hrs.

PADM 6940 Qualitative Research Methods  Students will be instructed in the philosophical and theoretical schools of thought that are relevant to qualitative researchers. Participants will be instructed in, and will conduct field research using such qualitative designs as participant-observation, intensive interviewing, comparative, historical, case study, focus group, and historical analysis of diaries and letters.  3 hrs.

PADM 6970 Dissertation Seminar  Dissertation Seminar is intended to assist students in the preparation of a dissertation proposal and to facilitate the transition from course work to dissertation. PADM 697 will be offered in two blocks over two semesters. The first block (2 hrs.) includes a review of proposal components, with particular emphasis on research design and literature review. The second block (1 hr.) is devoted to a review of the dissertation format and manuscript requirements, the psychological and time management demands of the dissertation, and a continuation of proposal development.  1-4 hrs.

PADM 7100 Independent Research  Designed for highly qualified graduate students or small groups who wish to pursue independent studies or group projects under the direction of a Graduate Faculty member. An application form, signed by the Graduate Advisor and faculty supervisor, must be submitted to registration at the time of enrollment.  3 hrs.

PADM 7120 Professional Field Experience  This practicum is designed for MPA degree candidates who are to participate in a supervised professional field experience/internship in an agency setting. An application form, signed by the candidate's academic advisor and Internship Supervisor, can be submitted to the Registrar’s Office at the time of enrollment.  3-6 hrs.

PADM 7300 Doctoral Dissertation  12 hrs.

Science Education

SCI  5600 Science Workshop for Teachers  This course will involve participants in several activities especially designed to help them achieve an understanding of some of the important concepts of science. The course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. Intended for delivery in one- to two-week workshop format. Prerequisite: Teacher certification or baccalaureate plus work toward certification.  1-3 hrs.

SCI  5700 Life Science Workshop for Teachers  This course will involve participants in several activities especially designed to help them achieve an understanding of some of the important concepts of biology. The course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. It is intended for delivery in one to two week workshop format. Prerequisite: Teacher certification or baccalaureate plus work toward certification.  1-3 hrs.
SCI 5800 Chemistry Workshop for Teachers  This course will involve participants in several activities especially designed to help them achieve an understanding of some of the important concepts of chemistry. This course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. It is intended for delivery in one to two week workshop format.  Prerequisite: Teacher certification or baccalaureate plus work toward certification.  1-3 hrs.

SCI 5850 Physics Workshop for Teachers  This course will involve participants in several activities especially designed to help them achieve an understanding of some of the important concepts of physics. This course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. It is intended for delivery in one to two week workshop format.  Prerequisite: Teacher certification or baccalaureate plus work toward certification.  1-3 hrs.

SCI 5900 Earth Science Workshop for Teachers  This course will involve participants in several activities especially designed to help them achieve an understanding of some of the important concepts of earth science. This course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. It is intended for delivery in one to two week workshop format.  Prerequisite: Teacher certification or baccalaureate plus work toward certification.  1-3 hrs.

SCI 5980 Readings in Science  To be used by students seeking work in topics not otherwise available. The student is limited to not more than four hours in all reading courses and work must be completed under a member of the graduate faculty.  1-4 hrs.

SCI 6010 Problems in Science Education  This independent study course allows students to study various problems in Science Education under the direction of a supervising faculty member. Individual or small groups of qualified students may be involved in these problem areas reflecting the current concerns of Science Education. The course is designed to meet the needs of students for first-hand experience in field or laboratory research, pilot projects testing new ideas or concepts, or developing learning materials or resources.  1-4 hrs.

SCI 6140 Science: Historical and Philosophical Perspectives  This course utilizes work in the history and philosophy of science to provide a critical perspective for dealing with the question: “What about science is most important for a student to know?” The course will address: the nature of scientific disciplines (the theories and problems which characterize them); the relations between theory and the empirical work; and the nature of theory change in the sciences. SCI 6140 is meant to provide a broad foundation for subsequent curriculum development, instructional design, and research into the teaching and learning of the sciences.  3 hrs.

SCI 6150 Science Education: Historical and Philosophical Foundations  This course will familiarize students with the history of science education in the United States, leading up to current national reform efforts. This historical approach will provide a foundation to address curricular and literacy issues as well as the relevance of the history and philosophy of those concerns. The course will address two themes or “commonplaces” of education in a science education context-the social milieu and the curriculum.  3 hrs.
SCI 6160  Science Education: Models of Learning and Teaching  This course will complement
SCI 6150 in addressing the remaining themes or “commonplaces” of education in a science education
context, namely learning and teaching. The major models of learning and approaches to teaching which
are compatible with those models will be examined, including their relevance to classroom practice.
3 hrs.

SCI 6170  Science Education: Research Traditions  This course is designed to familiarize
students with the more productive research traditions in science education and with their historical,
philosophical, and methodological foundations. Each offering of the course will focus upon a particular
tradition, for example, problem solving research or conceptual change research.  Prerequisite:
Permission of instructor for M.A. students to enroll. 3 hrs.

SCI 6200  Topics in Science Education  This course will present, analyze, and evaluate methods and
techniques of teaching science. Topics may include new approaches for teaching science, new science
curriculum, laboratory practices, science education research, motivational techniques, and other
methodological problems confronting science teachers.  2-6 hrs.

SCI 6210  Topics in Science  This course is designed to examine various science concepts and
new developments of science of interest to science teachers. Each course will be subtitled, and the
content will vary to reflect the various sciences, new developments and emphases, and the needs of the
science teaching community. 2-6 hrs.

SCI 6250  Environmental Science Seminar  Analysis of case studies of environmental problems.
Covers the scientific, social, and political problems involved in environmental action and will include
experiences with management of energy and material resources. 2-4 hrs.

SCI 6900  Science Education Seminar  Designed to provide an integrating experience for students
in the Science Education master’s and doctoral programs. 3 hrs.

SCI 7000  Master's Thesis  6 hrs.
SCI 7100  Independent Research  2-6 hrs.
SCI 7300  Doctoral Dissertation  15 hrs.
SCI 7350  Graduate Research  2-10 hrs.

Sociology

SOC 5150  Sociology of Mental Illness  This course will be concerned with examining the
contemporary meaning of concepts of mental health and mental illness. The course will also consider the
amount and kind of mental illnesses, especially the differences by social class, age, gender, race, marital
status, urban versus rural living, and migration, the structure of the mental health care delivery system,
the nature of help-seeking for mental illness, and community care and public policy for mental illness.
Prerequisite: SOC 2000 or graduate standing. 3 hrs.
SOC 5200 Studies in Social Psychology: Variable Topics Further analysis of selected topics in social psychology not intensively covered in other courses. Specific topic will be designated in the course title when scheduled. Prerequisite: SOC 3200 or graduate standing. 3 hrs.

SOC 5210 Social Psychology of Emotions An examination of human emotions as they relate to thinking, motivation, and social action. Emphasis will be given to the ways in which emotions signal the importance of social events for the individual self, the role of group norms in defining situationally appropriate emotional feeling and expression, the management of emotions, and the ways that emotions function as both determinants and consequences of patterns of interpersonal activity. Prerequisite: SOC 3200 or graduate standing. 3 hrs.

SOC 5220 Social Psychology of Prejudice An analysis of the processes through which prejudice is learned and influences individual thought and social interaction. The nature of contemporary forms of prejudice will be analyzed, along with their cultural, cognitive, and motivational bases. Emphasis will be placed on how stereotypes are acquired and maintained, the consequences of prejudice for social interaction and intergroup conflict, and classic and contemporary strategies for the reduction of prejudice and discrimination. Students will be encouraged to conduct research projects involving topics of their choice. Prerequisite: SOC 3200 or graduate standing. 3 hrs.

SOC 5250 Research Design and Analysis in Social Psychology This course will provide students with the knowledge necessary to evaluate research, to understand the relationship between theory and the research operations that are used to test and generate theory, and to design and carry out original research on social psychological topics. Students will learn about the appropriate use of survey, observational, experimental and quasi-experimental methods as applied to both field and laboratory settings. Class projects will teach students to design and conduct original research in social psychology, and to analyze data using relevant statistical techniques. Prerequisites: SOC 2820 and 3200, or graduate standing. 3 hrs.

SOC 5400 Sociology of Medicine A comprehensive survey of concepts and research findings in the field of the sociology of medicine. Topics to be covered include: the distribution of illness in society, relationships between social stress and disease, illness as a social process, health care professionals, the sociology of health care delivery. Prerequisite: SOC 3730 or graduate standing. 3 hrs.

SOC 5520 Sociology of Aging An examination of the process of aging in American society, with particular emphasis on the periods of late maturity and old age. Consideration will be given to theories of aging and the social implications of age grading, the meaning of work and retirement, and the status and roles of the aged. Prerequisite: Six hours of sociology, including SOC 2000 or consent of instructor or graduate standing. 3 hrs.

SOC 5600 Corporate and Governmental Crime An examination of the crimes committed by business corporations and government agencies. The course describes the nature, extent, and costs of these organizational crimes, explains the structural and organizational forces which give rise to such crimes and analyzes the problem of controlling organizational offenders. The course also examines the political process whereby corporations and governments come to be defined as deviant or criminal.
Prerequisites: SOC 2000 or SOC 2100, SOC 2600, and SOC 3620 and one other 3000- or 4000-level course or graduate standing. 3 hrs.

SOC 5610 Violence and U.S. Society This course analyzes the nature, extent and causes of violence associated with the United States. The forms of violence to be analyzed include interpersonal, institutional, and structural violence; recent theory and research on violence will be reviewed and various prevention and control policies will be discussed. Prerequisites: Graduate standing or SOC 2000 or SOC 2100, SOC 2600, SOC 3620 and one other 3000- or 4000-level course. 3 hrs.

SOC 5620 Victimology The study of crime victims, the probabilities of victimization, victim-offender relationships, the treatment of victims by the criminal justice system and the economic, social, and psychological impact of victimization. Prerequisites: SOC 2000 or SOC 2100, SOC 2600, and SOC 3620 and one other 3000- or 4000-level course or graduate standing. 3 hrs.

SOC 5630 Gender and Justice This course provides an overview of the relatively recent field of women, crime and justice, with particular direction guided by an issues approach. A wide variety of current research and theory in this realm are critically examined. The specific subtopics covered in this course encompass gender and discrimination in society at large, within the sociological/criminological academy, and within the criminal justice system. Broad feminist theoretical and methodological perspectives are drawn upon to contour the examination of women as criminal offenders, as victims of crimes such as rape and intimate violence, and as professional workers within the criminal justice system. Prerequisites: Graduate standing or SOC 2000 or 2100, SOC 2600, SOC 3620 and one other 3000- or 4000-level course (SOC 3140 is encouraged). 3 hrs.

SOC 5680 Race, Ethnicity, and Justice This course addresses the multicultural dynamics that effect the definitions (s) and distribution of justice in the United States. The primary focus is the differential treatment of African Americans, American Indians, Latinos, and Asian Americans throughout the major institutions of society, particularly the legal institution. A critical analysis of the social, political, and economic forces that support the current social structure will direct the inquiry. Prerequisites: Graduate standing or SOC 2000 or 2100, SOC 2600, SOC 3620, and one other 3000- or 4000-level course. 3 hrs.

SOC 5780 Sociology of Law An examination of legal organization, the legal profession, and legal norms in the United States and other western societies. Emphasis will be placed upon the relationship between the legal system and the society in which it functions. Prerequisite: SOC 2000 or equivalent or graduate standing. 3 hrs.

SOC 5900 Variable Topics in Sociology An examination of a selected topic in the field of sociology. The focus of the course may be theoretical, methodological, or substantive. Possible topics could include feminist theory, sampling and survey design, poverty, and cultural studies. 3 hrs.

SOC 5980 Directed Individual Study A program of independent study (reading or research) to provide the unusually qualified sociology student with the opportunity to explore a topic or problem of interest, under the guidance of one of the faculty of the department. The initiative for planning the topic for investigation must come from the student. Approval is contingent upon the merit of the proposal. Maximum of four hours may be applied toward master's degree. Enrollment beyond the first semester is contingent upon the satisfaction of the program's stated requirements. 4 hrs.
may be either for the same topic or for a new topic. Prerequisite: Consent of instructor and the
department chairperson. 4 hrs.

SOC 6000 Proseminar in Sociology There are three major goals for this course. First, it will
expose new graduate students to the full range of departmental faculty, their research, and their teaching
interests. Second, it will assess the current state of the discipline, focusing on substantive,
methodological, and/or theoretical issues. Third, it will begin the professional socialization of the
student with respect to departmental policies, procedures, and requirements. 3 hrs.

SOC 6020 Classical Sociological Theory An intensive and critical study of major sociological
theories developed in the 19th and early 20th centuries. The course will examine the logical structure of
classical theories, patterns of influence among theorists, and the central issues raised in their works.
Theories will be examined with respect to both historical context and their influence on contemporary
sociology. 3 hrs.

SOC 6030 Contemporary Theory: Culture, Social Action, and Society An intensive and critical
study of contemporary sociological theories. The course will focus on the problem of how the society
that human beings make-and live through their social action-is structured by historically created cultural
systems. Both modernist and post-modernist critiques of culture will be examined Prerequisite: SOC
6020. 3 hrs.

SOC 6040 Contemporary Theory: Agency, Interaction, and Structure An intensive study of
contemporary sociological and social psychological theories that address and critique the classical
dualism between individual and social structure. The course will focus on theories of human interaction,
and will attempt to show connections between micro and macro theories and/or level of analysis. Both
foundational theories of interaction and integrative theories of agency and structure will be examined.
Prerequisite: SOC 6020. 3 hrs.

SOC 6050 Studies in Sociological Theory: Variable Topics Advanced study and exploration,
following seminar format, of topics of interest to faculty and students, for example: various role theory
formulations and their usefulness in understanding social behavior, ethno-methodology, philosophy of
science, experimental design, Marx, Weber, or other selected theorists. Prerequisite: Consent of
instructor. 3 hrs.

SOC 6060 Research Design and Data Collection I This course is designed to provide
experience with the formulation of research problems and exposure to a range of quantitative and
qualitative data gathering techniques. Logistical and ethical issues associated with the various
techniques will be discussed (e.g., sampling, informed consent). Students will have experience
identifying and collecting archival and observational data, as well as constructing and executing a
simple experiment. 3 hrs.

SOC 6070 Logic and Analysis of Social Research I This course is designed to provide a
thorough grounding in basic univariate and bivariate descriptive and inferential statistics for social
scientists. Manipulation and processing of data using SPSS also will be covered. Prerequisite: SOC
6060. 3 hrs.
SOC 6200 Research Design and Data Collection II  This course focuses on some of the methodological problems and issues related to the design of sociological research and the collection of data (e.g., validity, reliability). Emphasis will be placed on the selection and design of appropriate qualitative and quantitative research methods and their consequences for the research process. Students will have experience with the analysis of textual or documentary information, the design and administration of focus groups, and the construction of a sample survey.  Prerequisite: SOC 6060.  3 hrs.

SOC 6210 Logic and Analysis of Social Research II  This course offers an in-depth coverage of multiple regression, including diagnosis and correction of assumption violations, use of discrete variables in multiple regression analysis, and an introduction to path analysis.  Prerequisite: SOC 6070.  3 hrs.

SOC 6240 College Teaching Practicum in Sociology  A practicum in the teaching of sociology in college. Students will attend assigned lectures and seminars, prepare a syllabus for a course in sociology, and deliver at least two supervised lectures to a sociology class.  Prerequisite: Fifteen hours of graduate sociology courses and consent of instructor.  3 hrs.

SOC 6300 Studies in Social Problems: Designated Topics  A detailed study of a social problem area through student reports and seminar discussion. Instructor will select specific topic. Course is intended to provide intensive joint exploration of significant sociological issues.  Prerequisite: Consent of instructor.  3 hrs.

SOC 6310 Deviance and Social Problems Theory  An intensive and critical examination of the historical development and current status of the major theoretical orientations in the study of deviance and social problems theory.  3 hrs.

SOC 6420 Social Epidemiology  An examination of the relationships between sociocultural and demographic variables and variations in the distribution of infectious and chronic diseases, mental disorders and substance abuse. Sources of epidemiological data and methods of research are studied and evaluated. Application to the planning of health services and the development of service systems are presented.  3 hrs.

SOC 6430 Seminar in Medical Sociology  An advanced seminar in some specialized aspect of medical sociology.  Prerequisite: Consent of instructor.  3 hrs.

SOC 6510 Social Psychological Theory  A study of major theoretical approaches in social psychology and their methodological and substantive implications.  3 hrs.

SOC 6560 Seminar in Social Stratification  This seminar will deal with the sociological explanations of stratification. The functional, conflict and evolutionary paradigms will be used to analyze and explain the nature, causes and consequences of class and status within social systems. The usefulness of such concepts as power, prestige, social class and status within social systems will be stressed.  3 hrs.
SOC 6600  Theoretical Issues in Criminology  This course provides a basic overview of criminological theories and theoretical perspectives. With this as a foundation, theories will be critically analyzed and applied to criminal and delinquent behavior. In addition, issues of theory building and integration will be addressed.  3 hrs.

SOC 6610  Seminar on Current Issues in Criminology  This course will deal with the current debates and controversies in criminology, radical versus traditional perspectives, economic and white-collar crime as areas of research, the ethics of criminological research, environmental design and crime, and other timely and relevant issues emerging from current literature and conference debates.  3 hrs.

SOC 6630  Comparative Criminology  An analysis in depth of crime as this phenomenon is viewed in Sweden, Germany, Poland, and other eastern and western European countries. Emphasis is placed on theoretical and etiological approaches in different societies, and the applicability and tests of theories in these societies.  3 hrs.

SOC 6640  Studies in Criminology: Variable Topics  This seminar is designed to provide in depth analysis and assessment of various substantive topics within criminology, including race and crime, gender and crime, capital punishment, and/or specific types of criminal behaviors.  3 hrs.

SOC 6650  Research Issues in Criminology  An advanced course emphasizing: (1) The examination of current issues in the measurement and analysis of crime, and (2) Development of research skills relevant to criminological research. Students will demonstrate their mastery of research skills by conducting their own analysis of crime data.  3 hrs.

SOC 6730  Formal Organization  This course analyzes the nature of large-scale, formal organizations, concentrating on their structure, types of organizational goals, processes of control, authority and leadership, and the relationship of organizations to their social environment. Examples of organizations will be selected from different areas such as education, government, medicine, science, leisure, and industry.  3 hrs.

SOC 6740  The Nonprofit Sector in Society  This course will provide an overview of the nonprofit or third sector of society and will explore its interrelations with other sectors in society. While the focus will be on nonprofits in American society, cross-cultural comparisons will also be provided. The socio-economic, organizational, and political roles of nonprofits will be examined for a wide range of different organizations. Special attention will be devoted to the changing role of nonprofit and voluntary organizations in society.  3 hrs.

SOC 6750  Studies in Comparative Sociology: Variable Topics  Intensive analysis of selected topics using a comparative frame of reference. The seminar will focus on such topics as major theoretical perspectives, methodological issues, and interpretation of studies of such institutions as: educational systems, industrial systems, and family systems. Prerequisite: Consent of instructor.  3 hrs.

SOC 6800  Studies in Research Methodology: Variable Topics  A seminar on advanced theoretical and methodological problems which are important to systematic research in sociology. Suggested
specialized topics include: philosophy of the social sciences relationship between theory and research, and model building and testing. Prerequisite: Consent of instructor. 3 hrs.

SOC 6810 Advanced Multivariate Analysis This course covers multivariate statistical techniques, including such topics as time-series analysis; structural equation modeling; confirmatory factor analysis; hierarchical modeling techniques; linear probability, logit, tobit, and probit estimation of models with discrete dependent variables; and logistic regression. Prerequisite: SOC 621. 3 hrs.

SOC 6820 Qualitative Methods This course covers important techniques in qualitative sociological research, including participant observation and in-depth interviewing. Students will study and practice these methods, incorporating issues of recording and coding data and the ethical norms governing such research. They will also address theoretical and epistemological issues related to the place of qualitative methods in the sociological toolkit. 3 hrs.

SOC 6860 Applied Sociology Provides an overview of the development of applied sociology and an introduction to essential skills. Among the topics covered are proposal writing, budget preparation, systems analysis, presentation of data to clients, and the writing of research reports. Case study material will be used to introduce students to applied sociology in public, private, and non-profit settings. 3 hrs.

SOC 6870 Evaluation Research I The basic purpose of this course is to familiarize students with the various research techniques for evaluating action agencies through a survey of the literature, study of evaluation models, and study of techniques and procedures used in evaluation. Prerequisite: SOC 621. 3 hrs.

SOC 6880 Methods of Survey Research This course is a research seminar structured to provide practical experience in the use of social surveys. Both applied and disciplinary utilizations will be studied as will the conceptualization and measurement phases of survey design, the implications of the cognitive processes at work in survey research, the analysis of survey data, and the administration of large scale survey projects. 3 hrs.

SOC 6900 Computer Applications for Sociologists This class is designed to provide doctoral students in sociology with essential skills in the use of mainframe computers and micro-computers to perform such professional tasks as project design, interviewing, budgeting, and data analysis. Competence in using operating systems, word processing and SPSSX should be attained before enrolling for this class. 3 hrs.

SOC 7000 Master's Thesis 6 hrs.
SOC 7100 Independent Research 2-6 hrs.
SOC 7120 Professional Field Experience 2-12 hrs.
SOC 7250 Doctoral Research Seminar 2-6 hrs.
SOC 7300 Doctoral Dissertation 15 hrs.
SOC 7350 Graduate Research 2-10 hrs.
Spanish

LANG 5800 Foreign Language for Special Purposes The study of or practice in a specialized area in the field of foreign language and culture such as court interpreting, medical or engineering terminology, or public school administration. The content of this course may vary from semester to semester. Students may repeat the course for credit, provided the subject matter differs. Prerequisite: Completion of four courses in area of specialization; departmental approval required. 1-12 hrs.

LANG 5580 Modern Language Instruction (in French, German, Spanish, or other language) Required for modern language teaching majors and minors. This course will acquaint prospective language teachers with various approaches and strategies involved in modern language teaching. Specifically, in a performance-oriented program, students will learn theory and practice related to teaching the listening, speaking, reading and writing skills, as well as the culture component. Students must complete this course before beginning directed teaching. Prerequisite: Minimum of four courses including a language at the 3160 and 3170 level, or equivalent, or permission of instructor. 3 hrs.

SPAN 690 Seminar Intensive study of a particular author or of a literary, linguistic, or cultural topic. Course varies according to topic and may be repeated with permission of advisor. 1-3 hrs.

SPAN 5020 Spanish for Graduate Study Spanish instruction for graduate students enrolled in a degree program who need knowledge of Spanish for their field of study. Students will sit in appropriate level course for learning. Prerequisites: Approval of department of student’s graduate program and approval of Department of Spanish. 3-4 hrs.

SPAN 5260 Survey of Spanish Literature to the 18th Century A survey of Spanish literature from its origin to, and including, the seventeenth century. Prerequisites: SPAN 3160, 3170, and 3250. 3 hrs.

SPAN 5270 Survey of Spanish Literature from the 18th Century to the Present A survey of Spanish literature from the eighteenth century to the present. Prerequisites: SPAN 3160, 3170, and 3250. 3 hrs.

SPAN 5280 Survey of Spanish American Literature to Modernismo A survey of Spanish American literature from its origin to the era of Modernismo (late 19th century). Prerequisites: SPAN 3160, 3170, and 3250. 3 hrs.

SPAN 5290 Survey of Spanish American Literature from Modernismo to the Present A survey of Spanish American literature from late 19th century to the present. Prerequisites: SPAN 3160, 3170, and 3250. 3 hrs.

SPAN 5500 Independent Study in Spanish Directed, individual study of a specific topic in a Spanish literary or linguistic area. Departmental approval required for admission. Prerequisite: One of the following: SPAN 5260, 5270, 5280, or 5290 and permission of department. 1-3 hrs.

SPAN 5600 Studies in Spanish Literatures Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 5600. Thus, a student may take any or all of the offerings at various times. Representative topics which may be treated
in this area include: Cervantes-Don Quijote and other works of Cervantes together with his life and thought. Seventeenth Century Theater-Main works of Lope de Vega through Calderón de la Barca. Nineteenth Century-The Romantic Movement. Nineteenth Century Novel-Development of the regional novel from Fernán Caballero through Blasco Ibanez. Generation of '98-Thought and works of typical representatives such as Unamuno, Azorín, Baroja, and A. Machado. Contemporary Theater-Evolution and analysis of the characteristics. Spanish-American Short Story-Significant short stories along with the cultural and social background. Contemporary Spanish-American Novel-The new Spanish-American novel along with the cultural and social background. Prerequisite: Three hours of SPAN 5260, 5270, 5280, 5290, or departmental permission. 3 hrs.

SPAN 6000 Don Quijote An in depth study of Cervantes' masterpiece. Emphasis is on literary analysis, but attention will also be paid to Cervantes' language. 3 hrs.

SPAN 6050 Foundation in Spanish Linguistics Recommended for graduate students of Spanish with little or no prior experience in linguistics. This course provides a foundation in the fundamental areas of Spanish linguistics: phonology and phonetics, morphology, syntax, and variation in these levels of language. The course prepares students for the advanced study of more specialized topics in Spanish linguistics. Prerequisite: Acceptance into M.A. or Ph.D. in Spanish, or PTG status and permission of instructor. 3 hrs.

SPAN 6100 Topics in Hispanic Culture The advanced study of selected aspects of Hispanic culture. Course varies according to topic and may be repeated with permission of advisor. 3 hrs.

SPAN 6200 Topics in Spanish Literature The advanced study of selected aspects of Spanish literature. Course varies according to topic and may be repeated with permission of advisor. 3 hrs.

SPAN 6300 Topics in Spanish American Literature The advanced study of selected aspects of Spanish American Literature. Course varies according to topic and may be repeated with permission of advisor. 3 hrs.

SPAN 6400 Topics in Spanish Linguistics and Methodology The advanced study of selected aspects of Spanish linguistics and methodology. Course varies according to topic and may be repeated with permission of advisor. 3 hrs.

SPAN 6500 Methods of Teaching College Spanish Recommended for new teaching assistants in Spanish. Establishes the methodology for teaching Spanish language at the university level. Some areas covered are: How to teach in the target language; the development of appropriate classroom tasks and activities; evaluating and testing; and aspects of second language acquisition theory. Participants create and share materials to be used in their own language classrooms. Prerequisite: Acceptance into Spanish M.A. program, or PTG status and permission of instructor. 3 hrs.

SPAN 6600 History of the Spanish Language This course focuses on different aspects involved in the development of the Spanish language. Topics to be considered may include, among others, the evolution of different linguistic systems of Spanish and the sociocultural factors and context that influenced its development. The course will entail analysis of texts that reflect changes in language
usage and attitudes toward language. Prerequisite: Open only to graduate students admitted to Spanish curriculum or by permission of Spanish graduate advisor. 3 hrs.

SPAN 6700 Trends in Literary Criticism This course introduces students to significant trends in modern literary theory by focusing on representative theorists and the application of various critical methodologies. Literary genres and texts will be examined in light of specific theoretical writings. Prerequisite: Open only to graduate students admitted to Spanish curriculum or by permission of Spanish graduate advisor. 3 hrs.

SPAN 6770 Foreign Study Prerequisite: Approval of Spanish graduate advisor and departmental chairperson. Variable

SPAN 6800 Research and Writing A study of the techniques of research and the art of expression, leading to the completion of a scholarly monograph. (Enrollment limited to ten students.) 3 hrs.

SPAN 7100 Independent Research 2-6 hrs.
SPAN 7110 Readings in Doctoral Specialization 3 hrs.
SPAN 7300 Doctoral Dissertation 15 hrs.

Statistics

STAT 5030 Statistical Data Analysis with Excel A course in statistical computation using Excel software. Topics will include: data management and manipulation, numerous types of graphical presentations. Descriptive statistics for one and several variables, categorical variables and tables, multiple analyses, macro programming, and simulations, Excel results to be organized in high quality reports and presented on the web. Prerequisites: MATH 1000 or satisfactory score in the Mathematics Department placement exam. Students cannot receive credit for both STAT 3030 and STAT 5030. 3 hrs.

STAT 5600 Applied Probability A first course in probability for upper division and graduate students interested in applications. Topics will include: probability spaces, expectation, moment generating functions, central limit theorem, special discrete and continuous distributions. Applications will include reliability and production problems, and Markov chain methods. Not recommended for students who have taken STAT 3620 or 6600. Prerequisite: MATH 2720. 3 hrs.

STAT 5610 Applied Multivariate Statistical Methods An applied treatment of multivariate procedures is presented. Classical procedures such as Hotelling's T-squared methods are discussed for the one and two sample problems and MANOVA for standard designs. Topics that will be accentuated are principal components, discriminant analysis, cluster analysis, and factor analysis. Emphasis will be on graphical methods and applications. Prerequisites: An introductory statistics course such as STAT 2600 or 3640 and a course in linear algebra. 3 hrs.

STAT 5620 Statistical Theory A first course in statistical theory. Topics include random variables, distributions of statistics, limiting distributions, and elementary theory of estimation and hypothesis testing. Prerequisites: MATH 2300, STAT 3640, (5600 or 4600) or equivalent. 4 hrs.
STAT 5630  Sample Survey Methods  This course consists of a broad overview of the techniques of survey data collection and analysis and contains a minimum of theory. Topics may include: simple random, stratified, systematic, single-stage cluster, and two-stage cluster sampling; ratio and regression estimation; subpopulation analyses; problems of nonresponse; surveys of sensitive issues; minimization of survey costs; sample size determination. Real surveys are discussed and actual survey data are analyzed.  Prerequisites: An introductory statistics course such as STAT 2600 or STAT 3640 and consent of instructor.  3 hrs.

STAT 5650  Design of Experiments for Quality Improvement  This course covers statistical methods useful for improving the quality of products and systems in an industrial setting. It provides a comprehensive set of tools to use in building better products and in reducing manufacturing and other costs. The focus will be on solving real engineering problems through case studies. Taguchi methods will be discussed along with modifications from standard statistical practice. Topics will include planning an experiment, experimental strategy, Analysis of Variance concepts, factorial designs, orthogonal arrays, loss functions, signal-to-noise ratios, identifying significant factor effects, graphical methods, parameter design and tolerance design.  Prerequisite: An introductory statistics course such as STAT 2600 or STAT 3640.  3 hrs.

STAT 5660  Nonparametric Statistical Methods  This course presents a broad overview of statistical methods commonly referred to as nonparametric or distribution-free methods. Topics include: inferences for proportions, contingency tables, goodness of fit problems, estimation and hypothesis testing based on ranking methods, measures of rank correlation, efficiency. Emphasis will be on the application of nonparametric statistical methods to data from many different applied fields.  Prerequisite: An introductory statistics course such as STAT 2600 or STAT 3640.  3 hrs.

STAT 5670  Statistical Design and Analysis of Experiments  A course in experimental design and the analysis of variance with particular emphasis on industrial experiments. Topics include: completely randomized, randomized complete block, Latin square, and split-plot designs; orthogonal contrasts and polynomials; multiple comparisons; factorial arrangement of treatments; confounding; fractional replication. This course is molded around the complete analysis of good applied problems.  Prerequisite: An introductory statistics course such as STAT 2600 or STAT 3640.  4 hrs.

STAT 5680  Regression Analysis  An applied course in regression analysis: simple and multiple linear regression; resolution of fit of a model, including residual analysis, precision of estimation, and tests of general hypotheses; model building; step-wise regression; use of indicator variables; non-linear regression.  Prerequisite: An introductory statistics course such as STAT 2600 or STAT 3640.  3 hrs.

STAT 5690  Quality Improvement Concepts and Methods  This is a course on quality technology for application in business and industry involving concepts and methods from Statistics, Management, and Psychology and how they must blend together to obtain results. Topics may include: quality concepts for products and services, Deming philosophy of quality improvement, leadership and management concepts, analytic vs. enumerative studies, theory of variability, the seven tools, exploratory data analysis, statistical graphics, Shewhart control charts, cusum charts, process capability, principles of experimental design, robust product and process design.  Prerequisites: An introductory statistics course such as STAT 2600 or STAT 3640.  4 hrs.
STAT 5990  Independent Study in Statistics  Advanced students with good scholastic records may elect to pursue independently the study of some topic having special interest for them. Topics are chosen and arrangements are made to suit the needs of each particular student. Prerequisite: Approval of chairperson of department.  1-6 hrs.

STAT 6220  Preparation of Large Data Sets for Statistical Analysis  Students will use standard database software, spreadsheets and relational databases, to learn how to handle large data sets in preparation for statistical analysis. They will learn how to enter and query databases that have already been constructed and be exposed to basics of building relational databases. It is anticipated that Excel, Access, and Oracle are software packages to be used in the course, but choice is dependent on course instructor. Prerequisites: An introductory course in statistics such as STAT 2600 or STAT 3640. Experience with spreadsheets and/or programming language is beneficial.  3 hrs.

STAT 6600  Statistical Inference I  An advanced course in statistical theory. Topics include measures of quality of estimators, theories of estimation, functions of sufficient statistics, confidence intervals, theories of testing, likelihood ratio tests, and selected topics in statistics. Prerequisite: STAT 5620.  4 hrs.

STAT 6610  Multivariate Statistical Analysis  A theoretical treatment of multivariate statistical problems and techniques. Topics include: multivariate normal distribution; quadratic forms; multiple and partial correlation; sample correlation coefficients; Hotelling's statistic; Wishart distribution; applications to tests of the mean vector and covariance matrix; principal components; factor analysis; cluster analysis; discriminant analysis. Prerequisite: STAT 6630.  3 hrs.

STAT 6620  Applied Linear Models  An advanced course in applied statistics. Linear models will be used to treat a wide range of regression and analysis of variance methods. Topics include: matrix review; multiple, curvilinear, nonlinear, and stepwise regression; correlation; residual analysis; model building; use of the regression computer packages at WMU; use of indicator variables for analysis of variance and covariance models. Prerequisites: MATH 2300, STAT 3640, (5600 or 4600) or equivalent.  3 hrs.

STAT 6630  Linear Models  A theoretical study of the general linear model including random vectors, quadratic forms, multivariate normal distributions, least squares estimation, hypothesis testing for full and reduced models, generalized inverses. Prerequisites: STAT 6600 and 6620.  3 hrs.

STAT 6640  Design of Experiments I  An applied course in the design and analysis of experiments. Topics include: general considerations in the design of an experiment; standard designs such as Latin square, balanced incomplete block, split plot, and nested; pooling of experiments; multiple comparison techniques; orthogonal contrasts and polynomials; factorial arrangement of treatments; fixed, random, and mixed models; confounded designs; fractional replication. Prerequisite: STAT 6620.  3 hrs.

STAT 6650  Statistical Inference II  Theories of statistical inference are discussed. Topics include (but not limited to) asymptotic theory, sufficiency, maximum likelihood methodology, Bayesian procedures, robust procedures, nonparametric tests, resampling, and asymptotic efficiency. Prerequisite: STAT 6600.  3 hrs.
STAT 6660 Nonparametric Statistical Theory A theoretical study of nonparametric statistics and robust statistical procedures. Topics may include: order statistics, empirical cdfs, R-estimates, rank statistics, optimality considerations, asymptotic distribution theory. Prerequisite: STAT 6600. 3 hrs.

STAT 6670 Introduction to Random Processes This course is a treatment of random sequences and Markov processes. Discrete and continuous Markov processes; transition and rate matrices; Chapman-Kolmogrov systems; transient and limiting behavior; examples and illustrations; random walks, birth-and-death processes, etc.; stationary processes. Prerequisite: STAT 5600 or equivalent. 3 hrs.

STAT 6680 Categorical Data Analysis Statistical methods for discrete multivariate data and contingency tables will be discussed. The log linear model for two way and higher dimensional tables will be emphasized. Subtopics include: maximum likelihood estimates, iterative proportional fitting, model selection, goodness of fit, logistic models, incomplete tables, symmetry, marginal homogeneity, and conditional independence models. Prerequisites: STAT 6600, 6620. 3 hrs.

STAT 6690 Studies in Probability and Statistics The subject matter for this course is variable. Advanced work is considered and organized around topics not usually considered in the other courses. 3 hrs.

STAT 6700 Statistical Consulting Practicum Applied statisticians typically work in collaboration with professionals in other fields. The course is designed to train students to be statistical consultants by giving them the opportunity to consult on real research projects with professionals in other fields. The main goals of this course are to: 1) integrate and apply theoretical knowledge acquired in the field of statistics to real-life problems, and 2) develop communication skills, written and verbal, necessary for effective statistical consulting. Students taking this course provide consulting service to graduate students, university staff and faculty, and researchers on campus on the following areas: Design of Experiments, Regression Methods, Categorical Data Analysis, Survival Analysis, Multivariate Analysis, Statistical Software Support, Data Analysis and Interpretation of Results, Statistical Computation and Graphics, and others. Prerequisite: STAT 5680 or STAT 5670 or other upper level statistics course. 3 hrs.

STAT 6800 SAS Programming Students will use SAS to manipulate data, create effective tables and plots, and write programs for nonstandard problems. Prerequisite: STAT 6620 or consent of instructor. 3 hrs.

STAT 6810 Survival Data Analysis This course consists primarily of biostatistical methods used in pharmaceutical and medical research with particular application to cancer studies and toxological animal studies. Some attention is given to related failure-time methods used in industry to test product reliability. Theoretical development of some of these methods is discussed. Extensive data analyses are done using SAS (or comparable statistical packages). Topics include: censoring, Kaplan-Meier survival curves, life tables, two-sample non-parametric procedures for comparison of survival curves (Gehan, Cox-Mantel, log rank and generalized Wilcoxon), relative risk, odds ratio, the Mantel-Haenszel procedure, parametric failure-time models (exponential, gamma, Weibull, and lognormal), logistic regression, and Cox's proportional hazards model. Prerequisites: STAT 6600 and 6620. 3 hrs.

474
STAT 6820  Time Series Analysis  The theoretical development and practical use of seasonal and non-
seasonal ARIMA (Autoregressive Integrated Moving Average) Box-Jenkins time series models is
presented. Identification of correct time series models, estimation of model parameters, and diagnostic
checks of identified models will be covered. The uses of these models for forecasting future trends and
assessing interventions will be examined. Extensive data analysis using SAS, MINITAB, and BIOMED
statistical packages are included. Topics include: autocorrelation function, partial autocorrelation
functions, Yule-Walker equations, differencing, stationarity, autocorrelation models, moving average
models, seasonality, invertibility, and Box-Pierce tests.  Prerequisites: STAT 6600 and 6620. 3 hrs.

STAT 6830  Robust Statistical Analysis  Robust statistical procedures for inference in location,
linear and multivariate models are presented. This will include broad classes of robust estimates,
including R>-, M>- and L>-estimates of both regular and bounded influence types. Concepts such as
breakdown point, influence function, and asymptotic theory are used to obtain properties of these
procedures. Computational aspects of these estimates are discussed along with small sample properties
and applications of these procedures. Prerequisites: STAT 6600 and 6620. 3 hrs.

STAT 6840  Design of Experiments II  This course is a continuation of Design of Experiments I.
The additional topics include: repeated measurement designs, analysis of covariance designs, response
surface designs, partially balanced incomplete block designs, mixture models, analysis of models with
missing data using Types I, II, III, and IV SAS sums of squares, analysis of large experiments with
many crossed and nested factors, and some Taguchi methods.  Prerequisite: STAT 6640. 3 hrs.

STAT 6850  Applied Data Mining  Examine the philosophy and practice the methods of using gigantic
data collections to discover actionable information. Topics include: Statistical evaluation of gigantic
data collections; data warehousing; data form; data transformations; missing data; data reduction;
application of neural networks; genetic algorithms; and hybrid models.  Prerequisite: STAT 4640. 3 hrs.

STAT 6860  Regulatory Environmental Statistics  This is a course in regulatory environmental
statistics, with a primary focus on statistical methods recommended by the United States Environmental
Protection Agency (EPA) and by various State environmental regulatory agencies. Particular emphasis
is devoted to the normal, lognormal, and non-parametric probability models for fitting environmental
data, which are methods recommended in several EPA guidance documents. Descriptive, graphical and
model adequacy methods include: box-plots, normal probability plots, q-q plots, outlier tests, and
goodness-of-fit tests. Statistical inference methods include prediction intervals, tolerance intervals,
analysis of variance, and upper and lower confidence intervals for both parametric and non-parametric
models. The use of correlation analyses, trend analyses, control charts, and multiple regression analyses
may be illustrated. Emphasis will be devoted to the proper analysis of censored or non-detect
environmental data. The SAS, SPULS, or other statistical packages may be utilized. Emphasis may be
placed on report-writing and oral presentations with real data collected in actual regulatory
environmental contexts.  Prerequisites: STAT 5620 or 6620 or permission of instructor. 3 hrs.

STAT 6910  Practicum in Statistical Consulting  Provides graduate students with the opportunity to
participate as statistical consultants on real projects. The student consultants are involved with all
aspects of the statistical consulting experience from data manipulation and analysis to the design of the
statistical aspects of the project and from interaction and effective communication with a client to the

475
production of a final written report on the statistical aspects of the project. Prerequisites: STAT 6620 (or concurrent enrollment) and at least one of STAT 5630, 5660, 5670, or 5680. 1 hr.

STAT 6960 Seminar in Probability and Statistics 1-3 hrs.

STAT 6980 Statistical Consulting Internship The statistical consulting internship program provides a graduate student with the opportunity to work as a member of the staff in the Statistical Computation Lab. The student gains considerable experience in all aspects of the consulting experience and the operation of a consulting center. Prerequisite: Consent of Advisor. 2-6 hrs.

STAT 6990 Reading and Research 1-6 hrs.

STAT 7120 Professional Field Experience 2-12 hrs.
STAT 7250 Doctoral Research Seminar 2-6 hrs.
STAT 7300 Doctoral Dissertation 15 hrs.
STAT 7350 Graduate Research 2-10 hrs.

Women’s Studies
WMS 5000 Seminar in Women’s Studies A seminar offering variable topics that focus on special problems or issues in Women’s Studies. Emphasis will be placed on developing skills in research approaches and on writing a research paper integrating the student’s disciplinary training with investigation of an interdisciplinary problem in Women’s Studies. 3 hrs.

WMS 5500 Contemporary Feminist Theory An advanced course focusing on the analysis of American and European texts in feminist theory. The course will also consider the relation of these texts to other contemporary theoretical approaches. Prerequisite: For undergraduates, WMS 4010.3 hrs.

WMS 5970 Issues in Women’s Studies: Variable Topics Group study of special issues in Women’s Studies. Variable topics may address theoretical, critical, or practical issues in the historical or contemporary context. The courses will be offered in response to the special needs and interests of students and may be organized around special events or available guest speakers. 1-3 hrs.

WMS 5980 Readings in Women’s Studies Individual study project available to the advanced student by permission of faculty advisor with departmental approval of project application. 1-4 hrs.

College of Education

Counselor Education and Counseling Psychology
CECP 5200 Foundations of Rehabilitation Counseling This course surveys the role of the rehabilitation counselor in establishing eligibility, planning services, the tracking system, counseling, case management, work evaluation, work adjustment, supported employment, transition, client assistance programs, job analysis, job development, postemployment, and advocacy. Major emphasis is given to the operation of the state vocational/federal system. 3 hrs.
CECP 5830 Workshops in Counselor Education and Counseling Psychology Workshops designed to enhance skill development related to Counselor Education and Counseling Psychology practices. Open to all students, but is not intended for counseling majors. 1-4 hrs.

CECP 6010 Research Methods The study of research designs and techniques utilized in the field of Counselor Education and Counseling Psychology. Students are expected to formulate and submit a research project in their area of specialization. 3 hrs.

CECP 6020 Group Dynamics and Procedures The study of group dynamics, i.e., the nature of groups and the laws affecting group development and process. An analysis of the various group procedures and the process associated with these procedures. 3 hrs.

CECP 6030 Tests and Measurement Designed to develop skills in analyzing, scoring, administering, and interpreting standardized tests. Students will examine selected aptitude, achievement, intelligence, personality and vocational instruments, as well as analyze their use in the student's area of specialization. Issues related to testing will be reviewed, including legal matters, ethical concerns, and use of tests with persons of varying social, economic, cultural, and ethnic backgrounds. 3 hrs.

CECP 6040 Counseling Techniques An introductory laboratory study of the concepts and skills required in interviewing and counseling. In addition to developing basic techniques and skills, special attention will be given to the impact of interview settings, interviewer/counselor attire, sex, ages of clients, and their social, economic, cultural, and ethnic backgrounds. 3 hrs.

CECP 6050 Professional Issues and Ethics Identification and discussion of issues in counseling, psychological services, and related programs will be the focus of this course. The study of ethical standards of relevant professional organizations. A presentation of case studies applicable to an understanding of current issues, multicultural concerns, legal decisions, and ethics in the field. 3 hrs.

CECP 6070 Multicultural Counseling and Psychology This course is designed to help students develop knowledge, skills, and attitudes for more effective work as helping professionals with culturally different groups and individuals. Substantial attention is given to interpersonal issues, concerns related to different cultures, and programming in a variety of settings. 3 hrs.

CECP 6080 Counseling and Life Span Development The course addresses counseling implications for assessing and enhancing human development across the lifespan. The content includes: (a) theories of human development; (b) theories of learning and personality development; (c) human behavior, including an understanding of developmental crises, disability, exceptional behavior, addictive behavior, psychopathology, and situational and environmental factors that affect both normal and abnormal behavior; (d) the stages of family development; and (e) strategies for facilitating optimum development over the life span. 3 hrs.

CECP 6100 Career Development: Theory and Practice Course content includes: (1) a study of the world of work as it impacts the psychological and sociological life of the individual; (2) an examination of career development theory, decision-making, and the application to counseling and psychotherapy; (3) the identification of informational resources related to career choice; and (4) an exploration of the needs and concerns of clients from a variety of cultural backgrounds. 3 hrs.
CECP 6110 Theories of Counseling  The nature, rationale, development, research and use of theories in counseling are studied. Major points of view including the psychoanalytic, cognitive, behavioral, phenomenological, existential, and family systems perspectives are studied and compared. Models of counseling that are consistent with current professional research and practice in the field and application of theory and intervention strategies to case studies are included. 3 hrs.

CECP 6120 Counseling Practicum This course emphasizes practical work in the student's area of specialization. Counseling experiences are provided in a laboratory setting so that students can apply knowledge and skills acquired during previous studies. Each student, by participation and observation, will be expected to work with clients from differing social, economic, cultural, and ethnic backgrounds. 4 hrs.

CECP 6130 Field Practicum  A supervised field placement in a setting appropriate to the student's M.A. option arranged in consultation with advisor and department coordinator. A minimum of 600 clock hours on site are required for all M.A. options. Prerequisite: Consent of advisor. 2-6 hrs.

CECP 6140 Student Personnel Administration Practicum This course emphasizes practical experience in the student's area of specialization. Student personnel administrative experiences are provided in selected supervised settings so that students can apply knowledge and skills acquired during previous studies. 4 hrs.

CECP 6210 Psychopathology: Classification and Treatment  Basic concepts of history, current paradigms, and assessment of psychopathology with special emphasis on the APA diagnostic classification system and counseling/clinical approaches to treatment. 3 hrs.

CECP 6220 Psychoeducational Consultation  A study of the process of consultation with emphasis upon methods, stages and strategies used with individuals, small groups and organizations. Consideration will be given to the consultant's role in psycho-affective education and primary prevention. 3 hrs.

CECP 6230 College Student Development  Explores the nature and development of college students pertaining to student affairs. Theories of college student development, administrative strategies and techniques of program implementation are studied. 3 hrs.

CECP 6240 College Students and the Educational Environment  This course is designed to help participants understand the impact of campus environments on students, faculty, and staff. Theories and concepts to assist student affairs professionals with understanding the interaction between students (and others) and collegiate environments will be presented. Opportunities for theory-to-practice experiences will be provided. Prerequisites: CECP 6230 and 6330 or the permission of the instructor. 3 hrs.

CECP 6250 Legal Issues in Higher Education  The litigious nature of American (U.S.) society has made knowledge of legal issues related to liability, contracts, hiring and firing, free speech, disabilities, discrimination and many other topics a necessary skill for college administrators. Legal issues, legal enactments and precedents, constitutional provisions, court decisions and case law that impact higher education will be the focus of this course. Current legal issues affecting higher education will be
monitored and discussed throughout the course. Prerequisites: CECP 6230 and 6330 or permission of the instructor. 3 hrs.

CECP 6260 Applications of Student Affairs Administration Emphasis will be upon administration/management aspects of student affairs in higher education. A general overview of administrative concerns will be provided. Primary focus of course content will relate to: (1) organizational models; (2) budgetary systems; (3) personnel practices; and (4) administrative tools and techniques. 3 hrs.

CECP 6270 Community Counseling and Administration This course addresses a broad range of policies and procedures related to counseling and the administration of counseling services in a range of community settings. Selected principles of program evaluation drawn from various organizational settings will be discussed. The history, role and function of counselors in community settings will be analyzed. Evolving directions in the field of counselor education, including biopsychosocial assessment and diagnosis, will be addressed. Specific attention will be given to the unique role that counselors play in assessment and diagnosis in community settings. 3 hrs.

CECP 6290 Organization and Principles of Elementary School Guidance A thorough investigation of philosophical concepts and principles underlining counseling and pupil personnel programs in elementary schools. The history, organization, and administration of the program services are surveyed and practical application of concepts are required. 3 hrs.

CECP 6300 Organization and Principles of Secondary School Guidance Enables students to understand, apply, and formulate programs of guidance as they apply to secondary schools. In particular the history, philosophy, role, function, organization, administration, and development of guidance will be examined in depth so that the counselor in preparation will have the necessary skills to assume an entry level position in secondary education. 3 hrs.

CECP 6310 Seminar in Substance Abuse I An interdisciplinary seminar designed to reflect broadly conceived intervention strategies ranging from primary prevention to rehabilitation of the addict. The basic training in the principles of intervention and clinical practice will continue to be taught within the student's basic professional discipline. In part, the seminar will be used to elaborate upon the application of these principles to the problems of substance abuse. 3 hrs.

CECP 6320 Seminar in Substance Abuse II Continuation of CECP 6310. 3 hrs.

CECP 6330 Student Affairs in Higher Education The introductory course in student affairs will include a section on the history and development of U.S. higher education. The second phase of the course will focus on the following areas in student affairs: (1) history of the profession; (2) philosophical foundations; (3) professional organizations; and (4) functional areas. 4 hrs.

CECP 6400 Principles of Human Resources Development The course provides an overview of the human resource development (HRD) function in an organization. This includes the role of the HRD professional, the nature of HRD structure and function, and the planning and operation of HRD. Special emphasis in the course is devoted to analysis of the HRD function in any organization to identify those elements and characteristics of HRD associated with successful, state-of-the-art and worthwhile
operations. The course is a prerequisite for all HRD concentration students, and a good choice for any other person who wishes to gain a critical understanding of the HRD (staff development, inservice education) function. 3 hrs.

CECP 6410  Fundamentals of Needs Analysis  Development of skills in identifying organizational needs for performance improvement related to human resources development. The course is intended for persons whose current or future professional roles involve them in the development of learning strategies and interventions to promote individual and organizational change. The course will emphasize a holistic, performance-oriented problem solving approach to needs analysis. The goals of the course are: 1) to familiarize students with principles and strategies related to needs analysis, and 2) to provide students with opportunities to develop skill in applying needs analysis concepts and methods. 3 hrs.

CECP 6420  Evaluation of Human Resources Development Transfer and Impact The course addresses the theories, methods, and issues addressed by human resources development (HRD) practitioners as they recommend, design, install, and assess HRD interventions to meet needs in organizations. Evaluation of HRD interventions is viewed from a macro level versus the micro (instructional design) level to help students develop an understanding of the larger range of organizational and human performance factors that impinge on successful HRD efforts. Students analyze one or more major HRD interventions for a real or hypothetical organization, including plans for creating the pre- and post-training organizational environment needed to impact effective performance, and design and evaluation approach to assure and assess the quality of the intervention. 3 hrs.

CECP 6430  Project Management in Human Resources Development This course responds to both general project management concerns as well as the particular demands and problems associated with managing human resources development and other educational projects. Students will develop an understanding of project management needs, problems, concepts and strategies. They will be introduced to and practice particular project management skills, such as project definition, work flow analysis, dependency charting, budgeting, planning, etc. Emphasis in the course is on acquisition of practical skills and knowledge. The course is intended especially for persons who have recently or will in the near future assume responsibility for managing a project and have had little previous management experience. 3 hrs.

CECP 6440  Learning and Organizational Effectiveness Examination of characteristics and elements of effective organizations that can be positively impacted by educational concepts and interventions, with special attention to the roles of individual and organizational learning in organizational effectiveness, development of skills in conceptualizing, planning, and designing the use of human resources development (HRD) to improve organization effectiveness efforts in real and hypothetical settings. Prerequisite: Completion of HRD required core, or permission of instructor. 3 hrs.

CECP 6450  Practicum in Human Resources Development This course is a supervised practicum integrated with a class meeting component. Students work together on human resources development projects with real clients in the Kalamazoo area. The bulk of work takes place in the field, in project work and client contact. Class meeting sessions will be spent in project reviews and group problem solving. Students will develop consultation skills and gain experience in solving HRD application problems. 3 hrs.
CECP 6500  Intellectual Assessment     This course provides instruction in clinical assessment with primary emphasis on individually administered intelligence tests. Emphasis is placed on accuracy of administration, scoring, and interpretation of psychological results via written and oral reports. Laboratory experience provides instruction in the administration of the Wechsler scales, Binet IV, and other individually administered measures of intellectual functioning. Additional topics include theories of intellectual development, neuropsychological assessment, test bias, and procedures for non-biased assessment.  Prerequisite: CECP 6030.  3 hrs.

CECP 6510  Personality Assessment     Survey of theory of personality assessment and the basic concepts of non-projective measurement, with emphasis on the administration, scoring, and interpretation of various instruments. Primary attention given to the MMPI. Additional emphasis includes study of the Millon, 16-PF, CPI, and other measures.  Prerequisite: CECP 6030.  3 hrs.

CECP 6610  Foundations of Systemic Family Therapy     An in depth focus on the theoretical foundations of family therapy. Emphasis is placed on systems theory and recent theoretical developments. Nomenclature and concepts particular to family therapy are stressed. Course content also includes an overview of the historical development, major models, and diversity issues related to family therapy.  3 hrs.

CECP 6620  Couple Interaction and Therapy     Application of a systemic perspective to the assessment and treatment of couples who are seeking therapy. Models of couple therapy are examined and applied to problems common to couples. Attention is given to gender, race, culture, and couple forms. Prerequisite: CECP 6610.  3 hrs.

CECP 6630  Family Interaction and Therapy     Application of a systemic perspective to the assessment and treatment of families who are seeking therapy. Models of family therapy are examined and applied to a variety of families and common problems. Multicultural and gender perspectives on family life are integrated in course content.  Prerequisite: CECP 6610.  3 hrs.

CECP 6640  Advanced Family Therapy     This is an advanced didactic and experiential course in marital and family therapy. Goals include the assimilation, integration, and application of the major approaches to the field. Further emphasis is placed on the development of the student's therapeutic expertise in MFT intervention techniques and strategies. Class activities include use of exemplary cases, video tapes, role playing, and possible instructor participation in counseling as a consulting therapist. Prerequisite: CECP 6620 or 6630.  3 hrs.

CECP 6650  Sex Therapy     The subject of human sexuality is examined from a variety of social, physiological, and cultural viewpoints. Various forms of sexual dysfunction are studied and examined for understanding of both physiological and psychological components and role of each in the dysfunction. Finally, there is in depth study of current approaches to therapy as well as attention to other issues such as conjoint treatment of couples, resistance, sexual dysfunction in both partners, and sexual dysfunction and its relationship to marital discord.  Prerequisite: CECP 6620.  3 hrs.

CECP 6670  Practicum in Couple and Family Therapy     Practicum is a part-time clinical experience completed concurrent with didactic course work. Practicum gives the student an opportunity to apply knowledge and skills in couple and family therapy. Qualified couple and family therapy supervisors
provide individual and group supervision. The student develops a small caseload of clients and refines skills in case conceptualization, assessment, treatment planning, clinical intervention, documentation, and case management. Students begin practicum in a university laboratory setting, followed by community-based placements. Prerequisite: Permission of instructor. 1-4 hrs.

CECP 6730 Advanced College Student Development Theory This course continues the examination of student development theories and their application to student affairs practice. The course will increase the complexity of understanding about the development of college students. Traditional theories and new theories will be critically reviewed for their inclusion of diverse populations and their applicability to the range and diversity of current and future students. Prerequisite: CECP 6230 or equivalent. 3 hrs.

CECP 6740 Psychological Development Theory The course surveys theories of psychological development from a variety of perspectives such as analytic, humanistic, multicultural, social learning, behavioral, and constructive models. This learning experience is designed to both acquaint students with developmental theory and provide a basis for conceptualizing counseling issues within a developmental framework. The course is recommended for students of advanced standing in their degree programs. 3 hrs.

CECP 6750 Counseling Theories and Practices This is an advanced course in counseling theory and practice, which examines the principles and practices of major theories of counseling such as analytic, cognitive, humanistic, and integrative approaches to counseling in contemporary professional practice. Special attention is given to understanding and evaluating the underlying assumptions and principles within a cultural context. Empirically supported treatments and common factors in treatment are also examined. The learning experience is designed to assist students in clarifying their personal approach to counseling relationships. Prerequisites: CECP 6110, 6120, or equivalents. Prerequisites for the class include one formal course exposure to counseling theory, supervised laboratory work, and experience in the field of counseling. 3 hrs.

CECP 6800 Professional Seminar in Counseling Psychology Issues and Ethics This seminar explores current professional issues, including professional identity, professional development, the history of counseling psychology, professional organizations, the science and practice of counseling psychology, diverse populations, research and publishing, training issues, and professional ethics. The American Psychological Association’s ethics code and principles of ethical reasoning and decision-making are studied and applied to professional conduct. Prerequisite: Admission to the doctoral program in Counseling Psychology. 3 hrs.

CECP 6810 Professional Seminar in Counselor Education This seminar explores current professional issues such as professional identity, career options, professional organizations, and professional practice literature for doctoral students in Counselor Education. Prerequisite: Admission to the Counselor Education doctoral program or permission of instructor. 3 hrs.

CECP 6820 Advanced Multicultural Counseling This course will assist advanced counseling students in enhancing the knowledge and skill components of their multicultural training. Emphasis will be on pedagogy relevant to current social and cultural issues, including social change theory and advocacy action planning. As such, course activities will address multicultural skill development, research
CECP 6840 College Teaching in Counseling This course is designed for doctoral students who will become faculty in counselor education programs. The course examines the process of teaching styles and learning strategies appropriate for counselor preparation. Students will become familiar with the responsibilities and activities of counselor educators and learn how to prepare for employment as a counselor educator. Prerequisite: Admission to the Counselor Education doctoral program or permission of instructor. 3 hrs.

CECP 6860 Topical Seminars Seminars to study current topics relevant to counseling psychological services and related fields. For advanced graduate students with sufficient maturity and experience to engage in seminar-structured learning. Topics will be designated by professors offering the seminars. 1-4 hrs.

CECP 6880 Advanced Multicultural Counseling Psychology This course is designed to assist counseling psychology doctoral students in enhancing the depth and complexity of their multicultural awareness, knowledge, and skills. The primary focus of the course will be on race and ethnicity with coverage of contemporary theoretical, practical and research developments in multicultural counseling psychology. Prerequisites: Admission to the Counseling Psychology doctoral program. CECP 6070, 6120, or an equivalent. 3 hrs.

CECP 6910 Supervision in Counseling and Psychotherapy This course is intended for practitioners and advanced graduate students who plan on assuming supervisory roles in counseling and psychotherapy. Attention will focus on models, techniques, roles and functions for supervision in a variety of organizational settings. Students will be expected to demonstrate supervisory style in the laboratory setting. Prerequisite: CECP 6930A, Individual Counseling & Psychotherapy. 3 hrs.

CECP 6930 Doctoral Practicum Supervised practicum for doctoral students with emphasis in (a) Individual Counseling and Psychotherapy, (b) Group Counseling, (c) Marital and Family Therapy, (d) Career Counseling, and (e) Clinical Supervision. 1-4 hrs.

CECP 6940 Vocational Development Theory An advanced course that involves the critical examination of existing theories of vocational development, the motivation to work and their application to the counseling therapeutic process. Research pertaining to vocational development and the world of work will be analyzed. Prerequisite: CECP 6100. 3 hrs.

CECP 6950 Doctoral Practicum in Counselor Education The doctoral practicum provides students with a supervised experience in advanced clinical counseling. It links counselor practice to teaching and supervision. Advanced counseling skills and counseling-related issues are addressed, including, but not limited to, diagnosis and treatment, multicultural issues, consultation, group counseling, assessment, and ethical and legal considerations. Prerequisite: Admission to the Counselor Education doctoral program or permission of instructor. 4 hrs.
CECP 6980  Readings in Counselor Education and Counseling Psychology  Advanced students with good academic records may elect to pursue independently the study of a special topic. The topic chosen must be approved by the instructor involved and arrangements made with instructor's consent. 1-4 hrs.

CECP 6990  Dissertation Seminar  Designed to orient students to the dissertation process. Students interested in beginning the dissertation process may take the course with the concurrence of their doctoral committee chairperson.  3 hrs.

CECP 7000  Master's Thesis 6 hrs.
CECP 7100  Independent Research 2-6 hrs.
CECP 7120  Professional Field Experience 2-12 hrs.
CECP 7250  Doctoral Research Seminar 2-6 hrs.
CECP 7300  Doctoral Dissertation 12 hrs.
CECP 7320  Doctoral Clinical Internship 1-4 hrs.
CECP 7350  Graduate Research 2-10 hrs.

Evaluation, Measurement and Research
EMR 6400  Fundamentals of Evaluation, Measurement, and Research  This course is designed to develop skills in the fundamentals of research design and the uses and interpretations of research findings. Each student is expected to prepare a review of literature and a design for a research study.  3 hrs.

EMR 6410  Fundamentals of Measurement in the Behavioral Sciences  The criteria by which instruments are selected and developed serve as the central focus of this course. Information regarding the theory and practice of measurement and testing are applied across educational, social, and behavioral settings. Students are expected critically to evaluate instrumentation as well as to develop a plan for the creation of an instrument.  Prerequisite: EMR 6450.  3 hrs.

EMR 6420  Program Evaluation  Emphasis is on the theory of program evaluation, on techniques used in program evaluation, and on the standards of quality professional practice. Students are expected to apply the principles of evaluation to design problems.  Prerequisite: EMR 6400.  3 hrs.

EMR 6430  Personnel Evaluation  Concepts and standards for design of personnel evaluation systems. Course requires design of a personnel evaluation system and an evaluation of the personnel evaluation system.  Prerequisite: EMR 6400.  3 hrs.

EMR 6450  Elementary Statistics  The study of the principles of research design and data analysis is pursued at both the conceptual and applied levels. Emphasis is on the development of the conceptual skills of design analysis and interpretation. Techniques of statistical analysis include the use of computer programs for data analysis.  Prerequisite: EMR 6400.  3 hrs.

EMR 6480  Qualitative Research Methods  A study of the philosophical and methodological foundations of naturalistic research in education. Students will develop skills in planning and conducting
naturalistic studies in education. Standards for judging naturalistic inquiry will be studied and applied to
selected naturalistic study reports. Prerequisite: EMR 6400. 3 hrs.

EMR 6490 The Nature of Science and Scientific Inquiry This course is designed for graduate students
engaged or preparing to engage in social and educational research. As an introduction to philosophy of
science, it centers on conceptual questions concerning the nature and scientific investigation of the
world. The questions are both metaphysical, concerned with the most general account of what sorts of
things science aims to represent, and epistemological, concerned with the justification of belief. The
course examines debates surrounding the question of what distinguishes science and scientific reasoning
from other forms of thought and sources of belief. Particular attention will focus on the rise of
historicism, postpositivist conceptions of scientific inquiry and, in light of these, on questions about
objectivity, relativism, and value neutrality in scientific research, particularly in social sciences. The
course will conclude with examination of the status, aims, social context, and value commitments of
educational research as a form of scientific inquiry. 3 hrs.

EMR 6500 Survey Research The principles and practices of survey research design and analysis
are the focus of this course. Critical examination is made of the appropriate uses of survey research in
response to educational issues. Students are expected to develop instrumentation used in survey
research, to engage in the design of a survey research study in a field setting, and to critique survey
studies and findings. Prerequisites: EMR 6400, 6450. 3 hrs.

EMR 6510 Advanced Applications of Measurement Methods Intensive study of applications of
educational measurement theory and methodology to specific needs for instrumentation in education.
Students will engage in development, validation, and application of new instruments for collecting
educationally important data. Prerequisites: EMR 6410 and 6550. 3 hrs.

EMR 6520 Evaluation Practicum Planned field applications of principles of program evaluation
under the guidance of a qualified instructor. The class meets weekly as a seminar to discuss evaluation
progress and issues. Prerequisites: EMR 6400 and (EMR 6420 or EMR 6430). 3 hrs.

EMR 6550 Research Design A continuation of the study of the principles of research design and
data analysis techniques. Advanced skills in design and analysis are developed in addition to an
examination of design issues in educational settings. Skills in the use of computer programs for data
analysis are required. Statistics for experimental and quasi-experimental designs with uncorrelated
independent variables. Review of t-test; introduction to analysis of variance, including one way and
factorial designs, repeated measures, and post hoc comparisons among means. All topics will be taught
from an applied perspective, which will include statistical computing in PC environment with
interpretation of statistical output. Prerequisite: EMR 6450. 3 hrs.

EMR 6580 Qualitative Research Practicum The focus of this course is on carrying out the
qualitative study designed in EMR 648. Topics of discussion include forms of qualitative data, grounded
theory, identifying patterns in data, codes and coding, data interpretation, data presentation, and use of
the computer to facilitate data collection and analysis. The emphasis of the course is on the
implementation, analysis, interpretation, and writing of a qualitative research study. The final product is
a research paper based on the qualitative study conducted in the class. At the heart of EMR 6580 is the
practicum experience: Each student will carry out a small-scale research project. If we combine EMR
6480 and EMR 6580, the goal of the sequence is for students to experience the full cycle of research, from the identification and narrowing of a problem to the final rendering and reporting of results. Prerequisite: EMR 6480. 3 hrs.

EMR 6590 Contemporary Trends in Research This course is intended to develop awareness of current inquiries in the areas of evaluation, measurement, and research methodology. This is an advanced core course in the master’s degree program. Each year the instructor will examine the annual meeting programs of the American Educational Research Association, the American Evaluation Association, and the National Council on Measurement in Education to identify areas of activity in evaluation, measurement, and research methodology. Students will read and critique selected papers from those meeting, identify issues in need of further research and development, and prepare proposals for addressing those issues. Prerequisite: EMR 6400. 3 hrs.

EMR 6600 Advanced Seminar in Research This is a seminar course focusing on theoretical and methodological research methods and techniques utilized when conducting meta-analyses in the educational and social sciences. This course will cover topics relevant to planning and carrying out a meta-analysis. Prerequisite: EMR 6550 or 6580 or permission of instructor. 3 hrs.

EMR 6610 Advanced Seminar in Measurement A seminar for students seeking advanced theoretical understanding of the principles of measurement. Theories of instrument construction beyond classical test theory (e.g., item response theory and generalizability theory) are applied to instruments relevant to education. Prerequisite: EMR 6510 or permission of instructor. 3 hrs.

EMR 6620 Advance Seminar in Evaluation An advanced seminar for the study of theoretical and practical problems in evaluation. Issues of ethics and quality in evaluation are addressed. Prerequisite: EMR 6520 or permission of instructor. 3 hrs.

EMR 6650 General Linear Models A continuation of the study of the principles of research design and data analysis techniques concentrating on the general linear model as an over-riding analytical model. Advanced skills in design and analysis are developed in addition to an examination of design issues in educational settings. Skills in the use of computer programs for data analysis are required. Design topics covered will include experimental, quasi-experimental, cross-sectional, and correlational designs. Analytic topics covered will include ANOVA for unbalanced designs, ANCOVA, stratified analysis, and multiple regression. All topics will be taught from an applied perspective which will include statistical computing using a mainframe or PC environment and interpretation of statistical output. Prerequisite: EMR 6550. 3 hrs.

EMR 6750 Applied Multivariate Statistics A continuation of the study of the principles of research design and data analysis techniques concentrating on the multivariate general linear model as an over-riding analytical model. Skills in the use of computer programs for data analysis are required. Design topics covered will include experimental, quasi-experimental cross-sectional, and correlational designs. Analytic topics covered will include Hotelling’s T2, MANOVA, MANCOVA, logistic and non-linear regression, principal component analysis, canonical correlation, discriminate function analysis, factor analysis, cluster analysis. All topics will be taught from an applied perspective which will include statistical computing using a PC environment and interpretation of statistical output. Prerequisite: EMR 6650. 3 hrs.
EMR 6770 Ethnography of Schooling This course is an in-depth exploration of the use of ethnography in the study of teaching and schooling. Participant observation, in-depth interviewing, and document analysis are the main data gathering techniques studied. Students will design and execute a small-scale ethnographic study focused on an aspect of schooling. The course will be taught as a seminar where methodological issues, such as reliability and validity, will be discussed as they arise in the work of students. Ethnographic research on educational issues, with an emphasis on teaching, will be read concurrently. Prerequisite: EMR 6480. 3 hrs.

EMR 6790 Capstone Portfolio Project This course is intended to be the opportunity for master’s degree students in the Evaluation, Measurement, and Research program to demonstrate mastery of evaluation, measurement, and research methodology at the master’s level. In addition to evidence of mastery of each master’s level course, the student will develop for presentation a project where evaluation, measurement, and research methods are used. The project is supervised by one faculty member and is then presented to a three-faculty member panel for final grading. Portfolios must be submitted for grading three months prior to an anticipated graduation date. Prerequisite: Completion of all M.A. in EMR course work. 3 hrs.

EMR 6970 Special Topics in EMR This is a variable topics course designed to provide instructors and students with a mechanism to explore current topics in evaluation, measurement, and research. Prerequisite: EMR 6400 and permission of instructor. 1-6 hrs.

EMR 7100 Independent Research 2-6 hrs.

EMR 7120 Professional Field Experience Professional Field Experience allows a student to gain practical evaluation, measurement, or research experiences under the supervision of a qualified instructor. For every 3 credit hours of field experience registered, 120 hours of field experience will be completed. Students must complete an Application for Permission to Elect form and secure their advisor’s signature prior to registration. Prerequisite: Completion of the Doctoral Core requirements. 3-6 hrs.

EMR 7300 Doctoral Dissertation 15 hrs.

Special Education

SPED 5000 Topical Issues in Educating Learners with Disabilities This course provides a survey or in-depth coverage of current issues directly related to the education of learners with disabilities. Prerequisite: Consent of department. 1-4 hrs.

SPED 5040 Teaching Practicum in Special Education This course provides the student with a structured assignment working with a learner who is at-risk or has a disability. It is intended to enable the students to demonstrate skills in assessment and prescription and in the implementation and evaluation of a tutorial plan of instruction for a specific learner in a mainstreamed or self-contained setting. Prerequisite: Consent of department and concurrent enrollment in SPED 5330 and 5340. 1 hr.

SPED 5120 In-Service Professional Development This course is designed for teachers, counselors, psychologists, social workers, and others interested in studying selected aspects of special education at
appropriate locations, such as state hospitals and special schools. A variety of instructional experiences is provided, including conferences. Credit not applicable toward a graduate degree in Special Education. 1-4 hrs.

SPED 5300 Introduction to Special Education This course introduces students to the characteristics and needs of learners with sensory, physical, mental, emotional, and learning disabilities. Students develop an understanding of the psychological, sociological, philosophical, legal, and educational aspects of each type of disability. Prerequisite: Consent of department. 3 hrs.

SPED 5330 Assessment and Prescription in Special Education The major focus of this course is understanding the Clinical Teaching Model. Emphasis is placed on the relevance of assessment and prescription to the teaching of learners with disabilities. Prerequisite: Consent of department and concurrent enrollment in SPED 5040 and 5340. 3 hrs.

SPED 5340 Curriculum and Instruction in Special Education This course focuses on application of the Clinical Teaching Model to the education of learners with mild and moderate disabilities. Emphasis is placed on implementation and evaluation activities. Additional topics include: service delivery systems, roles of teachers and ancillary personnel, legal requirements, and major issues confronting the field of special education. Prerequisites: Consent of department and concurrent enrollment in SPED 5040 and 5330. 3 hrs.

SPED 5370 Technology in Special Education This course is designed to provide specific information, exposure, and experience related to a variety of ways that current and emerging technologies may be used to improve the education and lives of learners with disabilities. This course is not open to undergraduate majors in special education. Prerequisite: Consent of department. 3 hrs.

SPED 5400 Introduction to Mental Retardation This course provides an introduction to the field of mental retardation. Historical perspectives, definitions, service delivery systems, evaluation procedures, and major issues are examined. Prerequisites: Consent of department and concurrent enrollment in SPED 5450. 3 hrs.

SPED 5440 Educating Individuals with Severe Impairments This course develops specific skills in the assessment, prescription, implementation, and evaluation of educational programs for persons with severe impairments. Course content focuses on the areas of mobility, communication, sensorimotor development, self-help skills, cognition, and adaptive behavior. 3 hrs.

SPED 5450 Education of Learners with Moderate and Severe Retardation This course focuses on understanding the ways in which teachers organize curriculum and implement assessment and instruction to insure maximum learning for students with moderate and severe mental retardation. Prerequisites: Consent of department and concurrent enrollment in SPED 5400. 3 hrs.

SPED 5700 Introduction to Emotional Impairments This course provides an introduction to the field of emotional impairments. Historical perspectives, definitions, service delivery systems, evaluation procedures, and major issues are examined. Prerequisites: Consent of department and concurrent enrollment in SPED 5750. 3 hrs.

488
SPED 5750  Education of Learners with Emotional Impairments  This course focuses on understanding the ways in which teachers organize curriculum and implement assessment and instruction to ensure maximum learning for students with emotional impairments. Prerequisites: Consent of department and concurrent enrollment in SPED 5700.  3 hrs.

SPED 5800  Introduction to Learning Disabilities  This course provides an introduction to the field of learning disabilities. Historical perspectives, definitions, service delivery systems, evaluation procedures, and major issues are examined. Prerequisite: Consent of department.  3 hrs.

SPED 5850  Advanced Theory and Practice in Learning Disabilities  This course examines several theoretical perspectives which attempt to explain why students with learning disabilities fail to learn. Within each perspective, the application of selected theories to the Clinical Teaching Model is addressed. Emphasis is placed on the validity of interventions derived from each theory. Prerequisites: Consent of department and SPED 5800.  3 hrs.

SPED 5980  Readings in Special Education  This course is designed for advanced students interested in independent study. Topics chosen must be approved by the instructor and the department chairperson. Prerequisite: Consent of department. 1-4 hrs.

SPED 6010  Acquisition and Analysis of Special Education Information  This course is designed to develop skills in information processing techniques in special education. The course will present an information processing model emphasizing methods and techniques for locating, accessing, and organizing text and media source material. The course will require students to develop skills to apply the processes of information synthesis, inductive and deductive reasoning, critical analysis, and hypothesis generation. Students will apply the course content to current issues and trends in the field of special education. Prerequisite: Consent of department.  3 hrs.

SPED 6100  Teaching Nemeth Code to Children  This course contains intensive study of the Nemeth Code (Braille Mathematics), the music code, adaptations of worksheets and tests, foreign languages (French, German, and Spanish), transcription of diacritical marks (dictionary notation), and an introduction to computer Braille notation.  3 hrs.

SPED 6150  Transition-Focused Education and Services for Individuals with Disabilities  This course examines issues regarding effective transition education and services for youths with disabilities. The focal point of course content is on designing and implementing research-based practices that meet federal and state mandates regarding transition services. Instruction emphasizes active learning strategies that facilitate the application of course content to each student’s professional context. Course topics include applying a transition perspective of education, student-focused planning, student development, interagency collaboration, and family involvement. Prerequisite: Permission of Department.  3 hrs.

SPED 6200  Advanced Assessment of Learners with Disabilities  The emphasis of this course is on basic psychometric concepts related to the theory and interpretation of test results and psychological assessment reports. Special attention is given to the diagnosis of students based upon psychometric data. The selection of remedial education programs related to these test results as well as recent issues in testing are discussed. The course emphasizes the selection of standardized test batteries and norm-referenced and criterion-referenced assessment techniques. Prerequisite: Consent of department.  3 hrs.
SPED 6210 Curriculum Development for Learners with Disabilities  This course is designed to provide experienced special education personnel with knowledge and skill in the conceptualization, construction, adaptation, and evaluation of instructional programs for learners with disabilities, including accommodating to state and national curricular trends and issues.  Prerequisite: Consent of department. 3 hrs.

SPED 6300 Clinical Practice in Special Education  This course serves as a clinical/practical experience within the Master Teacher Program, the Clinical Teacher Program, and the Special Education Technology Program. Students will apply their knowledge and skills in a clinical setting with youngsters with varying handicapping conditions.  Prerequisite: Consent of department. 3 hrs.

SPED 6320 Teaching Children Who Are Visually Impaired  This course is designed to examine how to assess, teach, and modify existing curriculum for infants, preschoolers, and young school-aged children who are blind. This course combines these three elements and prepares teachers for the role of itinerant or classroom teacher, as well as for the role of consultant for parents and other teachers. 4 hrs.

SPED 6360 Topical Seminar in Special Education  This course provides a survey or in-depth coverage of topics directly related to the education of learners with disabilities.  Prerequisite: Consent of department. 1-4 hrs.

SPED 6370 Research and Evaluation Techniques in Special Education  This course is designed to provide students with fundamental knowledge and skills in research and evaluation in special education. Topics include the use of the scientific approach, research and evaluation designs, observations and measurement instruments, statistical analysis, and report writing. Students will be expected to design and carry through a small research project.  Prerequisite: Consent of department. 3 hrs.

SPED 6380 The Application of Behavior Theory to Classroom Teaching  This course examines the principles of behavior theory as related to academic and non-academic behaviors of learners with disabilities. General and specific methods for generating, strengthening, and maintaining desirable behavior, and methods for weakening undesirable behavior are presented.  Prerequisite: Consent of department. 3 hrs.

SPED 6400 Organization and Administration of Services for Learners with Disabilities  This course examines the principles and practices of organization and administration of special education programs at the state, intermediate, and local levels.  Prerequisite: Consent of department. 3 hrs.

SPED 6410 Supervision of Special Education Programs and Services  This course is designed to provide the experienced special educator with specific knowledge and skills necessary for supervising personnel who are providing both direct and indirect services to learners with disabilities. Emphasis is placed on procedures utilized in selecting personnel, identifying resources for program development and support, facilitating change in teacher behavior, and evaluating the effectiveness of program operations and personnel. Prerequisite: Consent of department. 3 hrs.

SPED 6430 Legal and Financial Aspects of Special Education  The current legislative and financial basis for special education national, state, and local levels will be examined in relation to the
development and modification of special education programs. The basic concept of budgeting of resources and expenditures will be discussed. Prerequisite: Consent of department. 3 hrs.

SPED 6500  Seminar on Special Education in Higher Education  This course examines the structure of higher education and the roles a faculty member plays within a department, a college, and a university (e.g., teaching competence, professional recognition, and service). In addition, current issues in higher education and teacher education will be examined. Prerequisite: Consent of department. 3 hrs.

SPED 6560  Seminar: Current Issues in Special Education  This course is designed to provide an in-depth exploration of current issues in the field of special education and in the various specific areas of exceptionality. Issues relating to the interface of general and special education will also be explored. Utilizing skills acquired in SPED 6010, 6020, and 6030, students will be expected to review, evaluate and present information on the various topics considered. Prerequisite: Consent of department. 3 hrs.

SPED 6610  Transdisciplinary Teaming  This course is designed to provide students with the information needed for effective collaboration and interactive teaming in school and agency settings. Emphasis is placed on transdisciplinary teaming which will include components of effective communication, problem-solving, and the various direct and indirect service delivery models that can be used by collaborative team members to facilitate the success of all students in the mainstream. Prerequisite: Consent of department. 3 hrs.

SPED 6620  Service Delivery Models that Foster Collaboration  This course is designed to acquaint students with the service delivery models that foster collaboration presently in the schools as well as rural and urban communities. Students will demonstrate collaboration and teaming skills through urban and rural field experiences. Prerequisite: SPED 6610 and consent of department. 3 hrs.

SPED 6630  Professional Field Experience in Collaboration  This course will provide students with hands-on, field experience in the use of collaboration for interagency teams in urban and rural settings. Students will be placed in a school or agency serving students with special needs and participate in the facilitation of a transdisciplinary approach to problem solving. Prerequisites: Consent of department and SPED 6610 and concurrent enrollment in SPED 6620. 3 hrs.

SPED 6740  Intern Teaching in Special Education  This final field experience is open only for special education graduate students who have completed all of their special education endorsement requirements. It will consist of full-time intern teaching in an appropriate educational setting serving students with disabilities. Students will participate in all phases of the school program to which they are assigned. Prerequisite: Consent of department. 6 hrs.

SPED 6750  Internship in College Teaching  This course is designed specifically for students officially admitted to the doctoral program in special education. The student will be expected to evidence ability to plan and execute instructional tasks, develop and apply appropriate evaluative techniques, and interpret students' performances. Prerequisite: Consent of department. 3 hrs.

SPED 6800  Instructional Software in Special Education  This course will examine strategies for evaluating, modifying, and designing computer-assisted instruction for students with learning problems. The course will also address the integration of CAI into the special education curriculum and explore how technology tools can assist teachers. Prerequisite: Consent of department. 3 hrs.
SPED 6810  Assistive Technology for Persons with Physical, Sensory, and Cognitive Impairments
This course will examine assistive technology, including both hardware and software, to remove barriers
to independence and education for persons with motor, visual, hearing, and cognitive impairments.
Prerequisite: Consent of department. 3 hrs.

SPED 6820  Current Research in Special Education Technology This course will examine current
research topics in special education technology. As technology rapidly changes, this course will allow
students to examine current issues and trends in technology integration, training, and development.
Prerequisite: Consent of department. 3 hrs.

SPED 7000  Master's Thesis Open to Graduate Students Only-Please refer to The Graduate
College section for course descriptions 6 hrs.

SPED 7100  Independent Research Open to Graduate Students Only-Please refer to The Graduate
College section for course descriptions 2-6 hrs.

SPED 7120  Professional Field Experience Open to Graduate Students Only-Please refer to The
Graduate College section for course descriptions 2-12 hrs.

SPED 7300  Doctoral Dissertation Open to Graduate Students Only-Please refer to The Graduate
College section for course descriptions 15 hrs.

Educational Studies
ES 6030  Social and Philosophical Foundations This course takes a cultural approach to the
development of American educational policy and practice in its broad social setting. Consideration is
given to historical, economic, social, and philosophical factors which influence educational thought and
practice. The need for historical perspective and sound analysis of conflicting points of view is
emphasized in the interpretation of current educational issues and the alternative solutions of present
educational problems. 3 hrs.

ES 6290  Culture and Schooling The purpose of this course is for students to examine culture as a
system for organizing thought and perception and to explore its various influences on the content and
methods of schooling in the United States. Particular attention is given to cultural dissonance among
students, teacher, and text, and to culturally grounded ways of knowing that emerge from schooling
experiences. 3 hrs.

ES 6300  History of Education in the United States Development of educational thought,
practice, and social change in the United States is the focus of this course. This includes a critical
examination of the development of the American commitment to commonality in education: The
changing relationship between school and community since 1800; the rise of the professional educator;
and the shift and progress toward educational goals. Implications of historical background for present
problems in education with emphasis on the revision of previously held conventional thinking about
schooling in America will be addressed. 3 hrs.
ES 6310 Comparative Education This course provides an overview of comparative education, a field concerned with schooling within different national and historical contexts. Educational patterns and their societal determinants around the world will be examined. Selected problems and patterns of American education will also be highlighted from comparative perspectives. It will explore major theories and methodological approaches in comparative educational research as well as examine representative cross-national issues and themes. 3 hrs.

ES 6330 Human Nature and Diversity This course examines practical and theoretical issues in the definition of desirable educational aims and practices as related to the perceived needs, interests, and potentials of those involved. The course places the process of defining aims and practices in social, cultural, and historical perspective, with particular attention to the influence of conceptions of human nature and potential. Prominent views of human nature and diversity that have influenced the course of American schooling will be examined. The course provides basis for ongoing professional inquiry concerning the fit between educational practices and the diverse needs of those subject to them, and the way educational practices tacitly inculcate cultural assumptions regarding human nature, interests, and potential. 3 hrs.

ES 6340 Culture and Politics of Educational Institutions This course examines practical and theoretical issues concerning learning organizations. It examines the ways educational aims and practices relate to wider patterns of belief, value, and controversy, and how these emerge and change in organizational settings. It includes consideration of the organizational dynamics of institutionalized educational practices, and explores how cultural assumptions influence educational content and method. The course also examines the roles of professional educators in effecting organizational change. 3 hrs.

ES 6730 Class, Ethnicity, and Gender in Education This course centers on the significance of social class, race, gender, and ethnicity in educational practice and outcomes. Social identity and cultural diversity are explored in relation to classroom communication patterns, teacher expectations, and student achievement. Patterns of biases and discrimination will be examined, as well as current issues, challenges, and opportunities of education with respect to student diversity. 3 hrs.

ES 6750 Multicultural Education This course provides a foundation to examine the major ethnic groups that make up school populations in the U.S. Special attention will be given to the subject of prejudice with an analysis of how stereotypes about ethnic groups and women can be eliminated. The origin of racist theories will be studied. Strategies for resolving cross-cultural conflicts will be stressed. 3 hrs.

Educational Technology
EDT 5030 Educational Technology Academy This course is designed to permit students to update knowledge and skills in current educational technology and apply this learning for use in educational programs for students in pre-kindergarten through college. Such applications include methods of using computers, video and audiovisual technologies in literacy development, content area programs, instructional management, and the arts, as well as others appropriate to preservice and inservice professions. Participation in the course presumes subject matter knowledge and basic computer literacy on the part of the students. Final course outcomes include application of material to the classroom/workplace. These ETA offerings bring students with specific needs, instructors with unique
expertise, and facilities with appropriate resources together for intensive and highly-focused learning experiences. 1-3 hrs.

EDT 5400 Introduction to Computing and Technology for Productivity This course is a basic introduction to computing and technology for productivity software. Designed for the beginning computer user, this course covers necessary information for the student to operate successfully a computer and other technology devices (CD-ROM, laserdisc player, etc.). Operation includes running programs, accessing information, data manipulation, and publication. A variety of computer software programs that enhance personal productivity will be presented. Students will be provided with basic “hands-on” activities with many different software applications. Upon completing this course, the student will have a solid understanding of computer components and terminology. The student will be aware of the various types and purposes of software for learning and productivity and will be able to evaluate educational software for classroom application. 3 hrs.

EDT 5410 Telecommunications for Teaching and Learning The course focuses on the implementation of telecommunications for teaching and learning. Telecommunication technologies widely used in the field of education and emerging technologies will be presented. Students enrolled in this course will learn to operate various telecommunication tools to support their own personal productivity, teaching, and instruction. Students will also be equipped with skills necessary to review studies pertaining to the application of technology in education. Many of the telecommunication methods presented in this course will be used to deliver the course material. Prerequisite: EDT 5400 or equivalent. 3 hrs.

EDT 5420 Teaching with Technology: Design and Development for Learning This course focuses on the design, development, and integration of educational technology methods for teaching, learning, and personal productivity. This course provides an overview of learning theory and instructional design principles related to the development of educational technology programs. A review of the theory of individual learning styles and application of technology will be presented. Upon completion of this course, students will possess knowledge in the planning, delivery, and evaluation of instruction through the implementation of various technologies. Students will design and develop educational technology products (computer based, hypermedia/multimedia, WWW, etc.) based upon learning theory and instructional design principles. Prerequisite: EDT 5400 or equivalent. 3 hrs.

EDT 5500 Photography and Multimedia Workshop Intended to sharpen visual perception while improving technical skills, this workshop course emphasizes the photographic process as a creative and expressive medium of visual communication in educational settings. Using digital photographic equipment, students are expected to produce new photographic images, edit the images using common computer editing tools, and publish the images using common desktop publishing, desktop presentation, and multimedia software for group critique. Each student will be required to find access to appropriate photographic/multimedia equipment and software. Prerequisite: EDT 5420 or equivalent experience/skills. 1-3 hrs.

EDT 6410 Instructional Development Intended for human resources development specialist, media specialists, and experienced teachers, this course employs an accountability model for application of media research and technology to actual courses and units of instruction. Students follow a systematic instructional development procedure from task analysis to evaluation, working together with their own students or as assistants and consultants to other professionals. 3 hrs.
EDT 6440  Advanced Information Technologies for Instructional Technology  This course provides a detailed review of the latest technological advancements and their potential impact on educational institutions. Students will receive information on the wide array of media types and methods for transmitting them. Students will also be exposed to and experience a variety of data, video, and audio technologies. Introduction to management issues with educational technology at the building level will be presented. This course focuses on two primary areas: 1)~equipment and costs necessary to implement these systems and 2)~the impact these technologies have on an educational system. Students will acquire skills that will enable them to connect, configure, troubleshoot, and maintain a variety of advanced technology systems.  Prerequisite: EDT 5420 or equivalent.  3 hrs.

EDT 6450  Technical/Operational Issues of Educational Technology  This course covers management issues related to the selection, purchase, installation, and maintenance of software programs for computers and computer network systems. Students will learn how to conduct a technology needs assessment for a school district. Using information gained from the needs assessment, students will also learn methods of planning for, implementing, and maintaining technology across an entire system. A detailed review of networking items including hardware, software, Internet connectivity, and troubleshooting issues will also be addressed.  Prerequisite: EDT 5420 or equivalent.  3 hrs.

EDT 6460  Studies in Educational Technology  Explores theory and innovative developments in educational technology and suggests practical, instructional applications. Such topics as the following may be considered: Design and Analysis of Individualized Instruction, Instructional Simulation and Gaming, Computer Applications in Instruction, and Diffusion and Adoption of Innovative Practices in Education.  Prerequisite: EDT 5420 or equivalent experience.  1-3 hrs.

EDT 6480  Designing Staff Development for Educational Technology  This course will provide students with necessary skills to assume leadership roles in the integration of technology for instruction across educational systems. The course focuses on teaching strategies to promote learning to teach with technology as well as planning and implementing staff development activities. This course will address teaching strategies for adult learners enabling technology leaders to implement successful training activities. Students will gain skills in designing instruction for a wide variety of adult audiences.  Prerequisite: EDT 5420 or equivalent.  3 hrs.

EDT 6490  Planning and Implementing District Level Educational Technology  This course focuses on the development of leadership skills for technology integration across an entire school district. Steps involved with planning, implementing, maintaining, and evaluating technology integration will be addressed. Specific management issues include creating technology plans and goals and managing technology finances for a school district. Policy and procedure issues such as staffing, scheduling, and technology security will also be presented. Students will be able to make informed decisions about technology selection, purchase, and implementation based upon school district technology goals and financial resources.  Prerequisite: EDT 5420 or equivalent.  3 hrs.

EDT 7000  Master's Thesis  6 hrs.
EDT 7100  Independent Research  2-6 hrs.

495
Career and Technical Education

CTE 5100 Special Populations in Career and Technical Education
Special populations enrolled in Career and Technical Education programs and the identification of appropriate teaching strategies, materials, and support services for effective teaching and learning. 3 hrs.

CTE 5120 Principles of Career and Technical Education
Explanation, identification, investigation of the history, philosophy, principles, programs, and services in career and technical education. 3 hrs.

CTE 5130 Teaching Methods in Career and Technical Education
Analysis and methods of organizing instruction in career and technical education. Included is a review of instructional theory and practice in career and technical education, the development of lesson plans, the selection and use of instructional methods, and the presentation of content using various methods of delivery. Prerequisite: Minimum 26 credit hours completed. 3 hrs.

CTE 5140 Workshop in Career and Technical Education
Investigation, research, and development of a particular topic or area of interest for career and technical education. (Students may enroll for more than one topic, but in each topic only once, to a maximum of three hours credit.) Prerequisite: Vocational certification or consent. 1-3 hrs.

CTE 5150 Grant Writing for Career and Technical Educators
Analysis of the grant writing process, including the identification of a sponsor, development of an idea and plan, and completion of a proposal. 3 hrs.

CTE 5420 Curriculum Development in CTE
Principles of analyzing, selecting, and arranging curriculum for instructional purposes in career and technical education. Prerequisite: Minimum 26 credit hours completed. 3 hrs.

CTE 5430 Work-site Based Education Programs
Study of work-site based education programs, including the organization and establishment of training programs, supervision of trainees on the job, development of individual training plans and programs. Emphasis on establishing working relationships between school, business, and the community, including cooperative education, work experience, apprenticeship, work-study, and work exploration programs for Career and Technical Education. 3 hrs.

CTE 6120 Studies in Technology
Designed to permit students to take advantage of opportunities offered through technical workshops, seminars, short courses, or field research offered on campus or in approved off-campus settings under the supervision of a member of the graduate faculty. Prerequisite: Consent of instructor and department chair prior to registration. 1-4 hrs.

CTE 6140 Administration and Supervision of Career and Technical Education
Emphasizes functions of administration and supervision, and problems involved in organizing and operating career and technical education programs. For teachers, administrators, and supervisors of career and education programs and those preparing for such positions. 3 hrs.
CTE 6150 Trends and Developments in Career and Technical Education  A review and exploration of contemporary trends and developments in career and technical education.  2 hrs.

CTE 6160 Occupational Selection and Training Primarily designed for career and technical education teachers and administrators. Special emphasis on adapting instruction to individual needs.  3 hrs.

CTE 6170 Seminar in Career and Technical Education  An intensive study of issues and initiatives related to career and technical education. Topics vary from semester to semester, and a student may take more than one topic up to a maximum of six hours. Prerequisites: If student is enrolled in the M.A. in CTE program, FCS 5250, ED 6170, CTE 5100, 5120, 5130, and 5420 prior to intern teaching are required. If student elects course as part of the post baccalaureate certification program, CTE 6170 must be e  2-6 hrs.

CTE 6430 Measurement and Evaluation in Career and Technical Education  Preparing and using written performance and alternative assessments for career and technical education.  3 hrs.

CTE 6450 Organization of Employment and Training Systems Study of various public and private employment and training systems, including the funding sources and authorizing legislation, description of available programs and services, identification of participants/clients served, explanation of participants/client intake and referral process, rationale and need for program and services offered by the agency/institution or organization.  3 hrs.

CTE 6460 Leadership Development in Career and Technical Education  An intensive study of the required leadership skills to perform the major duties and tasks of secondary and post secondary career preparation administrators including business and financial management, facilities and equipment management, instructional management, personnel management, school-community relations, student services, organizational improvement, professional development, program planning, development, and evaluation related to career and technical education. A student may take up to a maximum of six hours.  3-6 hrs.

CTE 6480 Adult Education in Career and Technical Education Influence of developmental needs of adults and changes in society affecting families and institutions in developing adult programs in career and technical education.  2-3 hrs.

CTE 6500 Business/Industry/Education Work-based Learning  Current practices and future prospects of national and international work-based learning. Applies school-business partnerships, federal and state regulations, changing work place skill requirements, labor market information, and assessment to work programs. Prepares the student to develop and evaluate transition models between secondary and post secondary institutions, business, industry and the community.  3 hrs.

Family and Consumer Sciences
FCS 5100 Teaching Sexuality Education  Teaching Sexuality Education is designed as a teaching methods course to prepare family life educators, secondary education instructors, and other
human service professionals for the implementation of sexuality education in school-based curricula and/or in a variety of community settings. 3 hrs.

FCS 5200 Insurance Education Seminar Fundamental principles of consumer insurance; overview of insurance availability; family insurance issues involving automobile and home (property and casualty insurance); methods of teaching insurance education in diverse curricula; review and analysis of insurance policies; research in insurance education; and careers in insurance and the insurance industry. 1-2 hrs.

FCS 5220 Topics in Family and Consumer Sciences A study of the current issues impacting the areas of study in Family and Consumer Sciences: Dietetics, human nutrition, family life education, home economics education, textile and apparel technology or career and technical education. Prerequisite: Seniors and graduate students only. 1-3 hrs.

FCS 5240 Socio-Psychological Aspects of Dress Study of dress and adornment in human interaction. Considers the body in social and cultural contexts, dress in various stages of human development and in individual and group behavior. Uses an interdisciplinary approach to dress-related research. 3 hrs.

FCS 5250 The Adolescent in Development The study of individuals between 10 and 22 years of age, the changes that characterize these years, and the role of the family and school in supporting and enhancing development. 3 hrs.

FCS 5350 Communication Skills for Working with Families across the Lifespan Laboratory study designed to develop interpersonal helping skills in delivery of family life education. The location of family life education within the range of helping professions is examined. 3 hrs.

FCS 5650 Problems in Nutrition A discussion of current problems in nutrition. Not open to dietetics majors. Prerequisite: FCS 2600 or equivalent. 3 hrs.

FCS 5680 Gender, Culture, and Families Study of the implications of gender and cultural orientation for family, work, social interactions and therapeutic interventions. Includes an examination of sexism and racism in the media, advertising, educational institutions, and social policies. 3 hrs.

FCS 5750 Administration of Child Development Centers Examination of day care and preschool regulations and/or requirements and knowledge of administrative materials and duties in providing optimum growth for young children. Includes management, planning, and organizing child development centers. 3 hrs.

FCS 5900 Project/Problems in Family and Consumer Sciences Directed independent project in specialized curricula within Family and Consumer Sciences. Prerequisite: Departmental approval. 1-6 hrs.

FCS 5980 Independent Study in Family and Consumer Sciences Directed independent advanced study in subject matter area not otherwise treated in departmental courses. Prerequisite: Departmental approval required prior to enrollment. 1-6 hrs.
FCS 6000  Clothing Techniques  Meets the needs of the advanced student in clothing construction techniques.  2 hrs.

FCS 6010  Basic Research Methods and Design  This course introduces students to applied methods and basic research design. It is appropriate for producers of research and for students who plan to emphasize practice. Emphasis throughout is on concrete examples from applied settings appropriate to Family and Consumer Sciences and Career and Technical Education. Prerequisite: Acceptance in FCS or CTE Master of Arts program. 3 hrs.

FCS 6100  Nutrition Across the Lifespan  Examination of changes in nutrient needs that accompany growth and development from the prenatal stage through old age. Emphasis will be on high risk groups and current issues affecting people at various stages of the life cycle. Prerequisite: FCS 4600 or 5650. 3 hrs.

FCS 6140  Nutrient Metabolism I  Study of the functions, requirements, and interrelationships in metabolism of energy, protein, carbohydrate, and lipids. 3 hrs.

FCS 6150  Nutrient Metabolism II  Study of the functions, requirements, and interrelationships in metabolism of vitamins and minerals. 3 hrs.

FCS 6160  Consumer Education  Course includes family resource management; goals and resources in family financial planning; the role of the consumer in the marketplace; decision-making for individuals and families; information processing; clarifying values and determinants of quality in the spending process; and specific consumer economic issues across the life-span and within different economic and family settings. 3 hrs.

FCS 6180  Teaching of Specific Subjects in Family and Consumer Sciences  Intensive study of teaching techniques unique to specialized subject matter offered in variety of curricula in Family and Consumer Sciences. 2-4 hrs.

FCS 6220  Practicum in Family and Consumer Sciences  This practicum is designed to give the student an opportunity to apply knowledge and information acquired in the family and consumer sciences academic setting and further develop and refine professional skills with the guidance and assistance of professionals currently working in the field. The variation in credit hours allows the program to meet the individual needs of various students, some of whom may be fully employed. Each credit hour requires 100 hours of on-site experience. Prerequisite: Admission to the M.A. in Family and Consumer Sciences or the M.A. in Career and Technical Education. 2-6 hrs.

FCS 6360  Teaching for Independent Living  Provides a practical background and a basic understanding of skills and problems of the homebound and visually impaired. 4 hrs.

FCS 6520  Family Life Education  Current issues, trends, and methods in teaching family life education. Program development and philosophy including: needs assessment, design, development, promotion, justification, evaluation and funding sources. Emphasis placed on proposal writing and partnerships with community agencies, court systems, schools, and health care facilities. 3 hrs.
FCS 6550  Adult-Child Relationships  Theories and strategies for promoting children's developmental needs and building strong adult-child relationships in therapeutic, school, or home settings.  3 hrs.

FCS 6560  Family Law, Ethics, and Professional Issues Areas of study include the therapist's and family life educator's legal responsibilities and liabilities, fundamentals of family and consumer law across the life cycle, professional ethics for marriage and family therapists and family life educators, professional socialization, current issues in professional practice, and the role of the professional organizations, licensure and certification, legislation, independent practice, and interprofessional cooperation.  3 hrs.

FCS 6600  Studies in Family Relationships The course will focus on family dynamics (i.e., family processes, communication skills, conflict management, stress, and family crises) and interpersonal relationship skills with specific attention given to translating this knowledge and these skills into family life education programming.  3 hrs.

FCS 6660  Studies in Family and Consumer Sciences Investigation of certain areas in family and consumer sciences selected to meet individual needs of the students.  2-6 hrs.

FCS 6670  Practicum in Couple and Family Therapy Practicum is a part-time clinical experience completed concurrent with didactic course work. Practicum gives the student an opportunity to apply knowledge and skills in couple and family therapy. Qualified couple and family therapy supervisors provide individual and group supervision. The student develops a small caseload of clients and refines skills in case conceptualization, assessment, treatment planning, clinical intervention, documentation, and case management. Students begin practicum in a university laboratory setting, followed by community-based placements.  Prerequisite: Permission of instructor.  1-4 hrs.

FCS 6900  Seminar in Family and Consumer Sciences Investigation and discussion of current research and literature in specified family and consumer sciences topics.  2 hrs.

FCS 7000  Master's Thesis  6 hrs.
FCS 7100  Independent Research  2-6 hrs.

Health, Physical Education, and Recreation

HPER 5000  Studies in Health, Physical Education, and Recreation In depth study of selected topics in HPER. Format can include clinics, workshops, seminars, travel and/or mini-courses, and provide opportunity to acquire skills and teaching techniques. State, national, and international authorities or consultants may be involved. Topics include: Aesthetics of Sport; Nutrition and Fitness; Outdoor Education; Physical Fitness; Relaxation; Special Physical Education Activities; Therapeutic Recreation; Supervision and Self Assessment in Physical Education.  1-2 hrs.

HPER 5100  Modern Health for Teachers and Health Professionals This course, designed for teachers and health professionals who have need of current knowledge in health science, surveys topics such as mental health, nutrition, substance abuse, physical fitness, chronic diseases, and stress management. Consideration is given to psychological, sociological, and cultural factors that influence...
health improvement. Attention is given to special factors of health and illness of children and adolescents. This course is not open to Health Education majors and minors.  3 hrs.

HPER 5120 Principles, Practices, and Methods in Health Education This course surveys the history, philosophy, and methods of health education. The philosophical basis and practices of health education are discussed in terms of needs and capabilities of people and factors that influence their development and actualization. Emphasis is placed upon the promotion of health and prevention of disease, disability, and premature death. Curriculum development and teaching methods focus on content and strategies considered most effective in teaching disease prevention, health promotion, and self-actualization.  3 hrs.

HPER 5140 Methods and Materials in Health Education Lectures and demonstrations with emphasis on effective health supervision of school children, principles and practices of health teaching in the various grades, and interrelation of this teaching with that of other subjects in the curriculum. Prerequisites: HPER 3140 and 3150, or consent of instructor. 2 hrs.

HPER 5160 Issues in Health Education Issues vary or occasionally repeat depending on the timeliness of the issue. Following are currently recommended themes. Students may register for 516 more than once but may not repeat the same issue. Issues include: AIDS; Alcohol and Drug Education; Biofeedback; Cardiovascular Health; Consumer Health; Health Careers; Health Promotion; Improving Health Behavior; Safety and Health in the Industrial Setting; Sexually Transmitted Diseases; Stress Management; Wellness and Lifestyle.  1-4 hrs.

HPER 5300 Practicum in Teaching and Coaching Demonstrations, participation, and evaluation on teaching and coaching fundamentals in selected sports. A graduate student may apply a maximum of four credits from 530 courses toward the master's degree program. Sports include: Archery; Badminton; Basketball; Football; Golf; Gymnastics; Ice Hockey; Judo; Karate; Soccer; Swimming; Track and Field; Volleyball; Wrestling; Yoga.  1-2 hrs.

HPER 5400 Movement Education A concept in physical education which deals with the way children learn the basic principles of how their bodies move.  2 hrs.

HPER 5800 Studies in Athletic Training Listed with various topics. A lecture/demonstration course concerned with the prevention, diagnosis, and treatment of sports type injuries. Prerequisites: BIOS 2110, 2400, HPER 3800.  1-2 hrs.

HPER 5910 Evaluation in HPER Acquaints students with the theory, selection, construction, administration, interpretation of appropriate tests in the field. Class activity will include study and discussion of selected tests, application, scoring, interpretation, and construction of tests.  2 hrs.

HPER 5980 Readings in HPER Advanced students with good academic records may elect to pursue independently a program of readings in areas of special interest. Prerequisite: Approval of graduate director in Physical Education.  1-2 hrs.
HPER 6210  Physical Activities for Exceptional Children Physical and recreational activities and games used in corrective, adaptive, and general physical education programs for special education children. 3 hrs.

HPER 6220  Programming in Special Physical Education A study of physical education programs for children with disabilities. Emphases will be placed on individualized, humanistic, developmental, functional, adapting, behavioral, sensori-motor, perceptual-motor, aquatic, fitness, movement, and inclusive programs. 3 hrs.

HPER 6250  Assessment in Special Physical Education A study of motor and fitness assessment in special physical education. Emphasis will be placed on the application of appropriate motor and physical fitness tests to make subsequent effective placement decisions and to determine selection of content for children with disabilities in school settings. Prerequisites: HPER 6210, 6220. 3 hrs.

HPER 6300  Advanced Coaching Advanced theories of conditioning, training, practice organization, scouting, game and tournament planning, skill analysis and correction, defensive and offensive strategies, safety procedures, purchases and care of equipment, public relations, and promotion specific to each sport. A graduate student may apply a maximum of eight hours credit from HPER 5300 and 6300 combined toward the master's degree program. 1-2 hrs.

HPER 6310  Factors Influencing Human Performance This is a survey course that will cover many of the scientific aspects of sport performance. The scientific concepts covered will be used to discuss what may hinder sport performance, as well as, what may enhance sports performance. 3 hrs.

HPER 6320  Theories of Strength and Conditioning This course is designed to provide students with content knowledge and practical skills of strength training and conditioning techniques. Emphasis will be placed on developing, assessing, and implementing programs for athletes and the physically active population. 3 hrs.

HPER 6340  Athletic Training for Coaches Basic procedures in injury prevention, assessment, treatment, and rehabilitation will be covered. Principles and techniques are presented in a lecture and laboratory format. Prevention and communication will be emphasized. 3 hrs.

HPER 6350  Principles and Practices of Effective Coaching This course addresses various dimensions and forces affecting coaching as a profession. The course serves to prepare the coach not only to fulfill his/her responsibilities through skillful problem-solving, but also to understand and prepare for the implications the position has on the athlete and the integrity of sport. 3 hrs.

HPER 6360  Theories and Principles of Sport Nutrition The purpose of this class is to develop the knowledge, skills, and attitudes of proper nutrition relevant to managing health and body weight for optimal physical performance. Course content is designed to assist coaches, exercise science practitioners and youth sport administrators take responsibility for understanding appropriate nutrition and weight management practices and use sound nutritional principles as a part of training and preparation for competition; provide information about the myths and science associated with current trends in sport nutrition; hydration and weight management; assist in timing and selection of food and

502
hydration options to fuel optimal athletic performance in practice and contests; provide accurate, current and timely information about body composition and weight management.  2 hrs.

HPER 6400 Instructional Materials in Physical Education This course is designed to provide students with experiences which will enable the physical educator to (1) select motor appropriate activities based on the developmental needs of specified learners; (2) develop effective instructional plans; (3) evaluate, select, and utilize appropriate commercial instructional resources; (4) evaluate and select appropriate instructional approaches; (5) develop strategies to assess the progress of students enrolled in a physical activity program; and (6) devise an effective public relations plan to promote physical activity within a school setting.  3 hrs.

HPER 6410 Teaching and Supervision Skills in Physical Education HPER 6410 is the second of a three-series course sequence which is designed to prepare the physical education teacher for master’s level competencies. This course facilitates the development of effective self-assessment and reflective teaching skills. An orientation to systematic observation of teaching in physical education is presented with emphasis on the collection and assessment of descriptive data in applied settings. Prerequisite: HPER 6400 or permission of instructor.  3 hrs.

HPER 6420 Human Growth and Motor Development Study of the changes in the growth and development of humans across the lifespan that occurs due to the interaction between a person and the environment. Content includes physical, cognitive, perceptual-motor and personal social aspects of human development with special emphasis on the process of physical skill acquisition and decline.  3 hrs.

HPER 6430 Physical Skill Acquisition and Motor Learning Study of the variables that affect acquisition of motor skills among specified populations (children, adolescents, adults). Content includes perceptual-motor, information processing, and the study of physical aspects of the human motor learning.  3 hrs.

HPER 6440 Program Evaluation in Physical Education HPER 6440 facilitates the evaluation of physical education programs using state, national, and international standards. Course content includes the process of evaluation involving school, community, and other personnel as well as the product of evaluation associated with the preparation of application materials to submit for specific accreditation. Prerequisite: HPER 6450 or permission of instructor.  3 hrs.

HPER 6450 Curriculum Development in HPER This course is an interdisciplinary approach to the development of curriculum reflecting local, national, and international standards and trends associated with the HPER field. Students acquire the skills required for the development of a comprehensive program utilizing a systematic approach focused on a selected instructional settings (K-12, college, private settings).  3 hrs.

HPER 6480 Advanced Studies in Motor Development A series of advanced seminars dealing with specific topics in motor development and special physical education. Emphasis will be placed on in depth study of theories, problems, practices, and issues with appropriate lectures and experiences leading toward the development of a research project or a master's thesis. Topics include: Play Theory; Psychology of Sport; Mainstreaming; Aquatic Programs in Special Physical Education; Methods and
Materials in Physical Education; Teaching Skills and Strategies in Physical Education. 1-3 hrs.

HPER 6600  Governance and Administration of Sport This course serves as an introduction to the management, governance, and leadership of interscholastic, intercollegiate, corporate, and amateur sport. Focus will be directed towards general management and leadership principles, as well as specific competency areas required by all sport managers. This course serves as the introductory course for the Sport Management master’s degree concentration by providing a conceptual foundation for future courses in financial management, personnel management, risk management, and facility and event management and promotion. 3 hrs.

HPER 6610  Problems and Trends in HPER Deals with modern trends, and with instructional and supervisory problems involved in conducting an effective program of physical education including a critical appraisal of present practices. 2 hrs.

HPER 6620  Legal Issues in Sport This advanced studies in administration course is designed to help the HPER professional become more conscious of legal responsibilities in the physical activity setting, thus reducing the penalties of legal action. Students will discuss basic legal concepts and structures as they apply to the physical activity context. Application will be made in regard to improving risk management strategies and skills. 3 hrs.

HPER 6630  Ethics in Sport This course is designed to provide physical activity professionals with an introductory experience in analyzing ethical and moral issues in the sport domain. The focus is on encouraging participants to develop a consistent, reflective value structure to utilize in addressing moral questions. In addition, the course structure is to allow participants to develop a personal model of integrity that will be successful in the physical activity environment. Content will include description of the “great game” and application of the guides to right actions in sport. 3 hrs.

HPER 6640  Promotion and Marketing in Sport This course is designed to provide an introduction to the marketing and promotion of sport products and services. Course content will include, but not limited to a discussion of contingency framework for strategic sport marketing; understanding sport consumers; segmentation, targeting, and positioning; promotion mix elements; sponsorship programs; and product distribution and pricing. 3 hrs.

HPER 6650  Financial Management in Sport This course is intended to provide the student with an understanding of general economic principles and fiscal management strategies. This information will be applied to the specific requirements of sport management environments. 3 hrs.

HPER 6660  Personnel Evaluation and Supervision This course focuses on the management of human resources in interscholastic, intercollegiate, and corporate sport with special attention to the unique and common characteristics of both paid and volunteer workers. Course content will center on differences among people; the processes of individual motivation in appraisal; and subsequent organizational and leadership processes in the management of human resources in sport. 3 hrs.
HPER 6670  Public Relations in Sport  This course is designed to acquaint the sport management student policies and procedures critical to the promotion of sport. Topics will include, but not limited to, news releases, radio news, television news, news conferences, feature stories, media relations, event promotion, sport photography and interviews and speeches. Special attention will be paid to the use and creation of written and oral public relations documents for various media outlets.  3 hrs.

HPER 6680  Advanced Studies in Administration of Physical Education and Athletics  A series of advanced seminars dealing with specific topics in administration of physical education and athletics. Emphasis will be placed on in depth study of theories, problems, practices, and issues with appropriate lectures and experiences. Topics include: Administration of Athletic Programs; Business Procedures; Ethics in Sport; Legal Liability; Planning Facilities; Public Relations and Promotion; Sport Management.  1-3 hrs.

HPER 6690  Management and Planning of Sport Facilities  This course provides students supervision and maintenance of recreational and sport facilities. Special attention will be paid to the planning elements involved in facility design; available literature related to facility management; and issues such as ADA compliance, fiscal management, maintenance and safety factors, and current trends in facility design.  3 hrs.

HPER 6700  Exercise Physiology I  This course is the first of a series of two courses that will give the graduate student a much more in depth study of the various physiological processes and how they are transformed and manipulated by external stresses (e.g., work, exercise, disease, environment, etc.).  3 hrs.

HPER 6702  Laboratory Techniques in Exercise Science  The purpose of this course is to educate the graduate student in the areas of measurement and laboratory techniques used in the assessment of exercise and/or athletic performance. Specifically, the student will study the process and procedures used to determine a variety of parameters used in the study of exercise and sport performance. This information will then be used to help qualify and quantify exercise and sport performance.  
Prerequisite: Permission of instructor.  3 hrs.

HPER 6710  Exercise Physiology II  This course is the second of a series of two courses that will give the graduate student a much more in depth study of the various physiological processes and how they are transformed and manipulated by external stresses (e.g., work, exercise, disease, environment, etc.).  3 hrs.

HPER 6730  Biomechanics  This course consists of an in depth discussion of biomechanics as it is applied to sports and other related physical activities.  3 hrs.

HPER 6740  Advanced Principles of Exercise Testing and Prescription  Presentation and discussion of the practical and theoretical aspects of prescribing and evaluating exercise in healthy and diseased populations. Special attention will be given to cardiac rehabilitation. The course is centered on the knowledge, skills, and abilities needed, as determined by the ACSM, to become a certified ACSM Exercise Specialist.  
Prerequisite: Permission of instructor.  3 hrs.
HPER 6760  Exercise Science Seminar  Seminar on the most current research problems presented in
exercise science related journals (within the last 3 years). Students and instructor will present and
debate these problems to stay current in the research literature and to learn new perspectives and
theories. Also included in this course is a look at the typical research designs used by researchers in the
field. Prerequisite: Permission of instructor. 3 hrs.

HPER 6810  Sports Medicine: Applied Anatomy and Physiology  This course will offer comprehensive
material regarding anatomy and physiology and their implications in sports medicine. This course will
concentrate on functional components of anatomy and physiology and utilize cadavers in lab.
3 hrs.

HPER 6820  Medical Diagnostics and Evaluation of Injuries  This course will offer comprehensive
material regarding assessment and diagnostics of musculoskeletal and medical conditions of the
physically active. Application of advanced clinical techniques and theory will be emphasized.
3 hrs.

HPER 6830  Advanced Therapy Techniques and Rehabilitation  This course will offer comprehensive
materials regarding aquatic rehabilitation techniques for athletic related injuries. Students will learn
physiological and psychological aquatic benefits, implement various aquatic techniques used for pre-
and post-injury and surgical rehabilitation for athletes, and pool safety and risk management in the
aquatic environment. 3 hrs.

HPER 6840  Pharmacology for Sports  This course will provide a basic understanding for the
common prescription and over the counter medicines used to treat many of the medical conditions
experienced by athletes and physically active individuals. This course will assist the athletic
trainer/exercise science student in explaining the ramifications for the use and abuse of many of the
prescription, over the counter, and abused medications of sport participation. This course will allow the
athletic trainer/exercise science student to provide pharmacology information when direct access to the
physician or pharmacist is not available. Prerequisite: Enrollment in athletic training graduate
program or by instructor permission. 3 hrs.

HPER 6850  Advanced Techniques in Therapeutic Modalities  This course will offer comprehensive
material regarding advanced therapeutic techniques for treating injuries and conditions of physically
active individuals. Scientific theory and application of clinical techniques will be emphasized.
Prerequisite: Enrollment in graduate athletic training program. 3 hrs.

HPER 6870  Administration of Athletic Training  This course will offer comprehensive material
pertinent to the administration of athletic training programs in high school, college/university, and
private clinical settings. Management, supervision, and administrative skills will be the focus of this
course. 3 hrs.

HPER 6890  Emergency Procedures and Orientation  This course will offer comprehensive
material covering life threatening situations in sports medicine, including assessment, treatment and
transportation. Establishing (orienting) a training room or site complete with procedures, supplies, and
scheduling will also be addressed. 2 hrs.
HPER 6900 Research Procedures in HPER Research procedures utilized in health, physical education, exercise science, recreation, and sport. This course introduces principles of scientific inquiry, research methods applicable to the HPER fields, evaluation of published research, and procedures for developing a research design using a quantitative or qualitative approach. 3 hrs.

HPER 6910 Psychological Foundations in HPER An overview of the application of psychology to physical education and sport with special emphasis on transcendent experiences in sports and the consciousness of sports. 3 hrs.

HPER 6920 Analytical Techniques in HPER This course is designed to allow the student to develop the knowledge and skills necessary for the effective analysis of qualitative and quantitative data specific to the fields of physical education, exercise science, sports studies, recreation, and health. Prerequisite: HPER 6900. 3 hrs.

HPER 6930 Socio-Cultural Foundations in HPER This course is to provide a forum for discussion of the current social factors influencing sport and physical activity professions. Course structure will attempt to facilitate investigation and identification of the function of sport and physical activity in contemporary society with special emphasis on the relationship of sport to social institutions. 3 hrs.

HPER 6940 Technology in HPER The integration of technology in field settings associated with physical education, coaching, sports administration, and adapted physical education is the focus of this course. Students will develop the basic technological skills required for the basic implementation of such an effort. 3 hrs.

HPER 6980 Advanced Studies in Exercise Science A series of advanced seminars dealing with specific topics in exercise science. Emphasis will be placed on in depth study of theories, problems, and issues with appropriate lectures and experiences leading toward the development of a research project or a master's thesis. 2 hrs.

HPER 7000 Master's Thesis Prerequisite: Approval of graduate director in Physical Education. 6 hrs.

HPER 7100 Independent Research Prerequisite: Approval of graduate director in Physical Education. 2-6 hrs.

HPER 7120 Professional Field Experience Prerequisite: Approval of graduate director in Physical Education. 2-12 hrs.

Educational Leadership
EDLD 6000 Academy Topics of interest to professionals in the field of educational leadership are examined in academies offered by the department. 1-4 hrs.

EDLD 6010 Workshop Seminar Specialized studies requiring integration of theory and practice with application of topics studied provided through site practices, (e.g., personnel evaluation, use of personnel assessment techniques, evaluation of curriculum and instruction). 1-4 hrs.
EDLD 6020  Educational Leadership  This course is an introduction to educational leadership and leadership theory and practice. It provides the foundation for leadership in educational programs and institutions. Students will be required to demonstrate an understanding of transformational leadership and other leadership theories, effective communication and problem solving, motivation and decision-making, organizational change and renewal, and consensus building and conflict resolution. 3 hrs.

EDLD 6040  Contemporary Educational Scene  Study and critical analysis of issues and trends influencing design, funding, and delivery of educational programs. Special emphasis on changes in societal expectations and values. Discussion of multicultural and international issues and needs of special populations and groups. Prerequisite: EDLD 6020. 3 hrs.

EDLD 6060  Systems Thinking  This course will focus on steps that leaders take in developing and maintaining a learning organization. The emphasis will be on providing students the tools to develop productive long-term organizational relationships that contribute to worker satisfaction and increased worker commitment. Students will be required to establish a framework to develop team learning, and demonstrate an understanding of shared vision, laws of the fifth discipline, organizational learning disabilities, archetypal patterns, and the importance of systems thinking on mental moods. 3 hrs.

EDLD 6090  Theories of Leadership  Critical examination of principles of leadership theory construction; practice with and development of skills in evaluating contending theoretical perspectives regarding leadership. Prerequisites: Admission to the Educational Leadership doctoral program, and the completion of EDLD 6020 or equivalent. 3 hrs.

EDLD 6610  School Law  Study of federal and state constitutions, legislation, regulatory guidelines, and court decisions as related to operation of educational institutions and organizations. Development of awareness and knowledge of legal parameters related to education. Students will be required to synthesize legal mandates and district responsibilities, apply knowledge of common law and contractual requirements, analyze constitutional provisions such as the separation of church and state, analyze special education litigation, and demonstrate an understanding of legal provisions for student participation, student and parent rights, torts, and liabilities. 3 hrs.

EDLD 6620  School Business Management  Development of knowledge and skill in management of business operations in schools: budget planning, budget management, standardization, accounting, inventory of equipment and supplies, use of standard budget forms, preparation of required reports. Students will be required to analyze fiscal and non-fiscal resources, plan for faculty and staff involvement in efficient budget planning, and demonstrate an understanding of managing fiscal and material assets, school accounting procedures, consensus building, and budget evaluation. 3 hrs.

EDLD 6630  Personnel Administration  Systematic study of personnel administration tasks and functions as applied to education and training. Subtopics include recruitment, selection, orientation, supervision, appraisal, and development of personnel. Emphasis placed on understanding of standards for legal and valid personnel administration practices. Effects of style and behaviors on employee satisfaction and/or productivity are studied. 3 hrs.

EDLD 6640  Curriculum Development  This course will provide an introduction to the principles of curriculum and instructional alignment, design, implementation, and evaluation. There will be a strong
focus on the foundations and history of curriculum inquiry and school reform, hidden curriculum, ideology, and culture as they affect the organization and administration of the scope and sequence of curricular offerings in educational institutions. Students will be required to design a curriculum aligned with standards, benchmarks, and standardized tests. In addition, students will be required to demonstrate knowledge of ideological critique, effective instructional strategies, the use of technology, and curriculum evaluation. 3 hrs.

EDLD 6670  The Principalship  This course provides a systematic study of the tasks and functions of the school principal, covering all areas of K-12 education. Emphasis is given to planning within the context of the community, planning and evaluation for program development and school improvement, and planning for supervision of personnel and programs. Students will be required to develop a vision statement and strategic plan based upon the principles of transformative leadership, appraise the duties of various building staff members, and demonstrate an understanding of scheduling, parent and community involvement, procedures that support a safe and positive school climate, motivational strategies for effective instructional leadership, and legal and contractual issues related to the principalship. 3 hrs.

EDLD 6720  School Finance  Intensive instruction and discussion of political and economic value premises involved in the funding and financing of schools. Critical examination of alternative patterns for design of public funding formula and practices for funding public schools. Consideration of patterns of fiscal resource development other than public funds as a means of financing public or private education. 3 hrs.

EDLD 6730  Supervision  This course is a study of the principles and practices for the effective supervision of personnel. It will focus on the practices of developmental supervision, mentoring, professional development and renewal, and effective instruction. Students will be required to demonstrate understanding of effective instruction and how to develop a learning organization that supports instructional improvement, models of effective staff development and school renewal, and mentoring and clinical supervision that enhance growth and development. Special attention is given to differing perspectives on the supervision function within organizational contexts. 3 hrs.

EDLD 6740  School Community Relations  This course will provide a thorough examination of the school and its interaction with the community. Consideration will be given to internal and external "communities" and the relationships between and among the communities of the school as an organization. Role of communications in school-community relations and consideration of the balance of rights and responsibilities between schools and communities will also be addressed. Students will be required to conduct a needs assessment, establish a conflict resolution program and a crisis intervention plan, and demonstrate an understanding of public relations, communication, evaluation of school-community relations. 3 hrs.

EDLD 6790  Capstone Experience  This course provides students an opportunity to merge educational leadership theory with best practices toward the development of transformational leaders. This will be accomplished through the use of discussions, case studies, field-based assignments, and the ultimate completion of a Performance-Driven Leadership Handbook. Prerequisites: Unless offered as an initial one-credit course, students must have completed all but one of their required classes in their
Master of Arts in Educational Leadership prior to registering for EDLD 6790, and they must be enrolled concurrently 1-3 hrs.

EDLD 6800 The Superintendency Examination of the line and staff roles involved in the superintendency with emphasis on the role of the superintendent of schools as the chief executive officer in school and school-related organizations. Prerequisite: Master of Arts in Educational Leadership or equivalent master’s degree program, or permission of instructor. 3 hrs.

EDLD 6810 Policy Development The content of this course includes examination of policy issues, purposes, functions, methods, and approaches for policy development. Critical review of development of policies for educational institutions. Prerequisites: Master of Arts in Educational Leadership or equivalent master’s degree program, or permission of instructor. 3 hrs.

EDLD 6820 Computer Applications in Administration Study, design, and application of computer technologies in performance of administrative functions and tasks in educational organizations. 3 hrs.

EDLD 6850 School Facilities Planning This course will provide a study in evaluation, design, and planning of the present and future facilities and equipment requirements for the school organization. Attention will be given to the educational program and stated philosophy of schools and to the present and future needs of the student and the learning environment respective to facilities development. Integration of technology in the planning and design of facilities will be addressed as well as the human physiological and psychological needs. Current state and Federal regulations will be reviewed as they relate to new facilities and to remodeling of current facilities. 3 hrs.

EDLD 6860 Doctoral Studies Seminar Viewed as a problem-posing or problem-identification seminar, this course is intended to be taken during the first year of a student’s doctoral program, with two primary goals. First, students will examine key issues facing education institutions today, both within the broader context and within their own organizations. Second, students are to be exposed to various research studies and associated methodologies related to their general areas of interests. Prerequisite: Admission to the educational leadership doctoral program. 3 hrs.

EDLD 6870 Governance and Financing in Universities and Community Colleges Analysis of the key administrative and financing structures used within various types of higher education institutions. Examines the impact of social, political, economic, and legal environments on such structures, and the challenges faced by higher education leaders within these areas. 3 hrs.

EDLD 6880 Higher Education and the New Technological Frontier Examines how the evolving technological world is impacting higher education institutions, including its effect on curriculum, teaching, and learning, as well as governance and leadership. Reviews growing roles of virtual universities, extended university programs, and various types of distance learning. 3 hrs.

EDLD 6890 University and Community College Topical Seminar Various seminars focused on current topics relevant to higher education and/or adult learning leadership issues. Topics will be designated by professors offering the seminars. 1-4 hrs.
EDLD 6900  Professional Development Seminar  Field-based and performance-based application of knowledge to major function/task areas of leadership in organizations with emphasis on schools as organizations. Emphasis on career planning and placement for persons enrolled.  3 hrs.

EDLD 6950  Dissertation Seminar  This seminar is designed for the doctoral student who has identified the topic for his/her dissertation research and will focus on the production and evaluation of proposals for the doctoral dissertation. Prerequisites: Successful completion of departmental core comprehensive examination, simultaneous registration in one hour of EDLD 7300, and approval of advisor.  3 hrs.

EDLD 6980  Readings in Educational Leadership  Directed individual study of topics or bodies of knowledge not otherwise treated in department courses. A maximum of four hours earned in EDLD 6980 is applicable on degree programs. Prerequisite: Permission of advisor.  1-4 hrs.

EDLD 7000  Master's Thesis  6 hrs.
EDLD 7100  Independent Research  2-6 hrs.
EDLD 7120  Professional Field Experience  2-12 hr.
EDLD 7200  Specialist Project  6 hrs.
EDLD 7250  Doctoral Research Seminar  2-6 hrs.
EDLD 7300  Doctoral Dissertation  1-15 hrs.
EDLD 7350  Graduate Research  2-10 hrs.

ED  5000  In-Service Professional Development I  This course develops specific professional skills related to current school responsibilities of teachers and other school personnel. Final course outcomes need to have demonstrated application to the classroom/workplace.  1 hr.

ED  5010  In-Service Professional Development II  "This course develops specific professional skills over an extended period of time related to current school responsibilities of teachers and other school personnel. Final course outcomes need to have demonstrated application to the classroom/workplace.  2-3 hrs.

ED  5020  Curriculum Workshop  Opportunity provided for teachers, supervisors, and administrators in selected school systems to develop programs of curriculum improvement. This may include short-term offerings to resolve a particular curricular problem, as well as long-range curriculum studies. A wide variety of resources is used for instructional purposes, including several specialists, library and laboratory facilities, field trips, audiovisual materials, and the like. Each offering of 5020, Curriculum Workshop, will be given an appropriate subtitle, which will be listed on the student's official transcript. Students may earn up to three hours of credit for any given subtitle. No more than six hours of 5020 may be applied toward a master's degree with advisor's approval.  1-6 hrs.

ED  5050  The Adult Learner  This course provides an in depth look at the learning adult from approximately age 22 through old age with special emphasis on human variability, unique learning styles, and characteristics of the adult learner. Theories of adult learning, studies of intelligence and
memory, learning capabilities, abilities, approach, and speed of learning will be considered. Motivation as Prerequisite for high-level well-being and problem-solving will be studied.  3 hrs.

ED  5160  Professional Symposium in Reading  This course is designed to be the initial course in the graduate program in reading. It is designed to present the basic concepts concerning the nature of the reading process and the teaching of reading. Emphasis will be placed on reading as a thinking process and on factors affecting reading performance. Special emphasis will be placed on child development; language development; concept development; physical, psychological, and environmental factors affecting the child's literacy development. In addition, the course will provide a brief overview of the delivery systems and procedures used in the U.S. to teach reading. This will involve an historical overview as well as current and potential future practices.  3 hrs.

ED  5750  Administration of Child Development Centers  Examination of day care and preschool regulations and/or requirements and knowledge of administrative materials and duties in providing optimum growth for young children. Includes management, planning, and organizing child development centers.  3 hrs.

ED  5970  Reading and Related Language Experiences  A study of the current research on language related skill acquisition and literacy development.  3 hrs.

ED  5980  Selected Reading in Education  Designed for highly qualified students who wish to study in depth some aspect of their field of specialization under a member of the departmental staff.  Prerequisite: Written consent of departmental advisor and instructor.  1-4 hrs.

ED  6000  Fundamentals of Measurement and Evaluation in Education  This course is designed to develop understandings and competencies in educational measurement and evaluation. Emphasis is placed on the application of research techniques to evaluation, the interpretation of quantitative data in educational situations, and the application of basic evaluation models.  3 hrs.

ED  6010  Introduction to Research in Educational Settings  This course is intended to provide students with an overview of major forms of research models used in educational settings and to provide them with skills in interpreting and evaluating educational research studies. Emphasis is placed on careful reading and critique of current studies that are representative of the various models.  3 hrs.

ED  6020  School Curriculum  This course, designed for teachers and administrators at all levels, analyzes the decision factors stemming from societal forces; psychological, cultural, and developmental needs and perceptions of learners; and internal structures of the discipline as guidelines for a curriculum emerging from and serving a democratic society.  3 hrs.

ED  6040  Psychological Foundations of Education  An overview of the psychological forces that influence learners in their educational settings, with special emphasis on the nature and significance of human variability, development of self, measurement and evaluation, and a consideration and application of principles of learning in classroom situations.  3 hrs.

ED  6050  Teaching of Social Studies in the Elementary Schools  This course is designed to help teachers understand the role of the social studies in the elementary school, gain insight into
important considerations in the selection of content, and discover how to guide and assess the learning of children in this field. Planning social studies experiences and ways of working with children in a classroom setting will be emphasized. 3 hrs.

ED 6060 Early Childhood Workshop: Learning and Curriculum This workshop promotes an understanding of how the young child learns; students will use these learning principles as bases for curriculum development. Students will construct materials and equipment and develop curriculum plans. Portions of the course can be designed to meet the individual needs of students. These portions will be taught by experts from appropriate fields within and outside of the University. Prerequisites: Admission to the master's program in Early Childhood Education and permission of instructor. 6 hrs.

ED 6070 Research Methods in Early Childhood Education The purpose of this course is to acquaint the student with major types of research about young children, the steps involved in conducting such investigations, and the basic statistical concepts needed for understanding and designing research. Students will be required to present a research proposal. Prerequisites: ED 6060 and permission of instructor. 3 hrs.

ED 6080 Seminar in Early Childhood Development The content of this seminar may vary each semester depending on the interests and needs of the students, but is invariably designed to provide an in depth exploration of some facet of development in young children. Each student is expected to conduct a search of the literature on a specific topic. Topics may include child-rearing practices, sex-role identification, cognitive development, language acquisition, psychomotor development, and parent education. Prerequisites: ED 6060, ED 6070 or ED 6010, and permission of instructor. 3 hrs.

ED 6090 Early Childhood Education in Perspective A study of the history of the education of young children with emphasis on the philosophy, social settings, and people who have influenced the movement. Prerequisite: ED 6080. 3 hrs.

ED 6100 Montessori Education This course is an introduction to the philosophy of Dr. Maria Montessori for teaching the child “for life” and its application to classroom practice. Students will become familiar with the life and work of Dr. Montessori and their influence on her philosophy of education. Students will study the techniques and the learning materials she developed and consider their universal applicability. 3 hrs.

ED 6110 Informal Approaches to Studying Young Children's Development This course helps teachers observe, evaluate, and guide young children's growth while developing their skill in informal observation techniques. Teachers will learn about their children from new perspectives, recognizing and meeting children's needs. Evaluation procedures will help account for children's psychological and social growth while creating classroom conditions to maximize this growth. 3 hrs.

ED 6120 Strategic Learning Through Texts for Elementary Teachers This course is designed to assist elementary classroom teachers and those interested in literacy for early elementary students in using appropriate strategies for accessing meaning of text. This course will give ways to help students use and apply strategies in using reading and writing as ways of knowing for young children. 3 hrs.
ED 6130 Early Childhood Problems and the Teacher  Deals with the concepts of discipline and questions of behavior. Teachers will acquire practical knowledge of research concerning children's social behavior and will review and apply systems for promoting prosocial behavior in their classrooms. 3 hrs.

ED 6140 Parent Education for Teachers of Young Children  Presents a variety of techniques for teachers to use in working together with parents. Teachers will study child-rearing factors which parents most need to know. The course will help teachers develop their own record-keeping systems, ways of involving parents in their children's education, and ways of making meaningful reports to parents. The education of parents as aides is included.  3 hrs.

ED 6150 Play and Young Children's Learning  Students will develop understanding and appreciation of the nature of play in humankind, and of the relationship of play to humanity's artistic endeavor, invention, and problem-solving, and will look at play from historical and anthropological points of view. Emphasis will be placed on the stages of play in young children, and on the intimate relationship between play and young children's cognitive and affective development. Students will make practical application to their own curriculum for children.  3 hrs.

ED 6160 Piaget and Young Children  This course examines significant contributions of Piaget to our understanding of young children's learning. Knowledge of how young children think will be applied to early childhood curriculum. Teachers will apply Piagetian tasks and will be able to improve curriculum for young children with growing understanding of these children's minds.  3 hrs.

ED 6170 Reading in the Content Areas  Designed to acquaint elementary, middle school and high school teachers with reading strategies used in the process of reading to learn. Participants will consider the text factors which affect student learning, and develop and evaluate strategies and materials to enhance their students' learning in specific content areas.  3 hrs.

ED 6190 Clinical Studies in Reading  This course is intended to provide the basic information needed in the examination of persons with reading disabilities. Interviewing techniques and examination procedures will be the basic content of the course. Emphasis will be placed on the educational, physical, psychological, and sociological factors affecting reading performance. Students will be provided with a knowledge of both standardized and informal reading tests. Students will have the opportunity to construct, administer, score, and interpret both standardized and nonstandardized reading tests. Emphasis will be placed on producing a practical bibliography of measurement instruments and materials. Prerequisite: ED 3120 or 3220.  3 hrs.

ED 6200 Educational Therapy in Reading  Laboratory application of knowledge gained concerning the psychological, sociological, and physiological factors affecting children's reading ability is stressed. The prevention, diagnosis, and treatment of reading problems is experienced through working with struggling readers. Students will become familiar with testing instruments, their use, administration, and interpretation. Students will also learn techniques of therapy and recognize those factors necessary for effective therapy. Prerequisite: ED 6190.  3 hrs.

ED 6210 The Early Adolescent Learner  Theoretical background and research related to the intellectual, emotional, perceptual, social, and personality development are presented and explored.
Emphasis is placed upon problems teachers face with early adolescent learners and appropriate strategies for helping these students realize their potential. 3 hrs.

ED 6220 Middle Level School Curriculum The purpose of this course is first for graduate students to review the developmental issues studied in ED 6210 and to bring these perspectives to bear on the historical, philosophical, theoretical, socio-political, and practical aspects of developing effective middle level school structures and classroom pedagogy. Graduate students will be involved in an analysis of some current structural and/or pedagogical elements of the schools and classrooms where they teach which will include the redesign of those elements toward greater responsiveness to the developmental and educational needs of the early adolescent learner. In addition, the instructor will conduct a formal analysis of each course participant’s pedagogy during their instructional time in a middle level setting. 3 hrs.

ED 6240 Middle Level School Methods and Materials This course examines the historical, philosophical, and theoretical foundations of school curricula in general and of middle level school curricula specifically. The importance and function of developmental responsiveness in the curriculum content and design is examined along with the critical role of interdisciplinary thematic instruction and the dynamic interplay between the early adolescent learner, middle level school structure and the curriculum. 3 hrs.

ED 6250 Strategic Learning Through Texts for Middle School Teachers This course is designed to assist teachers who are instructing at the middle level in their use of appropriate strategies for accessing meaning of text. The course will give ways to help early adolescent learners apply strategies aimed at using reading and writing as ways of knowing across the middle level curriculum. 3 hrs.

ED 6280 Curriculum Theory This course provides students with an in-depth examination of significant historical and philosophical influences on curriculum, as well as important theoretical orientations within the field. The purpose of the course is to enable students to engage in critical reflection from theoretical perspectives on the purposes and practices of schooling, and to bring this critical reflection to curriculum planning and evaluation, and to their own teaching practices. 3 hrs.

ED 6350 Children, Science, and Technology The course is intended to help elementary and middle school teachers capitalize on children's natural interest. In this course students will explore a number of inexpensive and practical activities that teachers can use to encourage children to explore. The activities teach science processes; that is, they involve the children in processes of gaining knowledge similar to what scientist use in their development of scientific knowledge. The processes will include observing, measuring, classifying, recording, and problem solving. The course will explore different uses for computer technology including the World Wide Web. The course will also cover assessment issues for activity oriented science learning. 3 hrs.

ED 6360 Advanced Instructional Strategies for Elementary Teachers This is an advanced course on teaching strategies at the elementary grade levels. The course focus is thematic and interdisciplinary. The course is intended to help teachers develop advanced strategies for making instructional connections among the basic disciplines of the elementary curriculum. In addition, the course includes technology and multicultural issues in teaching. 3 hrs.
ED 6430 Practicum in Clinical Studies in Reading   This course is intended to give students experience in employing informal and formal standardized instruments and techniques necessary for the diagnosis and treatment of the disabled reader. The course emphasizes the use of various measurements pointing out their capabilities and limitations. Skills in interviewing, observing, diagnosing, planning treatment, and working with parents and school personnel are emphasized. Prerequisites: ED 6190 and ED 6200. 3 hrs.

ED 6520 Oracy and Literacy   The course explores the foundation of language, language acquisition, language development, and the ties between oral language and literacy. The role of oral language, applied linguistics, and dialects is studied and applied to the literacy process. 3 hrs.

ED 6530 Practicum in Reading Therapy   This course affords students the opportunity to build on competencies attained in ED 6430. Reading therapy is offered on a one student to client basis under the direction of a trained clinical therapist. The course serves as an instructional internship for working with pupils who have problems in reading and related areas. This course will provide graduate students practice in setting up prescriptive instructional objectives, selecting materials in terms of needs, and carefully designing instructional procedures for disabled readers. Prerequisites: ED 6190, ED 6200, ED 6430. 3 hrs.

ED 6560 Creating and Administering a Balanced Literacy Program   This course affords an opportunity to investigate and explore procedures to organize and administer elementary and secondary reading programs. The course will have students examine existing programs and study models of balanced literacy programs to improve upon existing programs. This course is intended to employ the best practices in the literacy research to create and administer a balanced literacy program, kindergarten through adult basic education. 3 hrs.

ED 6700 School Climate and Discipline   This course is designed for teachers and administrators who wish to develop a school or classroom climate which maximizes learning and minimizes discipline problems. Emphasizes new approaches to working successfully with problem students and classes. 3 hrs.

ED 6710 Structuring Classroom Dialogue   This course is designed to assist teachers in the development of their ability to conduct dialogue in a classroom. Each student prepares lessons, presents them to a small group of students, and is videotaped and critiqued with each presentation. Some ethnographic research methods are presented and applied during this course, specifically the use of fieldnotes, journals, and transcription as well as observation and self-observation methods. In addition, the course is designed to instruct the student about the ancient historical roots of dialogue, its transmission throughout the history of the western world, and the role that dialogue has played and continues to play in human interaction and learning. Students must be teaching or have access to a classroom for necessary application of course content. 3 hrs.

ED 6760 Teaching Thinking in the School   This course investigates the issues involved in teaching thinking in classrooms. The focus is on the wide variety of current programs and materials and their underlying concepts. Students will learn to infuse the teaching of higher level thinking skills into the curriculum. 3 hrs.
ED 6790 Capstone Research Project  Completion of an advisor-approved research, application, and curriculum project related to the student's professional practice. Project must reflect a synthesis of skills and knowledge from concentration core course work, but at the same time represent a practical application product which can be completed in a one semester time frame. Students will identify and define the nature and scope of the capstone project prior to enrollment in this course, and enroll when completion of the project is planned. Prerequisites: Completion of Master of Arts in Education and Professional Development core courses, program concentration courses, and advisor permission. 3 hrs.

ED 6800 Early Literacy Learning  Focused on literacy acquisition, this course explores how the young learner creates a network of competencies which generate subsequent independent literacy learning. Explanations of change over time in a child's control of literacy learning from school entry until the independence at the third year of schooling are emphasized. This cognitive view of literacy processes in a developmental perspective will explore different programmatic emphases which enable the young reader to extend the range and effectiveness of strategic reading. 3 hrs.

ED 6810 Reading and Writing with Young Children  Reviews the developmental aspects of early writing and reading with young children providing insights for the creation of programs in early literacy development. It aims to develop understanding of the early literacy process, helping teachers create an environment in which learners interrelate oral language learning, learning to read, and learning to write. The relationship of early writing to early reading is examined, and a model of interactive assessment with the teaching and learning cycle is stressed. Emphasis in this course will focus primarily on early writing, with a subordinate role for reading instruction. 3 hrs.

ED 6870 Strategic Learning through Texts for High School Teachers  This course is designed to assist high school classroom teachers and those interested in literacy for high school students in using appropriate strategies for accessing meaning of text. This course will give ways to help students use and apply strategies in using reading and writing as ways of knowing for high school students. Prerequisite: ED 5160. 3 hrs.

ED 6930 Middle School Education Seminar  This seminar serves as the capstone experience for the Teaching at the Middle Level master's program. It provides a forum for synthesizing and integrating the content of prior course work, further examining current research and exploring middle level education issues. Students examine curricular issues with an emphasis on integrative approaches to organizing knowledge and then identify topics for study based on their professional interests and goals. These topics are explored along with a variety of middle level education issues and their policy implications. Students identify a culminating project and conduct a review of literature pertaining to the project. Projects are completed in ED 694. 3 hrs.

ED 6940 Middle School Project  Students continue their investigation of middle level education issues identified in ED 6930. The main focus of the course is the completion of the previously identified culminating project. Students work independently on their projects with periodic class sessions designed to discuss education issues and project progress. Students present their projects for critical review and analysis. Prerequisite: ED 6930. 3 hrs.

ED 6950 Reading Seminar  This course is designed to be the culminating course in each of the three streams in the master's program in reading and is designed to acquaint teachers, reading specialists, and administrators with the current research and literature pertinent to their areas of specialization.
Students should be able to demonstrate an ability to design reading research studies which contribute to the body of knowledge in reading. As this course is intended as the capstone course, it must be taken in the last six hours of graduate work. 3 hrs.

ED 6970 Special Topics in Reading  A variable credit course designed to provide a vehicle for the development and implementation of special topics in the field of literacy. The purpose is to provide students with the opportunity to study topical current issues. 1-3 hrs.

ED 6980 Resolving Educational Problems in the Schools  With variable topics and variable credit, this course is offered for in-service teachers, supervisors, and administrators who come together to solve school problems which they are encountering in the field. Problem-solving techniques, theoretical and evidential support for solutions, and workshops will be applied to actual school or classroom situations. The topic of the course will be stated in the Schedule of Course Offerings. Each time the course is offered. Students may repeat this course, providing topics vary. No more than six hours of ED 6980 may be applied toward a graduate degree. 1-6 hrs.

ED 7000 Master's Thesis  6 hrs.
ED 7100 Independent Research  2-6 hrs.
ED 7120 Professional Field Experience  2-12 hrs.

College of Engineering and Applied Sciences

Computer Science

CS 5180 Introduction to Computer Modeling and Simulation Provides an overview of model development and computer simulation. A methodology is introduced which is generally applicable to simulation projects. The relationships between real systems, models, and simulation are presented, and the concept of experimental frames is discussed. General purpose simulation languages (e.g. Simscript, GPSS, CSMP, Simula) and the formalisms they support are presented. An introduction to random variables and elementary frequency distributions is provided. Simulation as a tool for exploring ill-defined systems will also be discussed. Several small programs and a simulation project will be assigned the student. Prerequisites: CS 3310 and (IME 2610 or IME 2620 or ME 3620 or STAT 3640). 3 hrs.

CS 5250 Computer Architecture  General topics in computer architecture, memory systems design and evaluation, pipeline design techniques, RISC architectures, vector computers, VLSI systems architecture. Prerequisites: ECE 2500 and (CS 2230 or ECE 2510) and CS 3310. 3 hrs.

CS 5260 Parallel Computations I  Architecture, synchronization and communication aspects of parallel and distributed systems. This course will focus on the design and analysis of algorithms which have a prototype treatment on current machines. These algorithms may include parallel sorting, combinatorial search, graph search and traversal, applications in graphics, 2-d finite differences, 2-d finite element techniques, matrix algorithms and the Fast Fourier Transform. Prerequisite: CS 3310. 3 hrs.

CS 5270 Theory of Computer Graphics  A first course in the design of interactive computer graphics systems. Currently available hardware and software systems are described. Emphasis is on
theoretical considerations in the design of interactive computer graphics software systems.
Prerequisites: CS 3310 and (MATH 2300 or MATH 3740). 3 hrs.

CS 5300 Artificial Neural Systems  An introduction to neural net concepts, algorithms, and
applications. A history of neural nets will be presented along with some discussion of models of
biological neural systems. The salient features of a neural net (architecture, activation functions,
weighting scheme) will be characterized. Standard algorithms will be presented including Hopfield nets,
linear associative models, bidirectional associative memories, and adaptive resonance models. The
student will use neural net software to experiment with standard models and to develop an application
for a project.  Prerequisite: CS 3310.  3 hrs.

CS 5400 Designing of User Interfaces  An introduction to the specification, development, and
evaluation of user interfaces. This course provides an overview of human capabilities, technological
possibilities, interaction design, and interface evaluation. The course presents both the theoretical
foundations of interaction design and practical case studies of good and bad interface design. During the
course, students will design and test one or more interfaces. Prerequisite: CS 3400 or permission of
instructor for undergraduate students. No Prerequisite for graduate students in Computer Science. 3 hrs.

CS 5430 Principles of Database Management Systems  The fundamentals of database design
and usage are covered, focusing on the relational data model. Topics include basic DB and DBMS
concepts, logical design (ER modeling, normalization), physical storage concepts, relational algebra,
SQL query language, PL/SQL and embedded SQL. A relational DBMS is used for lab assignments.
Other topics may include query optimization, transaction processing, concurrency, security,
forms/reports, object-relational data model, and an overview of advanced DB topics. A student may not
receive credit for both CS 4430 and CS 5430.  Prerequisite: CS 3310.  3 hrs.

CS 5550 Computer Networks and Distributed Systems  The design and evaluation of
computer networks using current hardware and software are explained. Various types of computer
buses, local area networks, and long haul networks are defined. Case studies of popular networks are
presented. Layered network models are studied. There is lab work with local area and long haul
networks.  Prerequisites: CS 3310 and (CS 2240 or ECE 3570). 3 hrs.

CS 5600 Software Requirements Analysis and Design  Provides an in-depth study of notations,
methodologies, and tools for the analysis and design of software requirements. This course includes
object-oriented requirement development and design, the relationships between object-oriented design
concepts and software engineering principles. The course concentrates on the techniques used in the
early stages of software development.  Prerequisite: CS 3310.  3 hrs.

CS 5800 Theory of Computation II: Formal Languages  An introduction to the theory of
computation emphasizing grammars and computational complexity.  Prerequisite: CS 4800.  3 hrs.

CS 5810 Compiler Design and Implementation  Introduction to major aspects of compiler
design. These include lexical analysis, parsing, and translation. Each student will implement a small
compiler using modern compiler writing tools.  Prerequisite: CS 4800 or CS4850 or CS 5800. 3 hrs.
CS 5820  Artificial Intelligence Provides an overview of artificial intelligence including basic A.I. techniques and concepts, e.g., production systems, heuristic searching techniques, knowledge representation, predicate calculus, and pattern recognition. Introduces A.I. application areas such as game playing, expert systems, vision, natural language processing, and learning. Prerequisite: CS 3310. 3 hrs.

CS 5950  Advanced Topics in Computer and Information Science The content of this course varies. It is intended to introduce the student to advanced topics which are normally offered as separate courses. The course may be taken more than once with approval of the student's advisor. Prerequisite: Departmental approval. 1-3 hrs.

CS 5990  Independent Study in Computer Science Advanced students with good scholastic records may elect to pursue independently the study of some topic of special interest. Topics are chosen and arrangements are made to suit the needs of each particular student. Prerequisite: Departmental approval. 1-3 hrs.

CS 6030  Studies in Computer Science Advanced work organized around varying topics in computer science. Students may take this course more than once. Prerequisite: Approval of department. 3 hrs.

CS 6250  Advanced Computer Architecture Multiprocessor architectures, various interconnection networks, communication and synchronization techniques, data flow architectures. Prerequisite: CS 5250. 3 hrs.

CS 6260  Parallel Computations II Advanced topics in parallel computations, such as: algorithms in the areas of graph algorithms, numerical algorithms, computer graphics and VLSI design, and aspects of operating systems and languages. Students will be expected to read research papers and complete a semester project involving the use and implementation of parallel programming paradigms on current machines. Prerequisite: CS 5260. 3 hrs.

CS 6270  Computer Graphics II Advanced computer graphics topics selected from current research. Some of the areas of interest include: visualization of complex processes, full motion video, virtual reality, client/server protocols and parallel image rendering. Emphasis is on research, and students are expected to participate in a research project with a faculty member during the course. Prerequisite: CS 5270. 3 hrs.

CS 6280  Parallel Scientific Computations The design and analysis of parallel numerical algorithms to solve problems such as singular value decomposition and the solution of linear systems for structured/banded and sparse matrices; partial differential equations; and multivariate numerical integration. Applications may include the solution of wave equations, hydrodynamic flow, particle dynamics, finite element applications and Monte Carlo methods. Prerequisites: CS 5260 and MATH 2300. 3 hrs.

CS 6310  Advanced Data Structures The representation and implementation of various data structures. The effect of data structures on program complexity is investigated. The uses of data
structures in a variety of application areas are covered. Introduces complex data structures.

Prerequisite: CS 4310. 3 hrs.

CS 6320 Analysis of Computer Algorithms Computing-time and space requirements of algorithms are analyzed with emphasis given to the effect of data structure choice on program complexity. Various abstract models of computation are considered. Methods for proving program correctness and the related problems are identified. Students implement a number of algorithms and discuss aspects of the complexity and correctness of their programs. Prerequisites: CS 4310 and 5800. 3 hrs.

CS 6330 Computational Geometry Design and analysis of algorithms for computational geometry problems and discussion of applications in databases, computer graphics and VLSI design. Specific topics may include: geometric formulation, geometric searching, point location, multidimensional problems, range trees, convex hulls, simple polygons, voronoi diagrams, and the geometry of a rectangle. Prerequisite: CS 4310. 3 hrs.

CS 6340 Combinatorial Optimization The foundations of mathematical programming and the computational complexity of algorithms in this area. The topics may include: linear programming, algorithms for max-flow, min-cost and shortest path problems, weighted matching, integer and 0/1 linear programming, nonlinear programming techniques, approximation algorithms, branch-and-bound and dynamic programming methods of 0/1 programming, and properties of local search. Prerequisite: CS 4310. 3 hrs.

CS 6400 Advanced Design of User Interfaces Advanced interaction techniques drawn from the current literature. Topics of interest include information search and display, visualization, virtual reality, and hypermedia environments. Prerequisite: CS 5400 or permission of instructor. 3 hrs.

CS 6430 Advanced Data Base Management Systems An in-depth study of data base management systems with concentration on efficient design and usage. Topics covered include: the design of data models, the theory of relational data bases, query optimization, protocols to guarantee consistency of data bases, the design of physical models, and performance analysis techniques. Algorithms and data structures such as B-trees, transposed files, phantom files and hybrid structures are also studied. Distributed data bases, data base machines and current query languages will be covered. Prerequisites: CS 3310 or CS 4310, and CS 5430. 3 hrs.

CS 6550 Advanced Operating Systems Advanced and current topics in operating systems research. Analysis of competing techniques will be undertaken to present a better understanding of tradeoffs in design decisions. Modeling and performance evaluation will also be presented. A detailed and theoretical view of the basic operating system concepts will be emphasized. Programming assignments involving simulation and performance evaluation will be required. Prerequisite: CS 4540. 3 hrs.

CS 6600 Software Engineering I: Formal Specifications of Software Systems Introduction to various models of software life cycles and formal methods for specifying requirements and design. Students will be introduced to a number of formal systems using axiomatic specification, abstract models (e.g., VDM), set theoretic systems (e.g., Z), predicate logic systems (e.g., Larch), and specification based on programming languages such as Alphard, CLU, and Ada. Also discussed will be
formal specification of real-time systems using Petri Nets, PAISLEY, CSP, SF and others. Examples and exercises illustrating the use of several formal systems will be given. Student teams will be expected to complete the specification of requirements and design of a project using one of the methods presented. Prerequisites: CS 3310 or CS 4310, and MATH 1450. 3 hrs.

CS 6610 Software Engineering II: Verification and Validation of Software Systems The terminology and limitations of verification and validation (V and V) approaches. Five approaches will be presented: technical reviews, testing, proofs of correctness, simulation and prototyping, and requirements tracing. Students will define a V and V plan and carry it out for several stages in the development cycle of a project. Prerequisite: CS 6600. 3 hrs.

CS 6720 Pattern Recognition A survey of modern methods for computer recognition of patterns in varied applications such as digital images, human speech and sound, and grammar-based sequences. Various approaches are developed, including heuristic search, Fourier analysis, Markov models, template matching, and grammatical inference. Computational aspects and efficiency of different methods and algorithms are emphasized. Students must complete a project using methods developed in the course. Prerequisites: CS 4310 and MATH 3640. 3 hrs.

CS 6800 Theory of Formal Computation III: Computability and Complexity The theory of computation emphasizing properties of families of languages, computability, and complexity. Prerequisite: CS 5800. 3 hrs.

CS 6810 Compiling Theory and Practice A study of theoretical and applied strategies for designing compilers and other types of language translation systems. Students will be assigned a programming project on compiling. Prerequisite: CS 5810. 3 hrs.

CS 6820 Advanced Artificial Intelligence Current research in one or more artificial intelligence application areas, e.g., computer vision and image processing, natural language and speech processing, expert systems, computer learning or other A.I. topics. Prerequisite: CS 5820. 3 hrs.

CS 6850 Foundations of System Specification Semi-formal and formal specification of abstract and real-life systems, with emphasis on computer software and hardware systems and using the State-System Specification Language. State and behavior modeling approaches and specification design philosophy. Theoretical foundations with practical application examples. Implications for validation, implementation, and testing. Alternative modeling techniques. Prerequisites: Graduate level competence in one of the following areas: computer architecture (ECE 3570 or CS 5250); or computer networking (CS 5550), or control theory, or switching and automata theory (CS 5800); or permission of instructor. 3 hrs.

CS 6910 Seminar in Computer Science 1-3 hrs.

CS 6970 Master’s Project Students will work on a special project in a computer science area. A technical report on the results of each student’s project must be approved by the course instructor and published as a departmental technical report. Prerequisites: Graduate level competency in computer science and the subject areas of the project. Approval of the instructor and the department required. 2-6 hrs.

522
CS 7000 Master's Thesis 6 hrs.
CS 7100 Independent Research 2-6 hrs.
CS 7120 Professional Field Experience 2-6 hrs.
CS 7250 Doctoral Research Seminar 2-6 hrs.
CS 7300 Doctoral Dissertation 15 hrs.
CS 7350 Graduate Research 2-10 hrs.

Electrical and Computer Engineering

ECE 5200 Power Electronics and Motors Basic, transformer isolated and resonant switchmode converter topologies. Steady-state analysis, large-signal, small-signal modelling and analysis, state-space and discrete-time models. Magnetics, control techniques and power conditioning of converters. PWM control using space vector theory. Theory and applications of vector (torque) control of AC machines. Analysis and design of electric motors based on FEM. Prerequisites: CENM, EENM, or ELCD. 3 hrs.

ECE 5210 Surface Mount Technology Design This course will focus on two major areas of electronic design. First, we will study effective implementation of circuit board designs to address the technical issues in Surface Mount Technology (SMT). The second area will include a study of solid-state devices and digital circuits. Technical discussions will explore advantages and disadvantages of SMT, SMT processes and equipment, design tools and guidelines, internal circuit structure and device operation, and defect analysis. Prerequisite: CENM, EENM, or ELCD. 3 hrs.

ECE 5240 Introduction to VLSI Technology A course in VLSI semiconductor devices, modern CMOS technology, crystal growth, fabrication, and basic properties of silicon wafers. It will focus on lithography, thermal oxidation, (Si/Si)2, interface, dopant diffusion, ion implantation, thin film deposition, etching, and back-end technology. Prerequisite: CENM, EENM, or ELCD. 3 hrs.

ECE 5320 Introduction to Evolutionary Computation Introduction to optimization algorithms which operate using the principles of Darwinian evolution. Both underlying theory and applications. Genetic algorithms, evolutionary programs, and evolution strategies. Prerequisite: CENM, EENM, or ELCD. 3 hrs.

ECE 5510 Application Specific Integrated Circuit Design Design, analysis and implementation of application-specific circuits (ASIC). Emphasis will be placed on programmable design (including field programmable gate arrays (FPGA) and programmable logic devices (PLD). Semi-custom design will also be discussed and full-custom design will be briefly introduced. Introduction to contemporary CAD systems. Prerequisites: ECE 3500 and ECE 3550 and CENM, EENM, or ELCD. 4 hrs.

ECE 5520 Switching and Finite Automata Theory Introduction to the theory and application of switching theory and automata theory. Sets, relations, functions. Boolean and combinational functional
composition and optimization. Finite automata theory. Automata composition and optimization. Regular sets and recognizers. Fault tolerance. Prerequisites: ECE 2500 and CS 5540 and CENM, EENM, or ELCD. 4 hrs.

ECE 5530 Advanced Microcontroller Applications This course is intended to give graduate students and seniors the ability to specify, design, and test microcontroller based digital systems. Prerequisite: CENM, EENM, or ELCD. 3 hrs.

ECE 5550 Advanced Digital Signal Processing Discrete-time signals and systems, time and frequency domain representations. Structures of discrete-time systems and digital filters. DFT and FFT methods of special analysis and estimation. Discrete Hilbert Transforms and multidimensional signal processing. Prerequisite: ECE 4550 and CENM, EENM, or ELCD. 3 hrs.

ECE 5570 Design of Reconfigurable Digital Machines Introduction to hardware design languages. Modeling and simulation using VHDL. Advanced design techniques for digital machines based on Field Programmable Gate Arrays and Complex Programmable Logic Devices. System design with on-line reprogrammable FPGAs. Prerequisites: CENM, EENM, or ELCD. 3 hrs.

ECE 5600 Time-varying Fields Electrodynamics, Maxwell's equations, Boundary value problems and solutions of Helmholtz Equation in different coordinate systems, Green's functions, transmission lines and wave guides. Introduction to perturbational and variational methods. Prerequisite: CENM, EENM, or ELCD. 3 hrs.

ECE 5700 Digital Control Systems State variable technique, controllability and observability, digital control system design with state or output feedback, maximum principle, optimal linear regulator-deterministic, and stochastic state observers. Prerequisite: CENM, EENM, or ELCD. 3 hrs.

ECE 5800 System Modeling and Simulation This is a first course in the principles of mathematical modeling of stochastic and deterministic systems. It will focus on analytical models, mathematical rigor and computer simulation of problems. Students will simulate a number of systems using appropriate stochastic and deterministic models using a computer. Prerequisites: CENM, EENM, or ELCD. 3 hrs.

ECE 5810 Astrodynamics A course in celestial dynamics as applied to space travel. Students will learn the basics of satellite orbit definition, determination, and navigation. While the general n-body problem will be taken up, the emphasis will be placed on the calculation of geocentric and heliocentric orbits. The primary application will be satellite systems as applied to the Global Positioning System. Prerequisite: CENM, EENM, or ELCD. 3 hrs.

ECE 5850 Mechatronics A course in fundamentals of motion control, primarily as it is applied to robotics. Students will learn the basics of control systems as applied to multi-axis servo systems. Appropriate time will be devoted to develop a sound basis in the electro-mechanical discipline. Prerequisites: CENM, EENM, or ELCD. 3 hrs.

ECE 5860 System Identification This is a course in model determination. Students will learn the basics of defining system structure and techniques for finding parametric values. The emphasis will be
placed on the application of modeling to practical problems in the student's specific discipline.
Prerequisites: ECE 5800 or ME 5800 and CENM, EENM, or ELCD. 3 hrs.

ECE 5950 Introduction to Advanced Topics To introduce students to advanced topics in
electrical/computer engineering not included in other course offerings. Prerequisite: CENM, EENM,
or ELCD. 3 hrs.

ECE 6050 Advanced Microprocessor Applications Selected topics on designing high-
performance microprocessor systems. System design for contemporary RISC and CISC processors.
Interfacing to high-speed parallel system bus. Shared memory and cache memory design. Prerequisite:
CENM, EENM, or ELCD admission. 4 hrs.

ECE 6360 Applied Optics and Optical System Design Classical and conventional optical methods
in use by the engineering and research community. Moire, Speckle and Speckle-shearing interferometry.
Holographic interferometry. Photo-elasticity and electronic speckle pattern interferometry. Optics and
lasers for research and industrial applications. Digital image processing and optical system design.
Prerequisite: Consent of instructor. 3 hrs.

ECE 6400 Electronic Instruments Analysis of instrumentation systems including basic
instrumentation concepts, dynamic analysis of instruments, transducers, classical analog methods, digital
methods and application. Prerequisites: CENM, EENM, or ELCD admission. 3 hrs.

ECE 6410 Electronic Instrumentation II Description, analysis, and design of instrumentation
systems with emphasis on sensors, signal acquisition, amplification, and processing. Both analog and
digital sensors and signal processors will be considered. Prerequisite: ECE 6400. 3 hrs.

ECE 6500 Advanced Computer Architecture An introduction to the problems involved in
designing and analyzing current machine architectures. Simulation and design automation of digital
systems. The completion of a substantial design project is required. Prerequisites: CENM, EENM, or
ELCD admission. 3 hrs.

ECE 6510 Objects, Architectures, and Parallel Computation Integral approach toward the
hardware and software design of computer systems. Design decisions due to interdependence among the
different levels (architecture, operating systems, programming languages application programs) of
modern computer systems design. Prerequisite: CENM, EENM, or ELCD admission. 3 hrs.

ECE 6550 Digital Image Processing This course will cover fundamental concepts and analytical
tools for digital image processing (DIP) and applications. Use of transforms for image filtering and
analysis; image coding and compression algorithms are emphasized. Students are expected to complete a
series of computer assignments and a research project in DIP. Prerequisite: CENM, EENM, or
ELCD admission. 3 hrs.

ECE 6640 Digital Communications This course covers advanced concepts of modern digital
communication theory, including information theory and coding theory. Important practical topics of
recent interest are also covered. Prerequisite: CENM, EENM, or ELCD admission. 3 hrs.
ECE 6700 Modern Control Theory  Modern control theory using “state variable” formulations provides a unified approach to a wide variety of problems. Depends on matrix theory and linear algebra. Prerequisite: CENM, EENM, or ELCD admission. 3 hrs.

ECE 6710 Optimal Control Systems  Optimal control dynamic programming, Portraygin's principle, linear optimal regulator, system identification. Stochastic and adaptive control. Prerequisite: ECE 6700. 3 hrs.

ECE 6720 Fuzzy Control Systems  Theoretical aspects of fuzzy sets, fuzzy logic, approximate reasoning, and fuzzy control, as well as implementation issues of fuzzy controllers. Supervisory controllers using fuzzy automata. Hardware accelerators for fuzzy logic. Prerequisites: CENM, EENM, or ELCD admission. 4 hrs.

ECE 6730 Artificial Neural Networks  Hardware implementations of feedforward, recurrent, and cellular neural networks using analog and/or digital techniques. Both discrete and integrated circuit approaches will be investigated. Applications of neural networks in engineering systems. Prerequisites: CENM, EENM, or ELCD admission. 3 hrs.

ECE 6800 Design Factors for Distributed Systems  An introduction to distributed computing systems operation and design including interprocessor communication techniques, consensus, distributed control, and fault tolerance with an emphasis on real-time environments. Current publications on distributed computing systems design will be surveyed. Prerequisite: CENM, EENM, or ELCD admission. 4 hrs.

ECE 6900 Computer Engineering Seminar  This seminar provides students with opportunities to meet with engineering and scientific experts and discuss the theory and practice of real-time embedded system design and implementation. It is also an opportunity for students to present technical RTES materials to a peer group and faculty. Prerequisite: CENM, EENM, or ELCD admission. 1 hr.

ECE 6950 Topics in Electrical and Computer Engineering  Special topics in advanced area of Electrical Engineering or Computer Engineering not included in other courses. Prerequisite: CENM, EENM, or ELCD admission. 3 hrs.

ECE 6970 Problems in Electrical and Computer Engineering  Special problems based on individual need or interest under the direction of a member of the graduate faculty. Prerequisite: CENM, EENM, or ELCD admission. 1-6 hrs.

ECE 7000 Master's Thesis  6 hrs.
ECE 7100 Independent Research  2-6 hrs.
ECE 7250 Doctoral Research Seminar  2-6 hrs.
ECE 7300 Doctoral Dissertation  15 hrs.
Industrial and Manufacturing Engineering
IME 5010 Survey of Industrial Engineering Topics Course devoted to studying the basics of the industrial engineering profession. Subjects will include work analysis, engineering economy, statistical quality control, production planning and control, and materials handling. Emphasis is placed on the application of these techniques to manufacturing related problems. This course cannot be applied for credit toward the Master of Science degrees in engineering management or industrial engineering. Prerequisites: MATH 1220 or MATH 2000; STAT 2600 or STAT 3660, or equivalent. (Recommended) 3 hrs.

IME 5020 Manufacturing Engineering Fundamentals This course reviews the fundamental principles in Computer-Aided Design (CAD), Computer-Aided Manufacturing (CAM), and metrology used in the practice of manufacturing engineering. Topics covered include: CAD documentation techniques, CAD modeling, Geometric Dimensioning and Tolerancing (GD&T), EIA/ISO format (G&M code) Numerical Control (N/C) programming, graphical N/C programming systems, and Statistical Process Control (SPC). The laboratory includes hands-on experiences with commercial CAD/CAM systems, N/C machines, and instruments of precision measurement. This course cannot be applied for credit toward the Master of Science in Manufacturing Science. This course may be used to meet the stated prerequisite requirements normally satisfied by IME 2460, IME 3580, and IME 4810 in the graduate program. Prerequisites: IME 1420 and IME 2540. (Recommended) 4 hrs.

IME 5050 Continuous Improvement in Operations The purpose of this course is to introduce business and engineering students as well as managers to the process of kaizen (Continuous Improvement) and Total Employee Involvement. 3 hrs.

IME 5070 Computer Integrated Manufacturing Topics related to computer integrated manufacturing. Topics include computer process control, robotics, group technology, CNC, CAD, FMS. Hands-on experience with miniature computer controlled equipment will be included. Prerequisite: Course in computer programming. 3 hrs.

IME 5080 Advanced Quality Management Analysis and application of new concepts in the field of quality control. Tests of significance, probability studies, and other uses of statistics as applied to quality control. Prerequisite: IME 3180 or 3280 or 5010 or equivalent. (Recommended) 3 hrs.

IME 5120 Management of Service Operations An analysis of service industries exploring differences in planning and controlling operations. Emphasis will be on service system design, service quality, and comparing customer expectations with their perceptions. 3 hrs.

IME 5160 Design of Experiments and Regression Analysis Topics related to experimental design and regression analysis. Topics include randomized blocks, Latin squares, factorials, multiple correlation and regression, and its application to response surfaces. Prerequisite: IME 2610 or equivalent. (Recommended) 3 hrs.

IME 5420 Human Factors Engineering The process of designing for human use. The course covers the study of the interactions between the individual, equipment, products, and the environment in any human-task-environment system. Topics include human capabilities and limitations; human input,
output, and control; work space design; and the work environment. Prerequisite: IME 2610 or IME 2620 or equivalent. (Recommended) 3 hrs.

IME 5460 Concurrent Engineering The synthesis of automated design, analysis, and manufacturing processes through integrated computer systems. Topics in automated graphics, wireframe, surface and solids modeling, boundary element analysis, and manufacturing process generation will be investigated. Prerequisite: IME 2460 or equivalent. (Recommended) 3 hrs.

IME 5500 Advanced Plastics Processing Review of optimum machine components and systems. Identification of key process variables within injection molding and extrusion systems. Discussion of the causes of process instability. Determination of the process capability within injection molding and extrusion systems. Prerequisite: IME 2500 or equivalent. (Recommended) 3 hrs.

IME 5520 Casting Simulation and Solidification The process of computer simulation illustrates the way a casting is filled and how the alloy is allowed to cool. By simulating the process conditions to observe 3-D fill and solidification, researchers will be able to predict potential defects in the casting and redesign the process to eliminate the defects, before making actual castings. Activities will compare theory to practice. Prerequisite: IME 3520 or IME 4520 or equivalent. (Recommended) 3 hrs.

IME 5570 Topics in Industrial and Manufacturing Engineering Group study of special topics in industrial engineering and technology. The specific topic will be shown in the course title when scheduled. Prerequisite: Departmental approval. 3 hrs.

IME 6000 Concepts and Principles of Engineering Management To study the concepts of supervision with particular design for those who have had little or no previous academic orientation to the principles, concepts, and philosophy of industrial supervision. 3 hrs.

IME 6040 Facilities Planning and Design An analytical approach to the planning and design of manufacturing facilities and material handling systems. Prerequisite: IME 4040, 4140, or permission of instructor. 3 hrs.

IME 6060 Capital Budgeting and Cost Analysis Concepts, principles, and techniques of making decisions pertaining to the acquisition and retirement of capital goods by industry and government. Topics include the time value of money, basic economic decision models, effect of taxation and depreciation on economic decision, and capital allocation. 3 hrs.

IME 6080 Reliability Engineering The formulation of mathematical models for reliability allocation and redundancy. Topics include time dependent and time independent prediction measures for both maintained and non-maintained systems. Prerequisites: IME 2610 and IME 2620 or equivalent. (Recommended) 3 hrs.

IME 6100 Linear Programming for Engineers The study of linear programming models as applied to engineering problems. Topics include Revised Simplex Method, Duality Theory, Post-Optimality Analysis, Interior Point Algorithms, Column Generation and Decomposition Techniques, Transportation Problem, Assignment Problem, Multiple Objective Problems, and Data Envelopment Analysis. Prerequisite: MATH 2300 or MATH 3740. (Recommended) 3 hrs.
IME 6110 Deterministic Methods in Operations Research  Concepts and techniques of
deterministic operations research with emphasis on industrial applications. Topics include Network
Models, Integer Programming, and Nonlinear Programming. Prerequisites: MATH 2720 and IME
3110 or IME 6100. (Recommended) 3 hrs.

IME 6120 Production/Operations Management  Topics relating to the planning and control
functions of manufacturing systems are presented. These topics include management of the production
system, strategies of product design and process selection, design of production systems, plant location,
shop floor control, purchasing, quality management, and productivity improvement. Prerequisite:
IME 3260 or 4160 or 5010, or equivalent. (Recommended) 3 hrs.

IME 6130 Stochastic and Heuristic Methods in Operations Research  Concepts and techniques of
stochastic operations research with emphasis on industrial applications. Topics include Queueing
Theory, Decision Analysis, Dynamic Programming, Scheduling, and Metaheuristics. Prerequisites:
IME 3110 and STAT 6670. (Recommended) 3 hrs.

IME 6140 Project Management  To address the basic nature of managing projects and the
advantages and disadvantages of this method of getting things done. The problems of selecting projects,
initiating them, and operating and controlling them are discussed. The demands made on the project
manager and the interaction with the parent organization are also presented.  3 hrs.

IME 6220 Engineering Management Seminar  An analysis of the writings, literature, and
philosophy concerning line supervision and employee direction in manufacturing industries.
Prerequisite: IME 6000 or equivalent. 3 hrs.

IME 6300 Advanced Simulation Modeling and Analysis  Advanced topics in modeling of
complex systems using both discrete and continuous simulation. Emphasis on the simulation of
manufacturing systems. Prerequisite: IME 2610 or IME 2620 or equivalent. (Recommended)
3 hrs.

IME 6420 Ergonomics and Occupational Biomechanics  Topics related to work physiology
and biomechanics. Topics include anthropometry, skeletal system and muscle, neuromuscular control
system, biomechanics, respiratory system, circulatory systems, and metabolic system. Prerequisite:
IME 2610 or IME 2620 or equivalent. (Recommended) 3 hrs.

IME 6430 Physiology of Work  A thorough review of the musculoskeletal system and energy
development in the work environment. A practical guide to what the body can do and how this is
influenced by the respiratory, circulatory, and metabolic systems. Laboratory projects emphasize
applications in actual work tasks. Prerequisite: IME 2610 or IME 2620 or equivalent.
(Recommended) 3 hrs.

IME 6450 Design for Manufacturability Production methods and materials will be applied to
product development projects that will relate to the design of efficient and cost effective manufacturing.
Topics include the design of part families, geometric classification coding for storage and retrieval,
database transfer compatibility standards, process influence on functional product design, statistical
determination and the application of linear and geometric tolerancing.  

IME 6520 Advanced Casting Design and Processes  Advanced subjects related to the cast metal
industry will be studied; topics will include: non-traditional casting processes, gating design, risering
design, thermal imaging, thermal arrest, image analysis, alternative molding media, micro/macro casting
defects analysis, process control for metal casting industry, and environmental issues. State of the art
materials such as catable super alloys and metal matrix composites will be discussed.  Prerequisite:
IME 5520. (Recommended)  3 hrs.

IME 6560 Material Selection and Processing  Properties of metals, ceramics, polymers, wood, and
composites. Factors in selection of materials and their fabrication process. Failure mechanisms and
prevention.  Prerequisite: An introductory course in engineering materials or permission of instructor.
  3 hrs.

IME 6570 Studies in Industrial Engineering  Advanced work organized around topics of current
interest in engineering and technology. The specific topic will be shown in the course title when
scheduled.  Prerequisite: Departmental approval.  3 hrs.

IME 6580 CAM Applications  Custom design of post-processors. Creation of CNC programs
through graphical-based systems. Strategies and techniques, including Computer-Aided Processing
Planning (CAPP), to migrate data from CAD to CAM systems. Computer hardware and software
requirements for integrated manufacturing.  Prerequisite: IME 5070 or equivalent. (Recommended)
  3 hrs.

IME 6810 Process Monitoring and Control  The study of process improvement techniques
which will ultimately lead to quality products. Process improvement includes the reduction of variability
in process during the manufacturing stage resulting in improved product quality. A team problem
solving approach utilizing data acquisition systems and statistical methods are emphasized. Practical
industrial applications of process monitoring and control are reviewed.  Prerequisite: STAT 2600,
IME 2610 or equivalent. (Recommended)  3 hrs.

IME 6830 Thesis Proposal  Study of research methodologies including review and synthesis of
previous work, and strategies for conducting investigation. Discussion of format and expectations of the
master's thesis. An approved thesis proposal is required for the completion of this course. Prerequisite:
Departmental approval.  1 hr.

IME 6970 Problems in Industrial and Manufacturing Engineering  Special problems of
individual need or interest under the direction of a member of the graduate faculty. May be elected with
approval of department chairperson and faculty member. Application must be submitted and approved
prior to the election of the course.  Prerequisite: Departmental approval.  3 hrs.

IME 6990 Practical Training  Designed for international students who wish to pursue practical
training in off-campus activities in industries or institutions. This course will not count toward a degree
program. May be elected with approval of department chairperson and faculty member. Application
must be submitted and approved prior to election of the course. Prerequisite: Departmental approval. 1-12 hrs.

IME 7000 Master's Thesis Prerequisite: Departmental approval. 6 hrs.
IME 7120 Professional Field Experience Prerequisite: Departmental approval. 2-12 hrs.
IME 7250 Doctoral Research Seminar Prerequisite: Departmental approval. 2-6 hrs.
IME 7300 Doctoral Dissertation Prerequisite: Departmental approval. 15 hrs.

Materials Science and Engineering

MSE 5320 Wood Science and Engineering Scientific study of dendrology and forest products industry. A study of the relationship between the macro and microscopic structure in wood and wood based composites as they relate to Engineering Design. Laboratory activities will involve machining theory, wood fluid relationships, and wood stabilization. Prerequisites: MATH 3740, PHYS 2070, ME 2500, and consent of instructor. 3 hrs.


MSE 5660 Ceramics: Structure and Properties Ceramic crystalline structure. Structure imperfections, deformation, and failure of ceramic materials. Processing, properties, and toughening mechanisms. Design with and applications of ceramic materials. Prerequisites: MATH 3740, PHYS 2070, ME 2500, and consent of instructor. 3 hrs.

MSE 6510 Corrosion Science and Engineering Corrosion and environmental degradation of metals, alloys, ceramics and polymers. Causes, theoretical background, methods of protection and design for prevention. Prerequisites: MATH 3740, PHYS 2070, ME 2500 and consent of instructor. 3 hrs.

MSE 6530 Advanced Physical Metallurgy Review of dislocation theory. Interactions of dislocations with point defects, other dislocations and surfaces. Electronic structure and physical properties. Advanced metallographic techniques. Prerequisites: MATH 3740, PHYS 2070, ME 2500, and consent of instructor. 3 hrs.


MSE 6580 Structure of Polymers and Composites Structure of monomeric units: chemical bonds, valent angles, torsion angles, conformation and configuration. Isolated polymer chains:

MSE 6950 Advanced Topics in Materials Science A specialized course dealing with some particular advanced area of materials science not included in other course offerings. Prerequisite: Consent of advisor. 1-6 hrs.

MSE 6970 Problems in Materials Science and Engineering Special problems based on the individual need or interest under the direction of a member of the graduate faculty. May be elected with approval of Department Chairperson and faculty member. Application must be submitted and approved prior to election of the course. 1-6 hrs.

MSE 7000 Master's Thesis 6 hrs.
MSE 7100 Independent Research Prerequisites: Graduate status and approval of instructor. 2-6 hrs.

Mechanical and Aeronautical Engineering

ME 5300 Theoretical and Computational Fluid Mechanics The theory and numerical implementation of ideal flow, viscous effects, and exact solutions of Navier-Stokes equations. Special emphasis will be on planning methods, conformal mapping, and singular distributions for flows around two- and three-dimensional bodies. Familiarity with VMS and some FORTRAN experience are required. Prerequisites: ME 3560 and consent of instructor. 3 hrs.

ME 5390 Advanced Thermal Design Theory and practical thermal system design using advanced computer-aided design tools with emphasis on modeling and optimization of modern thermal elements. Prerequisite: ME 4310. 3 hrs.

ME 5400 Automatic Control of Flight Vehicles Synthesis of basic autopilot and stability augmentation systems for flight vehicles. Advanced flight control structures including integrated flight/fire control, control of inertial cross-coupling. Human pilot plus airframe and the relationship with lying qualities requirements. Extensive use of commercial software tools. Prerequisite: ME 3600. 3 hrs.

ME 5450 Computational Fluid Dynamics I Basics of Computational Fluid Dynamics (CFD) including classification of partial differential equations, finite difference formulations, parabolic partial differential equations, stability analysis, elliptical equations, hyperbolic equations, scalar representations of the Navier-Stokes equations and grid generation. Prerequisites: ME 3560; CS 2010. 3 hrs.

ME 5500 Materials Science II Advanced course in both metallic and non-metallic engineering materials, including commercial alloy systems, polymers, elastomers, composite materials, and ceramics. Mechanical and physical properties useful to design are related to composition, atomic
structure, and manufacturing processes. Includes failure mechanisms of metals, ceramics, polymers, and composites. Prerequisites: ME 2200, ME 2320, (ME 2500 or AAE 2500) and ME 2570. 3 hrs.

ME 5330 Advanced Product Design An engineering design project from concept to adoption. Static and dynamic analysis. Mechanical systems design and layout. Prerequisites: ME 3600, 4530. 3 hrs.

ME 5550 Intermediate Dynamics Three dimensional kinematics and dynamics of rigid bodies; equations of motion; Lagrange's equations; work and energy; impulse and momentum; virtual work; stability; computer simulation; introduction to vibrations. Prerequisites: ME 2580, MATH 3740. 3 hrs.

ME 5580 Mechanical Vibrations A study of the oscillatory motion of physical systems with emphasis on the effects of vibrations on the performance and safety of mechanical systems. Prerequisites: ME 2580, MATH 3740. 3 hrs.

ME 5600 Engineering Analysis Application of vector analysis and differential equations to the solution of complex engineering problems. Prerequisite: ME 360 or equivalent. 3 hrs.

ME 5610 Finite Element Method Development of finite element techniques for solution of one-, two-, and three-dimensional problems in heat transfer, fluid flow, structures and elasticity. Prerequisites: ME 2570, 3560, 4310, and MATH 3740 or equivalent. 3 hrs.

ME 5620 Application of Numerical Methods in Engineering Finite difference methods for initial value and boundary value problems; 2D finite differencing, boundary element methods applications to differential equations of heat transfer, fluid flow, and solid mechanics. Prerequisite: Consent of instructor. 3 hrs.

ME 5640 Engineering Noise Control Introduction to basic concepts of noise control, nature of sound and its effect on our environment. Indoor and outdoor sound propagation. Noise standards and measurements. Case studies of real-world implementation of noise control engineering. Laboratory experiments. Prerequisites: MATH 3740, ME 2580. 3 hrs.

ME 5690 Principles of Fatigue and Fracture Basics of experimental techniques and modeling used in industry to study inelastic deformations, fatigue, and fracture of engineering materials and structures. Prerequisite: ME 365 or consent of instructor. 3 hrs.

ME 5710 Gas Dynamic Basic equations of compressible flow, isentropic relationships, normal and oblique shocks. Prandtl-Meyer expansion, Fanno Line and Rayleigh Line flow. Applications to nozzles, diffusers, supersonic wind tunnels; and linearized flows and method of characteristics. Prerequisites: ME 4310, 4320. 3 hrs.

ME 5720 Advanced Thermodynamics Conditions of equilibrium, process and thermodynamic engines, the extremum principle, Maxwell relations, stability of thermodynamic systems, phase transitions, chemical thermodynamics, irreversible thermodynamics, and introduction to the statistical thermodynamics. Prerequisites: ME 4310, 4320. 3 hrs.
ME 5730  Engineering Materials: Material selection for resistance to both load and environment. Design parameters for material selection and various metal systems, corrosion, service failures and mechanical behavior of engineering alloys at high and low temperatures. Prerequisites: (ME 2500 or AAE 2050) and (ME 3650 or MSE 4570). 3 hrs.

ME 5750  Tribology-Principles and Applications: Surface chemistry, topographical measurement and description, contact mechanics, wear mechanisms, lubrication and film formation, hydrodynamic theory and application in bearings, application to friction and wear in machine elements. Prerequisites: ME 3560, 3650. 3 hrs.

ME 5800  System Modeling and Simulation: This is a first course in the principles of mathematical modeling of stochastic and deterministic systems. It will focus on analytical models, mathematical rigor and computer simulation of problems. Students will simulate a number of systems using appropriate stochastic and deterministic models using a computer. Prerequisites: ECE 3710, ECE 3800 or equivalent. 3 hrs.

ME 5850  Mechatronics: A course in fundamentals of motion control, primarily as it is applied to robotics. Students will learn the basics of control systems as applied to multiaxis servo systems. Appropriate time will be devoted to develop a sound basis in the electro-mechanical discipline. Prerequisites: ECE 2100, ME 2580 and (ECE 3710 or ME 3600). 3 hrs.

ME 5860  System Identification: This is a course in model determination. Students will learn the basics of defining system structure and techniques for finding parametric values. The emphasis will be placed on the application of modeling to practical problems in the student's specific discipline. Prerequisite: ECE 5800 or ME 5800. 3 hrs.

ME 5950  Topics in Mechanical Engineering: A specialized course dealing with some particular area of mechanical engineering not included in other course offerings. Prerequisite: Consent of department. 1-4 hrs.


ME 6300 Advanced Fluid Dynamics Modern developments in fluid dynamics of compressible and incompressible fluid flow. Includes kinematics of fluid motion, laminar and turbulent flow in pipes, fluid machinery, and supersonic flow. Prerequisites: ME 3560, 4320, and MATH 3740. 3 hrs.

ME 6320 Energy Resources and Conversion Availability and economic utilization of energy resources. Terrestrial and thermodynamic limitations. Energy conversion applications. Fission and fusion. Applications of solar, water, wind, and geothermal energy. Prerequisite: ME 2320 or consent of instructor 3 hrs.

ME 6330 Advanced Control Systems Digital controls, analog controls, introduction to modern control, state variable analysis, system simulation techniques, optimal design, parameter sensitivity and stability analysis, robotics control applications. Prerequisite: ME 3600. 3 hrs.

ME 6340 Digital Flight Control Systems Analysis and design of discrete and sampled-data control systems applied to aircraft and missile systems. Basic digital system concepts, mathematical models of open and closed-loop systems containing a digital computer, and Z transform analysis. Compensation techniques applied to aerospace systems. Digital filtering, including Tustin transform and pole-zero mapping. Z plane and W plane analysis of system stability and performance. Computer simulation of sampled-data systems. Extensive use of commercial software tools. Prerequisites: ME 5330, or equivalent, and 5400. 3 hrs.

ME 6350 Turbulence The physical nature of turbulence. Dimensional analyses. The basic equations for studying the turbulent transport of momentum and heat and their dynamical significance. Characteristics of turbulent wall- and free-shear layers. Probabilities and statistics related to turbulence and experimental methods in fluid flow. Prerequisites: ME 5300, 5600. 3 hrs.

ME 6360 Applied Optics and Optical System Design Classical and conventional optical methods in use by the engineering and research community. Moire, Speckle and Speckle-shearing interferometry. Holographic interferometry. Photo-elasticity and electronic speckle pattern interferometry. Optics and lasers for research and industrial applications. Digital image processing and optical system design. Prerequisite: Consent of instructor. 3 hrs.

ME 6370 Design Optimization Elements of design optimization. Defining design variables, cost functions, and constraints. Simplex method for linear problems and numerical methods for nonlinear unconstrained and constrained problems. Prerequisite: ME 562. 3 hrs.

ME 6450 Computational Fluid Dynamics II Advanced topics in Computational Fluid Dynamics (CFD) including transformation of the equations of fluid motion from physical space to computational space, the Euler equations of gasdynamics, the Parabolized Navier-Stokes equations of gasdynamics, the Navier-Stokes equation of gasdynamics, finite volume methods and turbulent flows. Prerequisite: ME 5450. 3 hrs.

ME 6510 Advanced Strength of Materials, Elasticity, and Plasticity Torsion of non-circular cross sections, shear center, curved beams, beams on elastic foundations, flat plates, and an introduction to two-dimensional elasticity and plasticity. Prerequisite: ME 4530. 3 hrs.

ME 6530 Fatigue of Engineering Materials  Advanced approach to the problem of fatigue damage and life prediction; cyclic stress-strain response under uniaxial and multiaxial loading, fatigue limit, high and low cycle fatigue; surface integrity and fatigue life improvement. Prerequisite: ME 5690 or consent of instructor. 3 hrs.

ME 6540 Composite Materials  Introduction to matrix and fiber materials that form the basis of modern composites. Fabrication of these materials into composites. Behavior of unidirectional and short fiber composites. Experimental characterization of composites. Fracture mechanics, fatigue, impact, and environmental effects. Prerequisite: ME 3500 or consent of instructor. 3 hrs.


ME 6590 Multibody Dynamics  Kinematic and dynamic analyses of constrained mechanical systems consisting of many interconnected rigid bodies. Analytical and numerical methods are presented for the computer-aided formulation and solution of the non-linear equations of motion of complex mechanical systems. Prerequisite: ME 5550. 3 hrs.

ME 6600 Advanced Finite Elements  Implementation of the finite element methods: Mixed formulations. Plate bending. Time dependent problems in solid mechanics and heat transfer. Introduction to nonlinear problems. Prerequisite: ME 5610. 3 hrs.

ME 6630 Structural Vibrations  Vibration response of coupled and uncoupled structures. Wave propagation, transmission, and reflection. Effects of internal and external damping, impedance discontinuities and curvature. Four-pole parameter technique for vibration isolation system design. Modal analysis. Sound generation. Prerequisite: ME 5550 or ME 5580. 3 hrs.

ME 6640 Acoustics  Principles of acoustics, stressing the physical concepts underlying the derivations, associated assumptions and solutions to the wave equations in bounded and unbounded fluids and solids. Topics include: acoustic wave equations; integral equations; attenuation; acoustics of pipes, ducts, cavities, wave guides and resonators; environmental, architectural, underwater acoustic transducers. Prerequisite: ME 5640 or consent of instructor. 3 hrs.

ME 6650 Sound and Structure Interaction  Introduction to acoustic radiation from vibrating infinite and finite plates and the effect of fluid-loading on them. Acoustic transmission through and reflection from single-leaf and double-leaf partitions. Acoustic excitation of elastic plates and coupling
between panels and open and enclosed acoustic spaces. Prerequisite: ME 5640 or consent of instructor. 3 hrs.

ME 6690 Engineering Fracture Mechanics Fundamentals of the theory of linear elastic fracture mechanics (LEFM), crack-tip opening displacement (CTTOD), J-integral, R-curve, mixed-mode fracture and fracture toughness testing. Prerequisite: ME 5690 or consent of instructor. 3 hrs.

ME 6710 Advanced Heat Transfer I-Conduction Heat Transfer Fundamental aspects of conductive heat transfer applied to steady state and transient conditions. One-, two-, and three-dimensional conduction problems with exact and approximate solution techniques utilizing the computer are studied. Prerequisites: ME 4310, 4320. 3 hrs.

ME 6720 Advanced Heat Transfer II-Convection and Radiation Heat Transfer Fundamentals of thermal radiation for black, gray, non-gray, diffuse, and specular surfaces. Gaseous radiation and special applications of thermal radiation including derivation and application of equations of mass, energy, and momentum transfer. Prerequisites: ME 4310, 4320. 3 hrs.

ME 6730 Power Plant Design Theory and application of internal combustion engines, gas turbine power plants, steam turbine power plants, and other prime movers. Emphasis is on application of thermodynamic principles combined with open-ended design problems in power plant applications. Prerequisites: ME 4310, 4320. 3 hrs.

ME 6760 Phase Change Phenomena Fundamentals of pool boiling and forced convective nucleate and film boiling, critical heat flux, falling-film evaporation, convective condensation, influence of non-condensables, phase-change enhancement techniques, and phase-change in two-component mixtures. Prerequisite: ME 4310. 3 hrs.

ME 6950 Advanced Topics in Mechanical Engineering: Variable Topics A specialized course dealing with some particular advanced area of Mechanical Engineering not included in other course offerings. Prerequisite: Consent of instructor. 1-4 hrs.

ME 6970 Problems in Mechanical Engineering Special problems of individual need or interest under the direction of a member of the graduate faculty. May be elected with approval of department chairperson and faculty member. Application must be submitted and approved prior to the election of the course. 1-6 hrs.

ME 7000 Master's Thesis 6 hrs.
ME 7100 Independent Research 2-6 hrs.
ME 7300 Doctoral Dissertation 15 hrs.

Paper Engineering, Chemical Engineering, and Imaging
IMAG 5100 Printability Analysis Relationships between printed substrate, ink, printing process and resulting print quality from both the theoretical and measurement standpoints. Print recognition and printing problems analysis from the point of view of substrate formation and its physicochemical properties, ink characteristics and the printing process parameters. Main techniques of printability
evaluation will include modern optical methods of light interaction with both printed and unprinted substrate, spectrophotometry, and image analysis. Prerequisite: IMAG 3500 or 3580 or 3590 or PAPR 3420. 3 hrs.

PAPR 6000 Surface and Colloid Chemistry Intermolecular forces are considered in detail to build a sound background for consideration of surface and colloidal behavior of matter. The thermodynamics of interfaces and surfaces is covered in detail considering the topics of absorption, surface films, wetting, capillary penetration, and diffusion. Colloidal topics covered include areas such as ionic boundary layers, electrokinetic potential, swelling and shrinkage of gels, ion exchange, surface active agents, detergency, and retention of particles. 3 hrs.

PAPR 6200 Paper, Printing, and Ink A detailed analysis of the interrelationships of paper and the printing process. Testing methods for printing smoothness, ink receptivity, picking and runnability are the major areas of concentration. Printing problems and quality are also considered as they are influenced by paper, coating, ink, and press conditions and operations. 3 hrs.

PAPR 6210 Nonimpact Printing Nonimpact printing processes are discussed in terms of fundamental printing mechanisms. The effects of substrate, paper, for example, properties on the printing processes are considered. Processes discussed include electrophotography, electrography, ink jet, die sublimation, magnetography, and ionography. Prerequisites: PAPR 3420 or 3570 or equivalent. 3 hrs.

PAPR 6400 Coating Rheology The theories of flow of non-Newtonian liquids are discussed as they apply to pigmented coating systems. Further theories are formulated and evaluated in the lab to attempt to explain the behavior of coating under the shear conditions found in coating application systems. 3 hrs.

PAPR 6410 Coating Formulations Intensive study of the functional properties and cost considerations involved in developing coating formulations. Contributions of pigments, additives, and binders to optical, mechanical, printing, and surface properties are discussed in the context of coating formulations. 3 hrs.

PAPR 6500 Advanced Paper Processes Advanced treatment in the production of paper starting at stock preparation, including paper coating, converting, and printing. Particular emphasis on relationship of paper making to production of printing papers. Role of recycled fibers. 3 hrs.

PAPR 6600 Mechanics and Optics of Paper and Fibers The mechanics and optics of individual fibers and fiber networks will be considered from both theoretical and measurement standpoints. Stress-strain-analysis, theory of elasticity and flow, statics, reflection, absorption, transmission, and light scattering of these systems will be covered. 3 hrs.

PAPR 6910 Pulp and Paper Operations II Continuation of the study of the unit operations integral to pulp and paper manufacturing. The paper manufacturing phase is emphasized while completing the systematic study of unit operations used in the industry. 3 hrs.
PAPR 6930 Environmental Systems Engineering  The course will focus on the environmental issues associated with the pulp and paper industries. Air, water, solid waste, thermal, and noise emissions, control processes, economic, and legal issues will be studied in concert with the operation of pulp and paper manufacture. 3 hrs.

PAPR 6950 Graduate Topics in Paper/Printing  A special course dealing in some particular subject of interest in pulp and paper and/or printing. Prerequisite: Permission of the instructor. 1-4 hrs.

PAPR 6960 Paper Industry Control Systems  A study of the control of pulping and papermaking processes with emphasis on computer control strategies and the sensors and instrument systems unique to the pulp and paper industry. Areas covered include process control concepts, process response analysis, digital and distributed digital control systems, programmable logic controllers and other hardwares of control loops. 3 hrs.

PAPR 6980 Pulping and Bleaching  The course will cover principles of kraft and sulfite pulping, use of other pulping chemicals such as anthraquinone, borohydride, and polysulfides. It will also cover all types of high yield pulps and bleaching of both chemical and high yield pulps. Bleaching chemicals that will be discussed will include chlorine, chlorine dioxide, hypochlorite, dithionite, hydrogen peroxide, oxygen, and ozone. Various bleaching sequences that are currently in practice and under development will be discussed. Prerequisite: PAPR 3030. 3 hrs.

PAPR 6990 Pilot Plant Research  Research experience using the department's papermaking, recycling, paper coating, and printing pilot plants. Project management and experimental design of research. Preparation of research reports. 1 hr.

PAPR 7000 Master's Thesis  6 hrs.

PAPR 7100 Independent Research  2-6 hrs.

PAPR 7120 Professional Field Experience  2-12 hrs.

PAPR 7130 Practicum in Teaching in the Discipline  A practicum in teaching in paper and imaging science and engineering done as a collaborative effort with an experienced faculty member in an undergraduate course. Six hours are required for the doctoral degree. 3 hrs.

PAPR 7250 Doctoral Research Seminar  Seminars presented by graduate students, faculty, and visiting lecturers concerning their research. 1-6 hrs.

PAPR 7300 Doctoral Dissertation  12 hrs.

PAPR 7350 Graduate Research  2-10 hrs.

College of Fine Arts

Art
ART 5100 Drawing Workshop  Continuation of ART 3100. Prerequisite: ART 3100. 1-6 hrs.
ART 5200 Independent Study in Art History Problems in art history from ancient times to the present selected by the individual student in consultation with the instructor. Prerequisites: ART 2200, 2210, and a 5000-level course in the area of interest; permission of instructor. 2-3 hrs.

ART 5210 Topics in Art History: Variable Topics Investigation of changing topics in art history in class or seminar sessions by advanced students. Course title varies from term to term. Prerequisites: Art History major or minor with junior status of higher; MFA candidates and other undergraduate and graduate students with permission of instructor. 3 hrs.

ART 5220 Topics in Medieval and Renaissance Art Investigation of changing topics in Medieval and Renaissance art history in seminar sessions. Advanced theory and methods are stressed. Research papers are required. Course has variable topics. Prerequisites: Art History major or minor with junior status or higher; MFA candidates and other undergraduate and graduate students with permission of instructor. 3 hrs.

ART 5230 Topics in Modern Art Investigation of changing topics in modern art in seminar sessions. Advanced theory and methods are stressed. Research papers are required. Course has variable topics. Prerequisites: Art History major or minor with junior status or higher; MFA candidates and other undergraduate and graduate students with permission of instructor. 3 hrs.

ART 5240 Topics in Native American and African Art Investigation of changing topics in Native American and African art in seminar sessions. Advanced theory and methods are stressed. Research papers are required. Course has variable topics. Prerequisites: Student must be an Art History major or minor with junior status higher; MFA candidates and other undergraduate and graduate students with permission of instructor. 3 hrs.

ART 5250 Topics in Asian Art Investigation of changing topics in Asian art in seminar sessions. Advanced theory and methods are stressed. Research papers are required. Course has variable topics. Prerequisites: Art History majors or minors with junior status or higher; MFA candidates and other undergraduate and graduate students with permission of instructor. 3 hrs.

ART 5300 Ceramics Workshop Advanced work in ceramics on an independent basis. Prerequisite: ART 3300. 1-6 hrs.

ART 5310 Sculpture Workshop Continuation of ART 3310. The advanced student explores the expressive possibilities of his or her own individual sculptural direction, with bronze and aluminum casting related techniques. Prerequisite: ART 3310. 1-6 hrs.

ART 5380 Jewelry and Metalsmithing Workshop Advanced work in jewelry design and metalsmithing. Students collaborate with the instructor to plan a suitable and particular direction for study. Prerequisite: ART 3380. 1-6 hrs.

ART 5400 Painting Workshop Continuation of ART 3400. Prerequisite: ART 3400. 1-6 hrs.

ART 5410 Printmaking Workshop An advanced seminar for experienced graphic students; all printmaking media available; emphasis on development of personal concepts and refinement of methods
appropriate to individual needs through research. Prerequisite: Any 3000-level print-making course. 1-6 hrs.

ART 5420 Watercolor Workshop Continuation of advanced watercolor techniques with emphasis on experimentation. Prerequisite: ART 3420. 1-6 hrs.

ART 5480 Photography Workshop Professional development through research in advanced projects. Prerequisite: ART 4480. 1-4 hrs.

ART 5520 Preparation for Art Teaching A course designed to investigate: the current problems and issues on the social scene which affect teaching and learning in the visual arts at all levels of the public school; the creative person, product, process, and press (environment); the phenomena of perceptual learning; the actual construction of an operant art curriculum for the elementary, middle, and high school programs. Prerequisites: ART 4520 and art major status. 3 hrs.

ART 5530 Independent Studies in Art Education An arranged elective course in which the student investigates and researches a problem, a project, or trends in art education. (Not to be taken in place of required art education courses.) This course is open to graduate and non-degree level students. Prerequisites: 2520, 3520, 4520, 5520, and permission of the art education chairperson. 1-6 hrs.

ART 5560 Video A course that provides an advanced studio experience for students interested in working with computer tools and ideas that have affected the growth of new visual media. The class begins with the introduction to single camera video production strategies, concepts, and non-linear video editing. Prerequisite: ART 4560. 1-4 hrs.

ART 5600 Arts Education for the Elementary Teacher A studio course designed for the elementary classroom teacher to provide experiences in qualitative elementary arts and integrated arts programming in the elementary public school. 3 hrs.

ART 5700 Intern I Design Practicum in Design Center. Involves an introduction to problem solving for real clients from the community and university. Focus is on the design process from concept to completion and involves client contact, budget preparation, electronic pre-press production, and interface with printers and the printing industry. Prerequisites: ART 3510 and ART 3610. 3 hrs.

ART 5710 Intern II Design Practicum in Design Center. Involves an introduction to problem solving for real clients from the community and university. Focus is on the design process from concept to completion and involves client contact, budget preparation, electronic pre-press production, and interface with printers and the printing industry. Credits are variable due to the fact that larger more intense projects are sometimes given and the credits are determined by the depth of the project. Prerequisites: ART 4600 and ART 5800. 3-6 hrs.

ART 5900 Drawing and Painting Studio An instructor-directed graduate level course of study that helps the student develop a personal pictorial language, explore a variety of aesthetic concepts, investigate different processes while working with both traditional and non-traditional materials/media, and become familiar with contemporary art theories in drawing and painting. The primary focus of this
course of study is on the making of original works of art and integrating new understandings into one’s own pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5920 Photography Studio An instructor-directed graduate level course of study that helps the student develop a personal pictorial language, explore a variety of aesthetic concepts, investigate different processes while working with both traditional and non-traditional photography media and materials. Students will become familiar with contemporary art theories related to photography. The primary focus of this course of study is on the making of original works of art and integrating new understandings into one’s personal pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5930 Digital Imaging Studio An instructor-directed graduate level course of study that helps the student develop a personal pictorial language, explore a variety of aesthetic concepts, and investigate different processes while working with digital technologies. Students will become familiar with contemporary art theories. The primary focus of this course of study is on the making of original works of art and integrating new understandings into one’s own pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5940 Ceramics Studio An instructor-director graduate level course of study that helps the student explore the limits of clay, work toward a significant degree of growth, be innovative and creative, and gain insight and personal experience of ceramic process and technique. Traditional and contemporary approaches to clay will be demonstrated. Primary focus will be on ceramic objects, both functional and sculptural. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5950 Sculpture Studio An instructor-directed graduate level course of study that helps the student develop a personal visual language, explore a variety of aesthetic concepts, and investigate different processes while working with both traditional and non-traditional sculpture media/materials. Students will become familiar with contemporary art theories related to sculpture. The primary focus of this course of study is on the making of original works of art and integrating new understandings into one’s personal pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5960 Printmaking Studio An instructor-directed graduate level course of study that helps the student develop a personal pictorial language, explore a variety of aesthetic concepts, investigate different processes while working with both traditional and non-traditional printmaking media and materials. Students will become familiar with contemporary art theories related to printmaking. The primary focus of this course of study is on the making of original works of art and integrating new understandings into one’s personal pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5970 Jewelry and Metalsmithing Studio An instructor-directed graduate level course of study that helps the student develop a personal visual language, explore a variety of aesthetic concepts, investigate different processes while working with both traditional and non-traditional media and materials. Students will become familiar with contemporary art theories related to jewelry and metalsmithing. The primary focus of this course of study is on the making of original works of art and
integrating new understandings into one’s personal pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2hrs.

ART 6100 Advanced Drawing Graduate level work in drawing. Prerequisites: ART 5100 and official admission to an Art graduate program. 1-6hrs.

ART 6130 Graduating Presentation Preparation and presentation of graduating exhibition, portfolio, and oral examination with the assistance of the student's major advisor. Evaluated by the student's Graduate Committee. Prerequisite: Last year of graduate study. 2hrs.

ART 6200 Independent Study in Art History Problems in art history from ancient times to the present selected by the individual student in consultation with the instructor. Prerequisites: ART 2200, 2210, and a 5000-level course in the area of interest or the equivalent; permission of instructor. 1-3hrs.

ART 6210 Graduate Topics in Art History Graduate level seminar in art history covering varying topics, ranging from prehistoric to modern periods. 3hrs.

ART 6250 Graduate Art Seminar A survey, investigation, discussion, and evaluation of selected topics in contemporary art and associated practicum activities. Topics for investigation may include: Exhibition Preparation in Galleries and Museums; the Artist and the Market; Technology and Computers in Art; Funding Artists and Art Programs; Artists and Society: The Audience and Formation of Taste; Moral Philosophy and Art. Prerequisite: Art major status. 1hrs.

ART 6300 Advanced Ceramics Graduate level work in ceramics. Prerequisites: ART 5300 and official admission to an Art graduate program. 1-6hrs.

ART 6310 Advanced Sculpture Graduate level work in sculpture. Prerequisites: ART 531 and official admission to an Art graduate program. 1-6hrs.

ART 6400 Advanced Painting Graduate level work in painting. Prerequisites: ART 5400 and official admission to an Art graduate program. 1-6hrs.

ART 6410 Print Workshop/Seminar Advanced research in development of personal concept, method, and uses of graphic processes. Emphasis on personal expression; exploration toward an individual and mature imagery. Prerequisites: ART 5410 and official admission to an Art graduate program. 1-6hrs.

ART 6420 Advanced Watercolor Graduate level work in watercolor. Prerequisite: Official admission to an Art graduate program. 1-6hrs.

ART 6450 Advanced Graphic Design Graduate level work in graphic design. Prerequisites: ART 5450 and official admission to an Art graduate program. 1-6hrs.

ART 6480 Advanced Photography Graduate level work in photography. Prerequisites: ART 5480 or equivalent experience and official admission to an Art graduate program. 1-6hrs.
ART 6510 Art Education Theory
Theories of art and education as they influence art education theory and practice. Includes discussion of various historical and contemporary viewpoints in aesthetics, criticism, art history, art studio for teaching, and discussion of historic and recent developments in art education. Prerequisite: Admission to Master of Arts in Art Education program. 3 hrs.

ART 6520 Recent Topics in Art Education
Topical seminar. Each semester different topics will be investigated in depth in terms of instruction and assessment, curriculum development, and research. Possible topics include: Multicultural Perspectives in Art Education, Technology in Art Education, Students with Special Needs in Art Education, Assessment, Community Approaches to Art Learning, and Interdisciplinary Roles for Art in Education. Must be repeated once, under a different topic. Prerequisite: ART 6510. 3 hrs.

ART 6530 Research in Art Education
This course examines research and research methods used for conducting inquiry in art education. Quantitative and qualitative research models will be discussed. Methods of data collection and data analysis will be presented. Students generate research problems, prepare a literature review, and write a research proposal to guide the final graduate project in ART 6550. Prerequisites: ART 6510 and six credits of ART 6520. 3 hrs.

ART 6550 Graduate Project in Art Education
In this course a student conducts independent inquiry and prepares a written project in which a problem of some significance to the field is investigated and reported. This research is conducted under supervision by graduate faculty in art education. The project is to be composed of research conducted by the student for the purpose of demonstrating knowledge and understanding of research methods in art education, and knowledge of issues and developments in the field of art education. The project proposal is to be written and approved in ART 6530. The completed work must be approved by a committee of graduate faculty. Students who plan to work with human subjects in their research study must abide by the rules and practices established for Western Michigan University. The project itself may employ qualitative and or quantitative research methods on a topic or problem directly related to art education. This would include a phenomenological study of students in an art class context; an analysis of a premise or construct traced through the literature of art education; a survey of attitudes, beliefs, or practices conducted among arts education professionals; or the preparation and field testing of an extensive curriculum module. The use of digital media in the final form of the presentation is encouraged and will be negotiated with graduate faculty. Prerequisites: ART 6510, 6 credits of ART 6520, and ART 6530. 2-4 hrs.

ART 6900 Advanced Studio
An advanced graduate level course in studio. Students choose advanced work in a studio that continues work begun during a previous semester. The choices are painting and drawing, photography, digital imaging, sculpture, ceramics, printmaking, or jewelry and metalsmithing. Goals for the student will be negotiated with the instructor and designed to pursue more depth and enhanced performance than the previous level. Prerequisite: ART 5900 or ART 5920 or ART 5930 or ART 5940 or ART 5950 or ART 5960 or ART 5970. 2 hrs.

Dance
DANC 5450 Arts Administration Seminar
To be taken in conjunction with PADM 6410 Administering Arts Organizations. The seminar will offer the student an opportunity through readings
and discussions to focus on those administrative issues specific to the student’s art discipline. Prerequisite: Admission to M.F.A. in Performing Arts Administration program or permission of program director. 1 hr.

DANC 5890 Season Planning and Production This course will address two components. The Season Planning component will cover the programming of an entire season of live performances focusing on program concepts, choices of facilities, scheduling, budgeting, and marketing. The Production component will address planning, schedules, touring, front-of-house management, contracting, technical production, stage management, rehearsals, and performances. Prerequisite: Admission to M.F.A. in Performing Arts Administration program or permission of program director. 2 hrs.

DANC 5980 Readings in Dance Advanced students with good academic standing may elect to pursue independently a program of readings in areas of special interest. Prerequisite: Approved application required. 1-4 hrs.

DANC 5990 Non-Reading Independent Study in Dance Advanced students with good academic standing may elect to pursue independently the study of some area of dance through the creative process. Topics are chosen and arrangements are made to suit the needs of each particular student. Prerequisite: Approved application required. 1-4 hrs.

Music
MUS 5000 Applied Music Private lessons for the graduate student in a non-major area of performance. 1-2 hrs.

MUS 5010 Master Class The study of literature, performance practices, and techniques for a specified musical medium (instrument or voice). Individual performance assignments will be made appropriate to each student's level of accomplishment. Class meetings may vary from small groups of students with common performance levels to meetings for the entire class for the purpose of dealing with materials and techniques common to all performers. 2 hrs.

MUS 5100 Symphonic Band Prerequisite: Membership by audition. 1 hr.

MUS 5110 University Orchestra Prerequisite: Membership by audition. 1 hr.

MUS 5120 University Chorale Prerequisite: Membership by audition. 1 hr.

MUS 5130 Jazz Orchestra Prerequisite: Membership by audition. 1 hr.

MUS 5140 Instrumental Chamber Music Special ensembles formed to perform standard instrumental chamber music works. Ensembles may include a variety of combinations, e.g., string quartets, woodwind quintets, brass quintets, percussion ensembles, piano trios, etc. Credit will be given only if a sufficient rehearsal/performance schedule warrants. 1 hr.
MUS 5160 Music Theatre Practicum  A production experience in music theatre. Each semester culminates in an opera or musical comedy production. Open to singers, actors, accompanists, instrumentalists, and persons interested in production techniques. Admission by audition or permission of the instructor.  1 hr.

MUS 5170 Collegium Musicum  Performance of early Western music. Open to all students of the University. Additional transcription, arranging, editing, and conducting of early music is required of enrolled Music History majors. Graduate students may count not more than two hours of this course for graduation. Membership by audition.  1 hr.

MUS 5180 Improvisation  A course in the fundamentals of instrumental improvisation. Assignments will be made in such areas as improvisation in the early music tradition, improvisation on given melodic, harmonic, and/or rhythmic materials, as well as “free” improvisations. Prerequisite: MUS 1610.  2 hrs.

MUS 5190 Gold Company  Prerequisite: Membership by audition.  1 hr.

MUS 5300 Advanced Choral Conducting  Supervised experience in conducting vocal groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: Audition required.  2 hrs.

MUS 5310 Advanced Instrumental Conducting  Supervised experience in conducting instrumental groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: Audition required.  2 hrs.

MUS 5550 Jazz Arranging  Jazz Arranging is a study of the art of arranging for the jazz ensemble—both traditional and contemporary. The course will undertake a detailed study of instrument ranges, transpositions, and sound potential, and will cover voicings, scoring practices, calligraphy, and contemporary trends within the medium. Prerequisites: MUS 1580 (or consent of Instructor) and MUS 1610; “C” or better required in each course.  2 hrs.

MUS 5560 Advanced Jazz Arranging  A study and application of the art of arranging for the jazz ensemble, studio orchestra and show orchestra. The course will undertake a detailed study of scoring for winds, brass, strings, voices and percussion in relation to traditional and contemporary trends within the medium. Prerequisites: MUS 5550 and MUS 2640 or concurrently.  2 hrs.

MUS 5580 Jazz Improvisation I  A study and directed application of the fundamentals of jazz improvisation including basic chord and scale construction and recognition, harmonic function, chord-scale relationships, and basic blues and popular song forms. All students will be required to develop aural/ad performance skills relative to those theory skills. Prerequisites: MUS 1580 (or consent of Instructor) and MUS 1610; C or better required in each course.  2 hrs.

MUS 5590 Jazz Improvisation II  A study and directed application of advanced techniques of jazz improvisation including chord extension, voicing, inversions and substitutions, chord function and progressions, and complex scales and their applications. All students will be required to develop aural
MUS 5600 Counterpoint A study of the contrapuntal techniques of the 18th, 19th, and 20th centuries. Written assignments are closely correlated with the contrapuntal styles of significant composers. Prerequisites: MUS 1610 with a grade of C or better. 2 hrs.

MUS 5610 Counterpoint A continuation of MUS 5600. Prerequisite: MUS 5600. 2 hrs.

MUS 5620 Advanced Compositional Topics This course will cover advanced techniques used by composers. Topics will vary and will be announced when the course is offered. Prerequisite: Permission of instructor. 2 hrs.

MUS 5640 Seminar in Electronic Music Composition Original music composition with digital and analogue synthesizers and computers. Creation of sound scores for concert performance, film, video, dance, theatre, or art installations. Includes the investigation of various types of sound synthesis, as well as the operation of studio sound mixers and multi-track recorders. In addition to the weekly seminar, the student will be assigned a number of hours weekly for independent work in the studio for the realization of the project, which will receive periodic guidance and criticism from the instructor. Prerequisites: MUS 26300, MUS 1000 (Composition), or permission of the instructor. 2 hrs.

MUS 5650 Seminar in Music Theory Research projects in music theory. Research methods and analytic discipline are stressed. Study will be focused in an area of the student's need or interest. Prerequisite: MUS 2610. 2 hrs.

MUS 5660 Musical Acoustics A course designed for the music student. Discussion as well as laboratory demonstration of such concepts as: simple vibrating systems; waves and wave propagation; complex vibrations; resonance, intensity and loudness levels; tone quality; frequency and pitch; intervals and scales; tuning and temperament; auditorium and room acoustics; psychoacoustics. In addition, the instruments of the orchestra, the human voice, and recent developments in sound system components will be investigated. Prerequisite: MUS 1610. 3 hrs.

MUS 5670 Orchestration A study of the characteristics of instruments, and of arranging for the various individual choirs, for combinations of choirs, and for full orchestra. Prerequisite: MUS 2610. 2 hrs.

MUS 5680 Orchestration A continuation of MUS 5670. Prerequisite: MUS 5670. 2 hrs.

MUS 5720 Baroque Music (1600-1750) A survey of the choral and instrumental music of the Baroque masters such as J. S. Bach and G. F. Handel. Special attention to the development of style from monody through harmonic polyphony. Prerequisites: MUS 2700 and 2710. 3 hrs.

MUS 5730 Classical Music (1750-1800) Examination of the chief works of Mozart and Haydn, with intensive study of symphonic form and the development of the classic opera. Prerequisites: MUS 2700 and 2710. 2 hrs.
MUS 5740 Romantic Music (1800-1910) Music of the important composers of the period beginning with Beethoven, along with the historical, cultural, and political background of the era. Prerequisites: MUS 2700 and 2710. 3 hrs.

MUS 5770 Symphonic Literature A survey of music written for symphony orchestra during the Classic and Romantic periods. 2 hrs.

MUS 5780 Chamber Music Literature A survey of chamber music literature of the Classic and Romantic periods. 2 hrs.

MUS 5790 Operatic Literature A survey of opera from 1600 to the present. 2 hrs.

MUS 5800 Solo Literature: (topics) Solo literature for a specific medium (voice, piano, violin, etc.) will be studied from a theoretical, historical, and performance point of view. Topics to be announced. Prerequisites: MUS 2700 and 2710. 2 hrs.

MUS 5810 Choral Music Literature A survey of choral music (mass, motet, anthem, cantata, oratorio) from the Renaissance through the Romantic period. 2 hrs.

MUS 5820 Wind Music Literature A survey of windband ensembles and literature from the Renaissance period through the twentieth century. 2 hrs.

MUS 5830 Jazz History and Literature A survey of the history of jazz including aspects of sociology and history as they relate to the art form of jazz. All periods in jazz history, from its earliest roots in Africa and the slave culture in the United States, up through the blues, dixieland, swing, bop, mainstream and the more eclectic period of jazz rock and free-form jazz will be explored. Important works will be examined from each period in order to grasp the essentials of a particular style. Prerequisite: MUS 5580 or department's consent. 3 hrs.

MUS 5850 Medieval Music A survey of music in Western Europe from the end of Antiquity to the early 15th century. The major developments in style, theory, and notation will be explored within the context of the general cultural and political environment of the era. Problems of performance practice will receive special attention with emphasis on primary manuscript sources and scholarly performing editions. Prerequisites: MUS 2700 and MUS 2710. 2 hrs.

MUS 5860 Renaissance Music A survey of music in Western Europe from the early 15th century to the early 17th century. Developments in the major musical genres of the era will be examined with emphasis on a comparison of the Franco-Flemish tradition with the emerging national styles. Performance practice options will be explored. Prerequisites: MUS 2700 and MUS 2710. 2 hrs.

MUS 5870 Contemporary Music A survey of trends in European music and music of the Americas from about 1910 to the present. 3 hrs.

MUS 5890 Topics in Ethnomusicology This topics course examines various methods, problems, and issues in ethnomusicological writing and research. Topics will vary and be announced each semester. The approach taken in the course reflects current practice in the field of ethnomusicology.
drawing upon theoretical writings in a variety of disciplines including ethnomusicology, musicology, anthropology, theater, cultural studies, and women's studies. Prerequisite: Consent of instructor for non-music majors. 3 hrs.

MUS 5900 Studies in Pedagogy  Topics to be announced. Selection will be made from the following: Piano Pedagogy, Vocal Pedagogy, String Pedagogy, Brass Pedagogy, Woodwind Pedagogy, Pedagogy of Teaching Theory, or similar topics. Prerequisite: 3000-level applied voice or permission of instructor. 1-4 hrs.

MUS 5940 Electronic Media  The purpose of this course is to expose the student to the equipment used in various recording situations and its operations, as well as discussing the artistic use of this equipment. Although predominately a technique course, areas which affect the creative aspects of the final recording will be discussed (such as microphone placement, tasteful vs. inappropriate editing, etc.) In addition to the recording aspects, other electronic instruments used in performances will be surveyed, including synthesizers of various types (both keyboard and non-keyboard) and traditional electronic instruments (guitars, electronic organs, electronic pianos, and various sound modification devices). 2 hrs.

MUS 5950 Workshops in Music Education  Intensive, short-term courses that address the instructional and pedagogical issues found in today's schools, as well as issues of specific concern for current teachers in the field of music. Topics will be from all areas of music education. Prerequisite: Advisor consent. 1-4 hrs.

MUS 5960 Multi-track Recording  A course in the theory and techniques of multi-track recording and mixing. Students begin with an in-depth study of the mechanics of a multi-track recorder and the signal flow of a recording/mixing console. Microphone techniques as well as various approaches to room set-up are presented through reading assignments and studio demonstrations. Attention is given both to traditional techniques and the need for engineers to try new approaches to familiar circumstances. Students also study the most commonly used signal processors and how they might be used during recording of mixing for best results. Various listening assignments introduce students to the subtleties of mixing. A final project is required wherein each student must organize and execute a full 24-track production, from microphone selection through the final mix. Prerequisite: MUS 5940 or instructor consent. 2 hrs.

MUS 5970 Projects in Music  A program of independent study to provide the unusually qualified music student with the opportunity to explore a topic or problem of interest, under the guidance of one of the faculty of the department. The initiative for planning the project must come from the student and must be approved by the faculty member proposed to supervise the study. Prerequisite: Application approved by School of Music. 1-4 hrs.

MUS 5990 Projects in Recording Technology  An independent study allowing the unusually qualified student the opportunity to explore a topic or problem in recording technology. Prerequisites: MUS 5960, approved application, and instructor permission required. 1-4 hrs.

MUS 6000 Applied Music  Private lessons for the graduate student in the major performance area. Includes conducting. 1-4 hrs.
MUS 6070 Conducting Master Class  A course designed to explore the multiple roles of the conductor. Topics may include philosophy aesthetics, ensemble organization and administration, collaborative literature, working with guest artists and rehearsing ensembles outside students’ area of expertise. Course Prerequisite: Admission to the graduate conducting program or conducting as an approved cognate. 1 hr.

MUS 6100 Introduction to Research in Music  A course in the general methods and techniques of research in the field of music. Students will complete a comprehensive bibliography, an annotated bibliography, and a research paper in the area of concentration of their graduate program of study. 3 hrs.

MUS 6140 Chamber Music Ensemble  Special ensembles comprised of graduate students to perform chamber music works. Ensembles may include a variety of combinations, e.g., string quartets, woodwind quintets, percussion ensembles, piano trios, vocal ensembles, etc. Prerequisite: Approved application. 1 hr.

MUS 6170 Opera Workshop  A production experience in acting, singing, accompanying, and producing of musical theatre. The class is offered each semester and culminates in the performance of an opera or operatic scenes. Open to advanced singers, pianists, and persons interested in production techniques. Admission is by personal interview with the instructor. 2 hrs.


MUS 6410 Choral Techniques and Organization  The study of choral activities in relation to organization, repertoire, style, diction, singing technique, balance, blend, tone quality, phrasing, rehearsal technique, and conducting. 2 hrs.

MUS 6420 Philosophy of Music Education  Designed to acquaint the student with aesthetic and pragmatic thinking regarding the nature and value of music, and to provide a rationale for curricular development and teacher behavior. 2 hrs.

MUS 6450 Arts: Aesthetics and Criticism  This course will focus on addressing the “common threads” in the performing arts utilizing theories of aesthetics and criticism as well as the elements that are unique to each discipline. Extensive readings in aesthetics and critical theory will be required, as well as the study of historical aspects of the discipline. Students will be expected to attend a number of arts performances/events in dance, music and theatre disciplines, and reflect their understanding of readings and discussions through written assignments. Prerequisite: Admission to the Master of Music or the M.F.A. in Performing Arts Administration programs or permission of instructor. 3 hrs.

MUS 6500 Seminar in Music Education  Each participant will be expected to develop a project which is of interest to him or her, but each project will be subject to group discussion, review and analysis. The lectures and reading will deal with the entire field of music education. 2 hrs.

MUS 6620 Seminar in Composition  The completion of an original composition of larger scope for any combination of acoustic instruments, and which may include multi-media. Seminars will include
analysis of advanced contemporary works, discussion of current trends in music composition, and reading assignments. Prerequisite: MUS 3620 or equivalent. 2 hrs.

MUS 6640 Form in Music A survey of the musical forms, large and small, used from the Baroque period to the present day. Analysis of both structure and texture of representative works of the various periods and styles. 2 hrs.

MUS 6660 The Teaching of Theory Analysis of various techniques, philosophies, and materials used in teaching theory and their relative strengths and weaknesses. Application of what we know about the learning processes to theory and the practical application of theory to all musical study. 2 hrs.

MUS 6700 Seminar in Musicology A course designed to permit the student to explore selected areas of music history. A project is required which will be subject to group analysis and discussion. 2 hrs.

MUS 6720 Seminar in Jazz A course designed to permit the student to explore selected areas in jazz studies. A project is required which will be subject to group analysis and discussion. 2 hrs.

MUS 6740 Seminar in Music Theory A course designed to permit the student to explore areas of music theory. A project is required which will be subject to group analysis and discussion. 2 hrs.

MUS 6790 Composers An investigation of the life and works of a significant composer. The particular composer selected for study during a given semester will be indicated in the Schedule of Course Offerings. 2 hrs.

MUS 6800 Seminar in Music Therapy A course designed to permit the student to explore selected areas of music therapy, i.e., therapeutic techniques, evaluation procedures, or role of music therapy in a variety of settings (hospital, school, community). A project is required, which will be subject to group analysis and discussion. 2 hrs.

MUS 6810 Research in Musical Behavior Development and employment of research methods and techniques applied to the psychology of music and/or music education. Students enrolled in this course will be responsible for an experimental research project which, in the case of music education students, will satisfy the “terminal project” requirement (MUS 691) or, in the case of music therapy students, will provide the data basis for the required MUS 700, Master's Thesis. When this course is the culminating project for the master's degree, an oral examination on the project and related areas is an integral part of the requirements. Prerequisite: MUS 6100 or ED 6010. 2 hrs.

MUS 6900 Graduate Recital Presentation of a full-length recital in the student's area of concentration (music performance or composition). When this course is the culminating project for the master's degree, an oral examination on the recital materials and related areas is an integral part of the requirement. 2 hrs.

MUS 6910 Special Project in Music Education A research project in the area of the teaching of music. The nature of the special project is to be determined in consultation with the Graduate Advisor and appropriate members of the graduate faculty. Projects must be approved prior to registration. When
this course is the culminating project for the master's degree, an oral examination on the project and related areas is an integral part of the requirements.  2 hrs.

MUS 6980 Readings in Music An advanced, designated project of study. Graduate students may enroll in this course after consultation with the graduate advisor.  Prerequisite: Approval of graduate advisor.  1-4 hrs.

MUS 7000 Master's Thesis  6 hrs.
MUS 7100 Independent Research  2-6 hrs.
MUS 7120 Professional Field Experience  2-12 hrs.

Theater
THEA 5600 Audience Development This course will focus on the goals, functions, and means of audience development, with special attention to audience education in the arts. Topics will include the use of quantitative and qualitative analytical techniques to determine bases for creating programs to reach targeted, potential audiences based on demographics; developing master classes, residencies, special presentation, instructional material and post-performance experiences for targeted groups; and methods of evaluating the results of specific programs developed for a specific purpose.  Prerequisite: Admission to the M.F.A. in Performing Arts Administration or permission of program director.  2 hrs.

THEA 5610 Facility and Ticket Office Operations This course will address issues in facility management for presenting and producing performances and special events (e.g., handling food service for premieres and openings of shows, fundraisers, rentals, etc.) with consideration for the size of the performance space including an overview of the physical operations of such a facility, and the use of auxiliary spaces (e.g., Miller Auditorium, Gilmore Theatre Complex, Dalton Center Recital Hall, Multi-Media Room, Dance Studio B, etc.). The course will also include basics of setting up and running a ticket office for both manual and computerized systems, as well as special sales, audit requirements and artist payments based on percentages. Personnel requirements will be included in relation to the variable above. Prerequisite: Admission to the M.F.A. in Performing Arts Administration or permission of program director.  2 hrs.

THEA 6120 Practicum in Arts Administration  Students in the M.F.A. in Performing Arts Administration will be placed with area arts organizations and at some campus sites (e.g., Miller Auditorium) in situations where they will work alongside professionals in various aspects of arts administration. These experiences may take place during various times of the academic year and are offered for variable credit to allow for the greatest flexibility.  Prerequisite: Admission to the M.F.A. in Performing Arts Administration or permission of program director.  3-9 hrs.

College of Health and Human Services

Alcohol and Drug Abuse
ADA 5200 Family and Addiction This course provides students with knowledge on the effects of substance abuse on the family. Included is theory and practice regarding dysfunctional relationships, children of substance abusers, and resulting disorders.  3 hrs.
ADA 5250 Women and Substance Abuse Treatment This course provides knowledge on gender specific treatment of substance abusers. This includes physiological aspects of women, as well as cultural aspects and methods to enhance the treatment of women substance abusers. 3 hrs.

ADA 5300 Clinical Theory in Substance Abuse Services This course covers selected theories which form the foundation for substance abuse services practice in specific areas. Students are expected to master the content as a basis for building foundation knowledge for applied practice. The specific topics are announced with each semester offering. 1-4 hrs.

ADA 5350 Drug Testing This course explores the theory and practice of drug testing and its applications in both clinical practice and employment settings. The spectrum of testing ranges from field dexterity to gas chromatography. Federal requirements are reviewed for application in both clinic and work settings. 3 hrs.

ADA 5370 Constructive Confrontation and Referral in Substance Abuse Services This course provides students with knowledge of intervention strategies for active substance abusers. Emphasis is placed on strategic constructive confrontation techniques and effective referral processes. 3 hrs.

ADA 5400 Current Issues in Alcohol and Drug Abuse This course, taught in seminar, reviews basic and applied research advances in prevention and treatment of substance abuse. Emphasis is on bridging research advances to practice areas. The focus of the course is research published in the previous year. 1 hr.

ADA 5410 Group Home Treatment This course reviews custodial, milieu, and function aspects of group home treatment. Theories and practices are presented with emphasis on long-term treatment outcomes. 1-6 hrs.

ADA 5450 Alcohol, Drugs, and Aging The problems of alcohol, medication, and legal and illegal drug use, misuse, and abuse among older persons will be discussed. Prevention, intervention, and treatment will be considered. 3 hrs.

ADA 5600 Clinical Practice in Selected Substance Abuse Services Areas This course covers variable topics in clinical substance abuse services practice. It is a skills development course which helps students to become proficient in specific techniques and procedures related to client service. The specific areas are announced with each semester. 1-4 hrs.

ADA 5650 Alcohol, Drug Abuse, and Violence This course provides the student with knowledge on the multiple relationships of substance abuse and violence, child abuse, and other assaultive behaviors. 3 hrs.

ADA 5670 Legal Offenders and Substance Abuse This course provides the student with knowledge on the theories associating substance abuse with criminal and civil offenses. Specific focus is on the treatment strategies and techniques related to the offending population and long-term outcomes of decreased recidivism. 3 hrs.
ADA 5700 Field Education: Substance Abuse  A clinical, prevention, research, or administrative field experience in substance abuse services. The field experience involves direct supervision by faculty and clinical supervisors. Prerequisite: Admission to certificate program and permission of instructor.  1-6 hrs.

ADA 5800 Substance Abuse Prevention  This course explores the multiple theories and techniques used in the prevention of substance abuse. The history and evolution of prevention is presented, as well as cognitive, affective, and behavioral strategies.  3 hrs.

ADA 5850 Student Assistance Programs  This course provides students with knowledge of the theories and practices of student involvement with drugs, intervention strategies, referrals, and follow-up.  3 hrs.

ADA 5900 Applied Alcohol and Drug Dependence Recovery Techniques  This course provides the student with knowledge of self-help groups and formal relapse prevention strategies. Application of relapse prevention strategies are integrated into multiple aspects of the continuum of care.  3 hrs.

ADA 5980 Readings in Substance Abuse Services  This course is offered as independent study and reading under the guidance of a faculty member. Initiative for planning the topic for investigation and seeking the appropriate faculty member comes from the student, with consultation from the advisor. Prerequisite: Consent of instructor and program advisor.  1-4 hrs.

ADA 6100 Drugs and the Workplace  This course provides knowledge of work based programming theories and practices regarding drugs of abuse. Course work and readings focus on policy formulation and implementation of procedures.  3 hrs.

ADA 6170 Etiologies of Substance Abuse  A study of various social and behavioral theories regarding the causation of alcohol and drug addiction. The findings of research will be examined as they tend to support or disaffirm these social and behavioral theories.  3 hrs.

ADA 6300 Legal and Illegal Drugs of Abuse  This course deals with the pharmacological aspects of psychoactive/psychotropic drugs having abuse potential. Special emphasis is placed on observable signs and symptoms resulting from use/abuse/dependence of those drugs.  3 hrs.

ADA 6310 Seminar in Substance Abuse I  This interdisciplinary seminar is designed to reflect broadly conceived intervention strategies ranging from primary prevention to rehabilitation of the addict.  3 hrs.

ADA 6320 Seminar in Substance Abuse II  Continuation of ADA 6310.  3 hrs.

ADA 6500 Substance Abuse Assessment  This course deals with the physical, social, psychological, vocational, economic, and legal symptoms of substance abuse. Instrumentation for assessment in clinical practice is presented as well as medical and non-medical diagnostic criteria. This course includes clinic-based instruction in assessment strategies.  3 hrs.
ADA 6800 Clinical Supervision in Substance Abuse Service This course explores the theories and techniques used in the provision of clinical supervision to substance abuse services practitioners. Direct clinical supervisory skills are covered in detail and clinic-based instruction in clinical supervision is included. 3 hrs.

ADA 7100 Independent Research 2-6 hrs.

ADA 7120 Professional Field Experience 2-12 hrs.

CTA 5000 Introduction to Drug and Device Development This course introduces the student to the pharmaceutical and medical device industry and the process of drug and device development. Drug Development Phases I-IV are discussed. Preclinical (animal) research, regulatory requirements are reviewed along with the content of the Investigational New Drug Application (INDA), the New Drug Application (NDA), Pre-Market Approval (PMA), and the Marketing Authorization Application (international). The roles of the Investigator, Study Coordinator, Sponsor, and Monitor are discussed. Students are exposed to the skills necessary to function as a mid-level research employee. 3 hrs.

CTA 5100 Clinical Pharmacology in Drug Development This course provides an overview of pharmacology, highlighting pharmacodynamics and pharmacokinetics, both of which are necessary to understand new drug discovery and development. A review of selected therapeutic areas will be reviewed, including oncology, cardiovascular, central nervous system, and anti-infectives. 3 hrs.

CTA 5200 Clinical Trial Design and Statistical Concepts The course is designed to allow the student to develop an understanding of the use and importance of statistics in drug development. This course will teach the fundamental statistical concepts used in the design, analysis and regulatory review of clinical studies and drug dossiers. It will provide an understanding of the basic statistical theory used in the interpretation of clinical trial efficacy and safety results. It will give the student an understanding of the statistical requirements applied by regulatory agencies in their review processes. 3 hrs.

CTA 5300 Clinical Study Administration I This course covers the planning, development, implementation and management of clinical trials. Topics include regulations, protocol development, case report form design, clinical data management operation, writing and conducting informed consent, Institutional Review Boards, contracting, budget development, selection and evaluation of research sites and activities required for implementation of a clinical trial. Prerequisite: CTA 5000. 3 hrs.

CTA 5400 Clinical Study Administration II The course builds on the content of Clinical Study Administration I and presents the steps necessary to initiate, monitor, and close clinical trials within the context of Food and Drug Administration (FDA) regulations, Canadian Health Protection Branch regulations, and International Conference on Harmonization guidelines for Good Clinical Practices. Topics include: study monitoring, source document review, drug and device distribution and accounting, data correction and management, adverse event reporting, auditing and preparing for FDA inspection, Data review and summarization and final study reports. Prerequisite: CTA 5300. 3 hrs.

CTA 5500 Ethical and Legal Issues in Clinical Research Generally, biomedical professionals are expected to learn the high standards of their chosen profession by example and experience. In the
area of clinical trials that involve human volunteers, the assimilation of ethical standards cannot be left to chance. Personnel involved in clinical trials must balance the dual goals of scientific merit and ethical acceptability. Ethical principles (respect for autonomy, non-maleficence, beneficence, justice), and other ethical concerns (privacy, confidentiality, compassion, relationships among patients and professionals) are studied and applied to contemporary problems in medicine and clinical research. This course is designed to be practical, incorporating the use of case studies that illustrate problems arising in the design and conduct of research trials. 3 hrs.

Gerontology
GRN 5210 Women and Aging This course offers an examination of the impact of aging on women, with special emphasis on the diverse experiences, challenges, and social and economic conditions of older women. The course will explore the status and roles of women in an aging society. Topics to be covered include the economics and politics of aging, the health status of women, women as caregivers, and retirees. The plight of minority older women will be addressed. 3 hrs.

GRN 5250 Religion and Aging A survey of the views of and attitudes toward the aging process and older people held by the world's major religions will be explored. Particular attention will be paid to the relation of religious views and social policy in the U.S. 3 hrs.

GRN 5300 Special Topics in Gerontology This is a variable topic, variable credit course for consideration of current and special interests in gerontology. Specific topics, number of credit hours and Prerequisites, if any, will be announced each time the course is scheduled. 1-4 hrs.

GRN 5430 Survey of Geriatric Medicine This course provides an overview and survey of the care of the elderly patient from a medical perspective. The issues of medical problems, long-term care, nursing, rehabilitation, and the social considerations will be broadly discussed. In addition, the interaction of all of the issues of elderly care will be analyzed. 3 hrs.

GRN 5440 Aging and Mental Health This is a survey of mental health and mental health treatment problems of older adults. Topics include the courses of major mental illness in old age, depression, and dementias. Consideration will be given to etiologies, current therapies, and treatments, as well as barriers to treatment in this population. 3 hrs.

GRN 5450 Alcohol, Drugs, and Aging The problems of alcohol, medication, and legal and illegal drug use, misuse, and abuse among older persons will be discussed. Prevention, intervention, and treatment will be considered. 3 hrs.

GRN 5470 Alzheimer's Disease and Other Dementias Dementia is a complex issue compounded by stereotypical views of aging and the aged. This course focuses on social, psychological, etiologic, and epidemiological issues related to dementia together with the problems of diagnosis and treatment. Alzheimer's Disease, probably the most common cause of dementia, will receive specific attention. The purpose of this course is to help students gain an understanding of dementia as both a social and medical problem. 3 hrs.
GRN 5810  Leadership in the Aging Network  The course examines the development of the aging network and the influence this development has had on what it means to be a leader in this environment and what leadership skills will be most effective. The complexities of managing service delivery in the aging network will be examined. This will include the who, what, when, where and why of different reporting requirements, for example the similarities and differences among nursing home regulations and hospice regulations; financial and funding features; and a survey of a variety of agency structures. Within this context, leadership and leadership styles will be considered. Knowledge, skills, and attitudes considered essential for successful service delivery will be studied. Motivation, conflict resolution, cultural and ethnic sensitivity and ethics will be discussed.  3 hrs.

GRN 5980  Readings in Gerontology  This course is offered as independent study and reading under the guidance of a faculty member. Initiative for planning the topic for investigation and seeking the appropriate faculty member comes from the student, with consultation from the advisor. Prerequisite: Consent of instructor and director.  1-4 hrs.

GRN 6700  Approaches to Aging  This course is a graduate-level introduction to the issues facing older persons, their providers and caretakers. Professional inter- and multi-disciplinary, cultural, ethnic, and non-western approaches to aging are some of the features of gerontology that will be discussed during the semester. The format of this course is a combination of traditional didactic instruction and online synchronous and asynchronous discussion.  3 hrs.

GRN 6800  Multidisciplinary Seminar in Gerontology  This seminar introduces students from different disciplines to older persons and their concerns through publications written by older persons and surveys of current issues in health care and health care policy. Readings present the personal perspectives of older persons in a variety of situations. Students will be required to analyze these perspectives within the context of their academic discipline. Current events are surveyed through multiple media. Students will analyze the impact of medical and social breakthroughs and legislative decisions.  3 hrs.

GRN 6810  Program Planning and Development in Gerontology  This seminar in the gerontology graduate specialty program will explore the process of program planning and development through meetings with national, state, and local funding agencies and meetings with service providers in various kinds of programs for older persons throughout the region.  3 hrs.

GRN 6900  Field Education in Gerontology  This course is designed to give the student a learning experience during which the student can apply some of the knowledge and information acquired in the gerontology academic setting and further develop and refine his/her professional skills with the guidance and assistance of those professionals currently working in gerontology. Prerequisite: Admission to the program and permission of instructor.  1-6 hrs.

GRN 7100  Independent Research  2-6 hrs.
GRN 7120  Professional Field Experience  2-12 hrs.

Interdisciplinary Health Studies
HSV 6350  Special Topics in Health and Human Services  This is a variable topics, variable credit graduate level course for consideration of current and special interest in Health and human
services. Specific topics and number of credit hours will be announced each time the course is scheduled. 1-4 hrs.

HSV 6700 Field Education This course is designed to give the student a total learning experience during which the student can apply some of the knowledge and information obtained in the health and human services academic setting and further develop and refine his/her professional skills with the guidance and assistance of those professionals currently working in the health and human service arenas. Prerequisite: Consent of instructor. 1-6 hrs.

HSV 6980 Readings in Health and Human Services This course is offered as independent study and reading under the guidance of a faculty member. Initiative for planning the topic for investigation and seeking the appropriate faculty member comes from the student, with consultation from the advisor. Prerequisite: Consent of instructor and program advisor. 1-4 hrs.

IHS 6250 Health and Human Service Organization and Delivery Systems Provides a systematic approach to understanding the origin, evolution, and utilization of health and human services in the United States, including comparisons with the provision of services in other countries. Concepts and perspectives concerning the influence of economics and politics on current service provision are also explored. The course examines the institutional and individual providers, alternative delivery models, the dynamics of health and human service markets, and the impact of changing service environment on service organizations and delivery strategies. Topics such as managed care including Medicaid Managed Care, community health care, and the development of services responsive to the needs of special populations, multicultural societies, and underserved communities will be discussed. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6260 Qualitative Research Concepts in HHS Provides students with the ability to design, conduct, and analyze research findings using various qualitative research methods. These methods include comparative, historical, case study, content analysis and other types of observation and interview strategies for data collection. Students will learn to determine the strengths and limitations of qualitative research methods for expanding the knowledge base in health and human services. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6270 Health and Human Services Policy and Politics Develops a systematic and analytical framework for understanding policy-making processes in health and human services, including identification of need and the formulation, implementation, and evaluation of policy. The political processes by which decisions are made and resources allocated and the ethics, laws, institutions, and forces, which affect these processes at local, state, and federal levels, are also considered. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6280 Quantitative Research Concepts in Health and Human Services Provides an overview of the statistical concepts and methods often used in HHS research. Course content will include concepts of probability, hypothesis testing, measures of central tendency and dispersion, and sampling. Students will learn to conduct bivariate and multivariate statistical tests common in HHS research, and to interpret the results. Correlation and linear regression will also be described, and students will be introduced to basic concepts in non-parametric statistical analyses. Examples will be drawn from current research in health and human services, and students will acquire skills in critiquing research designs and
statistical approaches. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6290 College Instruction and Assessment Examines current theories on learning, intelligence, memory, and learning styles and individual capabilities, and their application to curriculum design, instruction, and methods of assessment. The effects of class, gender, and culture on learning and teaching are analyzed, as well as curricular issues related to accreditation of programs and to professional licensure and certification. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6300 Designing and Conducting Health and Human Services Research Provides students who are beginning to plan their dissertation research an opportunity to learn about formulating and focusing research questions, collecting and managing data, and analyzing and evaluating data. Topics included in this course include commonly used true and quasi-experimental research designs, threats to internal and external validity of research results, and scaling of data. Ethical issues in designing, conducting and reporting of research findings will also be discussed, along with issues of multiculturalism in research design. This course offers students an opportunity for development of their dissertation research proposal with guidance from the course instructor and other faculty. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6310 Proposal Development and Management Provides students with skills needed to compete successfully for funding in various health and human services venues. This course provides an overview of grantsmanship, including identifying sources of research and program development support and developing successful proposals, including drafting budgets, preparing evaluation plans, and developing collaborative relationships to strengthen grant proposals. Principles of project management will also be discussed. These include ensuring fiscal and ethical accountability, supervision of staff, and documenting progress toward project goals. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6320 Innovative Pedagogy and Instructional Design Examines models of teaching and related research and the inclusion of innovative pedagogy, including teaching through technology, problem-based learning, collaborative learning, and distance learning. Techniques for instructional design and assessment are discussed. Issues relating the shift from teacher-centered to learner-centered instruction are explored. Learners will be expected to apply one or more innovative pedagogies in an applied area. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6330 Ethics and Law in Health and Human Services Professions and Scientific Research Applies principles of ethics to health and human service decision-making, policy formulation, and to clinical and research situations. Current issues and research in biomedical and social ethics are examined, together with the legal and ethical concerns which affect interdisciplinary collaborative practice. Laws are discussed which influence the provision and delivery of care and services at local, state, and federal levels. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.
IHS 6340 Health and Human Services Current Issues Seminar Analyzes current issues in health care and human services, including psycho-social aspects of disease and wellness, and recent trends in health promotion and education. Topics include evidence-based medicine, patient/client-centered care, and risk management. The course also examines the research on strategies for quality and cost control, measurement of outcomes, and service evaluation. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6350 Interdisciplinary Practice in Health and Human Services Examines the principles associated with interdisciplinary practice and presents a variety of team organization models. Discusses the historical forces behind team practice and the impact of individual professional philosophies on team utilization, participation, and maintenance. Additional issues analyzed include management structure, team building, case management, and outcomes measurement. An in-depth look at team dynamics will include communication, collaborative decision-making, collective responsibility and accountability, and conflict resolution. The impact of the team members’ organizational behavior will also be explored. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 6970 Dissertation Seminar Assists students in the preparation of a dissertation proposal and facilitate the transition from course work to dissertation research. The student will work under close supervision of a faculty member and his/her dissertation committee to design and develop a dissertation proposal. Prerequisite: Completion of course work in PhD in Interdisciplinary Health Studies. 1-3 hrs.

IHS 7100 Independent Research Prerequisite: Enrollment in the Ph.D. in Interdisciplinary Health Studies. 2-6 hrs.

IHS 7130 Practicum in Teaching in the Discipline Students will apply the theory and techniques learned in the pedagogical module and develop instructional skills through participation in a supervised teaching practicum. The student will teach an entire semester-length, three-credit course. This mentored teaching experience will provide the student with a wide range of instructional experiences, including course preparation, instruction, and assessment of students. The student must use innovative instructional techniques. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Studies or permission of director. 3 hrs.

IHS 7300 Doctoral Dissertation 1-12 hrs.

Blindness and Low Vision Studies
BLS 5770 Services for Persons Who Are Blind or Have Other Disabilities This course explores issues that affect services for people who are blind or have other disabilities. It includes prevalence and incidence of various disabling conditions, adaptive recreation, history and current status of service legislation, consumer organizations, professional organizations, accreditation, models of service delivery, national and international agencies and organizations, national and international resources, social service programs, and trends and future issues. 1-2 hrs.

BLS 5840 Computer Technology in Rehabilitation This course is designed to introduce the student to computer technology, as it relates to persons with disabilities. Students will learn the uses,
parts, and operating commands of common adaptive computers, as well as the software used with them. In addition, the major adaptive forms of input and output are investigated. 3 hrs.

BLS 5860 Job Development and Placement This course applies career choice and job placement concepts to persons with disabilities. It includes occupational aspects of disability, pertinent laws and regulations including ADA and sections 5010-5040, labor market analysis, job analyses, rehabilitation engineering, job development, and work modification strategies. It provides experience in making employer contacts, overseeing clients' job seeking efforts, and training in job-related social skills. 3 hrs.

BLS 5880 Psychosocial Aspects of Disability This course provides an understanding of the psychosocial factors that impact upon the integration into society of individuals with disabilities. It examines the philosophy of rehabilitation, major classifications and paradigms, common stereotypes, attitudes and their measurement, psychiatric disabilities, theories of adjustment, psychosocial losses, issues relating to sexuality, personal adjustment training, the role of the family, the use of effective interaction skills, and the stages of group process. 2 hrs.

BLS 5890 Medical and Functional Aspects of Rehabilitation This course presents an interdisciplinary approach to the study of multi-handicapping conditions in rehabilitation. It includes information on the major disabling conditions such as traumatic brain injury, orthopedic, neuromuscular, visual, learning, speech and hearing, cardiovascular, mental and emotional disabilities, and other selected disabilities. Emphasis is placed upon the cumulative effects of concomitant disabilities with additional emphasis on visual impairment. 2 hrs.

BLS 5900 Physiology and Function of the Eye The anatomy, structure, and function of the eye, along with various eye diseases and malfunctions, are stressed in this course. The student is familiarized with various eye conditions, and their relationship to rehabilitation practice is emphasized. 2 hrs.

BLS 5910 Braille and Tactual Communication Systems This course is designed to teach the Braille literary code as it applies to Rehabilitation Teaching. Braille teaching methods are also presented. 2 hrs.

BLS 5920 Orientation and Mobility with Children This course will provide strategies for teaching orientation and mobility to children. Methods for teaching the typical orientation and mobility curriculum to children (indoor travel to business travel) will be presented. In addition, strategies for teaching areas specific to children, such as body image, sensory-motor, and concept development will be addressed. The focus will be on practical application in educational settings. 2 hrs.

BLS 5930 Methods of Teaching Adaptive Communications Adaptive communication methods used by visually impaired persons and the techniques of teaching them are explored in this course. Specifically, Braille, handwriting, listening, and recording devices, and typewriting are presented. This course also includes a supervised practical teaching experience with a visually impaired person. 2 hrs.

BLS 5950 Introduction to Orientation and Mobility The content of this course relates to problems of independent travel which result from reduced vision. Simulated experiences are provided which emphasize the sensory, conceptual, and performance levels needed for independent travel in a variety of environments. Prerequisite: Restricted to students enrolled in the Orientation and Mobility and Special Education/Orientation and Mobility programs. 2-4 hrs.
BLS 5960 Electronic Devices  Systematic instruction in use of fundamental electronic travel aids and overview of major electronic devices.  Prerequisite: BLS 5950.  1 hr.

BLS 5970 Principles and Practices of Low Vision  This course deals with assessment and remediation of functional problems encountered by low vision persons. Emphasis is placed on optical, non-optical, and electronic aids which increase visual functioning. In addition, the nature and needs of low vision persons and the interprofessional nature of low vision services are stressed. The concepts are explored that deal with initial intake procedures, assessment of near and distant visual acuity, assessment of near and distant visual field, color testing, evaluation of sunwear, evaluation of optical aids, training in the use of optical and non-optical aids, and use of equipment such as the lensometer and tonometer. Prerequisite: Approval of advisor.  2 hrs.

BLS 5980 Readings in Blindness and Low Vision  This course is arranged on an individual basis to provide students an opportunity to independently pursue an in-depth study of special areas of interest.  1-4 hrs.

BLS 6010 Small “N” Research: Design and Analysis  This course explores standard group research design, single subject and small numbers design. The emphasis is placed upon providing students with a working knowledge of an experimental methodology for demonstrating control in social/behavioral research where more traditional experimental control group paradigms are not feasible or desirable. This approach is based on an experimental methodology for demonstrating control with single or small numbers of subjects which includes design, internal replication, measurement, reliability, and visual or statistical analysis.  3 hrs.

BLS 6020 Gerontology in Orientation and Mobility and Rehabilitation Teaching  Elderly individuals who are visually impaired have specific rehabilitation needs that differ from those of younger people. This course is intended to provide students with discipline specific knowledge and adapted skills necessary to assist older persons who are blind or visually impaired meet their independent living and travel needs. The course begins with a brief overview of aging. Topics then include vision loss related to aging, assessment, hearing and vision screening, environmental evaluation and modification, and adaptation of independent living and travel techniques for people who are elderly.  2 hrs.

BLS 6040 Issues in Travel  This course is taken concurrently with BLS 5950. It presents theoretical content which facilitates effective teaching of independent travel skills to visually handicapped individuals. The topics of this course include development and use of spatial maps, use of the computer in mobility, conditions of travel, orientation to various environments, and types of guidance devices. Prerequisite: Restricted to students enrolled in the Orientation and Mobility and Special Education/Orientation and Mobility programs.  2 hrs.

BLS 6050 Practice in Low Vision  This is a laboratory course which provides experiences in initial intake procedures, assessment of near and distant visual acuity, assessment of near and distant visual field, color testing, evaluation of sunwear, evaluation of optical aids, training in the use of optical and non-optical aids, and use of equipment such as the lensometer and tonometer. Prerequisite: Approval of advisor.  1 hr.
BLS 6060 Adaptive Sports Activities for Visually Impaired Children This course introduces students to the adapted methods that are utilized in teaching physical education, recreation, and sports skills to young learners with visual impairments. The course will include a combination of lecture and practice. It will present: a) basic techniques and rules for each sport, b) techniques for adapting the activities, c) methods for teaching these techniques, d) an overview of appropriate elementary games, and e) resources useful for obtaining sports and recreational materials and information. Participation will be required. Each enrollee will take part in many physical activities while under the blindfold or using low vision simulators. 1 hr.

BLS 6070 Adaptive Art Activities for Visually Impaired Children This course will prepare students to instruct children who are visually impaired in the application of three-dimensional media such as raised line drawing, braille graphics, clay, plaster, wood, etc. 1 hr.

BLS 6100 Assisted Research This course requires a semi-independent research project related to rehabilitation. The student contributes a project that has been developed by a faculty member and is conducted by more than one student. 1-6 hrs.

BLS 6300 Special Topics in Blindness and Low Vision This is a variable topics, variable credit graduate level course for consideration of current and special interests in blindness and low vision studies. Specific topics and number of credit hours will be announced each time the course is scheduled. 1-4 hrs. (variable credits)

BLS 6440 Principles of Rehabilitation Teaching This course is concerned with the development and the current status of rehabilitation teaching as an occupation, with particular emphasis upon the teaching methods and human interrelationships which are essential in instructing visually impaired adults in skills of independent living. 3 hrs.

BLS 6910 Practicum in Rehabilitation Teaching This course provides supervised teaching experiences with blind or visually impaired individuals in a variety of settings. Course Prerequisite: Restricted to students enrolled in the following programs: Rehabilitation Teaching and Rehabilitation Counseling and Teaching. 1-2 hrs.

BLS 6940 Principles of Orientation and Mobility This course is concerned with the development and current status of orientation and mobility as an occupation. It emphasizes the perceptual and cognitive bases of travel with impaired vision as well as teaching methods and human interrelationships which are essential for effectively instructing visually impaired adults in skills of independent travel. 3 hrs.

BLS 6950 Practicum in Orientation and Mobility This course provides supervised teaching experiences with blind or visually impaired individuals in a variety of settings. Included within this course is a weekly seminar to discuss procedures of assessment, principles of professional practice and effective strategies. Prerequisite: Restricted to students enrolled in the Orientation and Mobility programs. 1-3 hrs.

BLS 6970 Clinical Practice in Low Vision The course will familiarize the student with current practice and resources in the administration of a comprehensive low vision service. Further, the course allows for a practicum to be served in a low vision clinic where the student gains experience both in
administration of the service, and in applied training methodologies with low vision clients. Prerequisites: BLS 5970 and 6050. 3 hrs.

BLS 6990 Research Projects in Blindness and Low Vision Studies Special research projects of individual need or interest under the direction of a BLS faculty member. May be elected with approval of department chairperson and faculty member. Application must be submitted and approved prior to the election of this course. Prerequisite: Restricted to students enrolled in the Orientation and Mobility and TCVI/Orientation and Mobility programs. 1-6 hrs.

BLS 7100 Independent Research This course requires the completion of a research project related to rehabilitation and conducted with faculty guidance. Prerequisite: Restricted to students enrolled in the Orientation and Mobility, Rehabilitation Teaching, Rehabilitation Counseling and Teaching, and TCVI/Orientation and Mobility programs. 2-6 hrs.

BLS 7120 Professional Field Experience This course requires a supervised internship experience in an organization that serves blind and visually impaired persons, during which the opportunity is provided for practical application of principles and methods in blind rehabilitation. Prerequisite: Restricted to students enrolled in the Orientation and Mobility, Rehabilitation Teaching, and TCVI/Orientation and Mobility programs. 2-12 hrs.

Bronson School of Nursing
NUR 5300 Historical & Theoretical Foundations of Nursing and Health Care This course focuses on the theoretical and historical foundations of the American “health care system” (the hospital, self-care, and public health). Ideas, events, and people are introduced and examined for their influence and significance in sculpting both the institutions and the social roles of health care. The interrelationship between nursing and the social, political, economic, and intellectual contexts are considered. Theories, conceptual models, and ways of thinking about health, disease, the illness experience, nursing, and relationships within the health care system are examined. Prerequisites: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 5310 Advanced Professional Nursing This course focuses on forward-thinking approaches for the profession on nursing in the 21st century. New definitions of advanced professional nursing will be discussed and challenged. This course, building upon the introduction to professional nursing in the undergraduate program, addresses such areas as informed practice, the culture of nursing, current and future roles of nurses, the dynamics of professional development and professional practice strategies. Prerequisite: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 6300 Ethics and Culture; Foundations for Leadership This course draws upon the disciplines of philosophy, ethics, and the social sciences in examining key concepts of professional practice that form the foundations for leadership. The key concepts include professional obligations, duties, and rights and cultural competence. The course builds upon the ethical and cultural foundations in the undergraduate program and leads to an increased understanding of the relationships between socio-cultural contexts, ethics, and the health/illness beliefs and practices of individuals, families, and communities from diverse backgrounds. Key aspects of relationship-centered care and the promotion of a holistic approach to meeting the health and illness needs of diverse individuals, groups, and
communities provide a common basis for exploring what it means to be a culturally competent, ethical health care professional and leader in health systems or education. Prerequisite: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 6310 Community focused Care: An Interdisciplinary Approach Relationship Centered Care and a holistic understanding of the nature of human beings, how they respond to health and illness, and the key role that health professionals play in promoting health and well-being of individuals, groups and populations is the focus of this core science course. The increasing complexity of illness care for populations with several chronic conditions call for new ways of addressing client needs. Content includes interdisciplinary components of health and illness, basic principles of epidemiology, community-based assessment and evaluation, issues of equity, and levels of prevention. Prerequisite: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 6320 Health Care Policy, Organization & Financing This course provides the basis for understanding health care policy, organization, and financing of health care. Current literature and research related to health care policy development and the health care delivery system are examined. Specific attention is paid to the role of nursing leadership in policy development and in changing the health care delivery system and the education of health professionals. Prerequisite: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 6400 Professional Inquiry: Qualitative and Quantitative Methods This course focuses on qualitative and quantitative methods of inquiry and the appropriate analyses with associated computer packages used for those studies. The course builds upon the foundations of research critique and evidence for informed practice studied at the baccalaureate level. The outcome of the course is the development of a proposal that may be applied to a research practicum project or thesis. Prerequisite: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 6410 Methods for Measuring Quality in Health and Educational Systems This course includes knowledge about the major theories for the measurement of quality in health care systems, educational organizations, and elsewhere with actual case examples using such measures. Additionally, the course will examine managerial and clinical rating systems used to determine program and service quality levels, and how the subsequent consideration of outcomes should be targeted for specific improvements. Students are expected to participate in the development of actual quality measures and explain prospective use of such measures in a defined health or educational system. Prerequisites: Admission to the Master of Science in Nursing program or consent of instructor and successful completion of NUR 6400. 3 hrs.

NUR 6500 Health Care Information Systems and Technology This course focuses on the processes essential for creating, using, and evaluating informatics systems in a health care organization. Automated systems are available that capture essential nursing data; however, standards for data collection are a requisite for usable information and knowledge building. This course provides nurse leaders with working knowledge of technical, user and environmental factors that are important to consider in the selection and use of clinical information systems that support nursing care and decision making processes. It builds on the foundations of informatics in the baccalaureate level. Students will gain an understanding of technology, data, human processing and how these elements are used to make
evidence-based decisions in healthcare systems and services. Prerequisite: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 6510 Leadership in organizations and Systems The need for demonstrated effectiveness of health care interventions and quality of care are of growing concern and emphasize the importance of evidence based decision-making processes. Health care professionals are now expected to make decisions based on evidence of effectiveness at individual, unit, and systems levels. This course focuses on higher order interdisciplinary critical thinking, strategic planning, and leadership for transformational change within health/illness care organizations and systems. Content relative to the changing requirements of health/illness care within the USA and the changing workforce needs is included. Emphasis is placed on the leadership role that nurses can play in creating healthcare systems that are safe, effective, and accessible to all. A practicum in leadership is included. Prerequisite: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 6520 Health Care Financing and Reimbursement An in-depth analysis of current methods for financing and payment for services rendered in a variety of settings, including home care, hospice care, extended care facilities, and acute care institutions. This course explores both traditional and non-traditional financing mechanisms, the role of state and national governments, professional associations, and insurance companies in setting the limits of coverage, and current payment methods, including billing codes. Focus is on the role of clinical nurse leaders in using this information to plan for quality service delivery. Prerequisite: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 6530 Clinical Nurse Leadership Practicum This course is designed to provide students, working with a mentor, with the opportunity to apply leadership content and refine leadership abilities in student-selected areas of interest. A practicum experience will occur at the organizational or system level. The outcome of the practicum will be the completion of and report on an agency-specific project. Prerequisites: Admission to the Master of Science in Nursing program and successful completion of NUR 6500, NUR 6510, and NUR 6520. 3 hrs.

NUR 6600 Curriculum and Teaching of Theory in Health Disciplines This course is designed to provide experienced health professionals currently holding (or planning to hold) faculty positions, with the theoretical foundations of how adults learn, how to design curricula in a health professional discipline, how and what to teach, and how to promote excellence in classroom teaching. The focus of the course is theories and principles of teaching and learning related to adults selecting a career in a health profession. Personal and educational philosophies, basic components of curriculum design and development, values clarification and personal learning styles, evaluation strategies, and communication strategies are integral to the course. Micro-teaching enables the learner to strengthen teaching methods and strategies and utilize new skills for the enhancement of teacher-learner interaction and dialogue, along with learner achievement of expected outcomes. A designated mentor teacher at the home university with a master’s or doctorate degree, nominated by the student and approved by the course director, works in partnership with the student and WMU faculty. Prerequisite: Admission to the Master of Science in Nursing program or consent of instructor. 3 hrs.

NUR 6610 Clinical Teaching and Evaluation in Health Disciplines This course is designed to provide experienced health professionals currently holding (or planning to hold) faculty positions with
the theoretical and practical aspects of teaching and evaluating learner performance in practice settings. The focus of the course is on clinical teaching and evaluation, preceptor preparation, and issues related to establishing and maintaining clinical sites for student learning. The theories and principles of teaching and learning related to adults explored in NUR 6600 provide the theoretical foundations, with application for use in the practice setting. A designated mentor teacher at the home university with a master’s or doctorate degree, nominated by the student and approved by the course director, works in partnership with the student and WMU faculty. Prerequisites: Admission to the Master of Science in Nursing program or consent of instructor and successful completion of NUR 6600. 3 hrs.

NUR 6620 The Scholarship of Teaching in a Clinical Disciple This course builds upon the knowledge and experience gained in NUR 6600 and NUR 6610, as well as the knowledge and skills of the experienced clinician. It is designed to provide expert nurses, occupational therapists, physician assistants, social workers, audiologists and low vision studies individuals currently holding or planning to hold a faculty position exposure to the scholarship of teaching and what it means to be an “academic” as a clinician. Academic responsibilities of faculty members, ethical and legal issues in education and the impact of professional trends, health care policies, and rapidly changing health and illness care environments on the education of tomorrow’s health professionals are explored. Prerequisites: Admission to the Master of Science in Nursing program or consent of instructor and successful completion of NUR 6610. 3 hrs.

NUR 6630 Practicum in Teaching This course is a mentored teaching practicum in the content area and site selected by the graduate student with agreement of course faculty. The practicum offers the learner an opportunity to develop, implement, and evaluate a teaching/course plan based on the principles of teaching & learning and curriculum development acquired in NUR 6600, NUR 6610, and NUR 6620. Requirements include development of a contract with the student’s mentor-teacher, measurable learning outcomes, a lesson plan, use of a variety of teaching methods and audio-visual aids, and both peer and student evaluation of effectiveness. Evaluation of learning includes development of a paper-pencil test following a test blueprint and use of a clinical tool as appropriate. A final scholarly paper on topic areas taught will also be required. Prerequisites: Admission to the Master of Science in Nursing program or consent of instructor and successful completion of NUR 6600, NUR 6610, and NUR 6620. 3 hrs.

NUR 6990 Research Project in Selected Area of Study This course focuses on the application of the research process to the development and conduct of the research proposal developed in NUR 6400. This course will provide advisement and supervision of the student’s selected investigation into the scholarship of teaching, the scholarship of clinical nurse leadership, or research with a selected population. The student may work in a faculty member’s program of scholarship in designing, collecting and/or evaluating data. The outcome of the practicum will be a scholarly paper. Prerequisites: Admission to the Master of Science in Nursing program and successful completion of NUR 6400 and NUR 6410. 3 hrs.

Occupational Therapy
OT 5300 Sensory Integration and the Child Study of theoretical principles and their application to evaluation and treatment of the child with sensory integrative dysfunction. Students will observe and
participate in screening and evaluation of children, and they will design treatment plans for selected clients. Prerequisites: OT 3350, 3510, and 4430; or OTR, RPT, or consent. 3 hrs.

OT 5730 Assistive Technology This course explores how a professional goes about evaluating, designing, and adapting technology to improve people’s participation in activities of their choice. The course also explores current commercially available technology and available community-based services for people with impairments and/or activity limitations. Prerequisite: Senior standing or permission of instructor. 3 hrs.

OT 5800 Advanced Clinical Application of OT Clinical Reasoning This course will provide advanced knowledge of clinical evaluation tools and techniques. Students will be given additional training on the most commonly used and the state-of-the-art clinical evaluation tools. Advanced use of guidelines for practice and the integration of knowledge for clinical reasoning will be emphasized. Students will develop treatment plans for people with a variety of conditions and diagnoses. Evidence-based practice in OT will be used for analysis of evaluation tools and guidelines for practice. Prerequisites: OT 3700, OT 3740, OT 3750, OT 3810, and OT 3820. 3 hrs.

OT 5810 Work Analysis and Consultation This course introduces students to work analysis in a variety of settings. Students learn to write job descriptions using ADA (Americans with Disabilities Act) standards (essential and nonessential job functions) and will learn to evaluate workers to determine their individual capability to perform a certain job (work capacity evaluation). Students will evaluate actual jobs to make recommendation (following current legislation) for modifications for the worker, work site, and work organization to decrease potential job-related injuries. Students will also develop a wellness and injury prevention program to address injury prevention for a specific population. Prerequisites: OT 4720 and 4750 or neurology, kinesiology, biomechanical background, and one, successful internship with consent of instructor. 3 hrs.

OT 6000 Advanced Clinical Practice in Occupational Therapy This lecture/lab/discussion course is focused on the development of advanced knowledge and skills in both traditional and emerging areas of occupational therapy practice. Students will review and discuss current literature related to theory and research in three selected clinical practice areas followed by application through participation in intensive hands-on workshops. Prerequisite: Admission to program. 3 hrs.

OT 6210 Introduction to Neurodevelopmental Treatment for Adults Foundations of neurophysiology and motor development are discussed. Opportunity is provided for application of neurodevelopmental theory, treatment principles and techniques to occupational therapy. Special attention is given to management problems of adults with hemiplegia. Prerequisites: OT 4430, OT 4530, OTR, or RPT; or consent of instructor. 3 hrs.

OT 6330 Administration of Occupational Therapy This course utilizes the basic skills of administration (planning, organizing, directing, coordinating, and controlling) in the development of a model of practice for occupational therapy services. These services will be developed for an agency or institution that does not now offer occupational therapy services, or for an agency or institution whose occupational therapy services need to be expanded. In addition to the model of practice, the student will prepare a grant proposal that could be used to initiate funding for the model. Prerequisites: All required undergraduate course work except Fieldwork II (OT 4530 may be taken concurrently). 3 hrs.
OT 6400 Theory in Occupational Therapy
This course explores core concepts, models, and paradigms of the past, present, and future and their influence on education, research, administration, and practice of occupational therapy. Components of theory, formulation of theory, and the effect of theory development on occupational therapy will also be explored. Prerequisites: All required undergraduate course work except Fieldwork II (OT 4530 may be taken concurrently). 3 hrs.

OT 6600 Research in OT I
This course explores research in occupational therapy and related fields while developing research skills. It will include principles of research design, analysis and critique of research, ethical research practices, proposal development, and beginning familiarity with statistical analysis. Prerequisites: All required undergraduate course work except Fieldwork I and II. 3 hrs.

OT 6610 Research in OT II
The purpose of this course is to build the research skills necessary to engage in scholarly scientific inquiry. It will include data analysis, basic statistical procedures, dissemination of research, critiques of research, funding and basic computer use for statistical analysis. Prerequisite: OT 6600. 3 hrs.

OT 6860 Graduate Seminar
This course examines topics relevant to new developments in environmental adaptations, treatment techniques, and/or innovations in the delivery of occupational therapy services. Prerequisites: All required undergraduate course work except Fieldwork II (OT 4530 may be taken concurrently). 3 hrs.

OT 6900 Fieldwork Level II
A twelve-week, full-time affiliation in a hospital or community agency providing the student experience in designated areas of occupational therapy. Departmental consent only. Prerequisite: Completion of OT 4820. 3-12 hrs.

OT 6910 Fieldwork Level II
A twelve-week, full-time affiliation in a hospital or community agency providing the student experience in designated areas of occupational therapy. Departmental consent only. Prerequisite: Completion of OT 6900. 3-12 hrs.

OT 6970 Investigations in Occupational Therapy
Independent study provided for the qualified occupational therapy student under the guidance of a departmental faculty member. Prerequisite: Consent of graduate coordinator and proposed faculty supervisor. 1-3 hrs.

OT 7000 Master's Thesis
Prerequisite: OT 6600 6 hrs.

OT 7100 Independent Research
Prerequisite: OT 6600 2-6 hrs.

OT 7120 Professional Field Experience
Prerequisite: Consent. 2-6 hrs.

Physician Assistant
MDSC 685 Professional Field Experience - Emergency Medicine
This course will place the student in a structured clinical emergency medicine rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and will develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite:
Completion of the preclinical year of the Physician Assistant program or departmental permission.  
4 hrs.

MDSC 6000 Problem-Based Learning I  This is a first course in a sequence of three courses designed to provide an opportunity for students to apply the concepts and skills previously learned in other program courses through the examination of patient medical cases. Students will develop clinical reasoning skills and integrate their knowledge into solving medical problems. The student will learn how to develop a differential diagnosis, focus the physical examination of the patient, order appropriate laboratory tests, reach a conclusive diagnosis, and develop an appropriate treatment plan. Prerequisite: Admission to the Physician Assistant program. 3 hrs.

MDSC 6020 Problem-Based Learning II  This is a second course in a sequence of three courses designed to provide an opportunity for students to apply the concepts and skills previously learned in other program courses through the examination of patient medical cases. Students will develop clinical reasoning skills and integrate their knowledge into solving medical problems. The student will learn how to develop a differential diagnosis, focus the physical examination of the patient, order appropriate laboratory tests, reach a conclusive diagnosis, and develop an appropriate treatment plan. Prerequisite: Admission to the Physician Assistant program. 3 hrs.

MDSC 6030 Problem-Based Learning III  This is the third course in a sequence of three courses designed to provide an opportunity for students to apply the concepts and skills previously learned in other program courses through the examination of patient medical cases. Students will develop clinical reasoning skills and integrate their knowledge into solving medical problems. The student will learn how to develop a differential diagnosis, focus the physical examination of the patient, order appropriate laboratory tests, reach a conclusive diagnosis, and develop an appropriate treatment plan. Prerequisite: Admission to the Physician Assistant program. 3 hrs.

MDSC 6040 Renal, Musculoskeletal, and Dermatology  This course provides a foundation for the understanding, diagnosis, and treatment of diseases of the renal, musculoskeletal, and dermatological systems, throughout the life span. Students will examine the pathophysiology of diseases of these systems, with an emphasis on the cellular mechanisms of disease and the body’s response to them. The course is designed to develop the competencies required for patient counseling and for focused medical history taking and physical examination, including system anatomy and complex regional relationships. The selection, utilization, and interpretation of clinical laboratory, imaging, and other diagnostic tests used to evaluate system function are examined along with concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. An integrative approach is used to encourage application of information through clinical problem solving in the formulation of differential diagnoses and development of therapeutic and patient education plans. Prerequisite: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 7 hrs.

MDSC 6050 Neuropsychiatry and Endocrine  This course provides a foundation for the understanding, diagnosis, and treatment of diseases of the neuropsychiatric and endocrine systems, throughout the life span. Students will examine the bio-psycho-social model, wellness, as well as pathophysiology of diseases of these systems, with an emphasis on the cellular mechanisms of disease and the body’s response to them. The course is designed to develop the competencies required for patient counseling and for focused medical history taking and physical examination, including system
anatomy and complex regional relationships. The selection, utilization, and interpretation of clinical laboratory, imaging, and other diagnostic tests used to evaluate system function are examined along with concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. An integrative approach is used to encourage application of information through clinical problem solving in the formulation of differential diagnoses and development of therapeutic and patient education plans. Prerequisite: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 8 hrs.

MDSC 6060 Gastrointestinal and Hematology This course provides a foundation for the understanding, diagnosis, and treatment of diseases of the gastrointestinal and hematological systems, throughout the life span. Students will examine the pathophysiology of diseases of these systems, with an emphasis on the cellular mechanisms of disease and the body’s response to them. The course is designed to develop the competencies required for patient counseling and for focused medical history taking and physical examination, including system anatomy and complex regional relationships. The selection, utilization, and interpretation of clinical laboratory, imaging, and other diagnostic tests used to evaluate system function are examined along with concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. An integrative approach is used to encourage application of information through clinical problem solving in the formulation of differential diagnoses and development of therapeutic and patient education plans. Prerequisite: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 6 hrs.

MDSC 6070 Reproduction and Urology This course provides a foundation for the understanding, diagnosis, and treatment of diseases of the reproductive and urological systems, throughout the life span. Students will examine the pathophysiology of diseases of these systems, with an emphasis on the cellular mechanisms of disease and the body’s response to them. The course is designed to develop the competencies required for patient counseling and for focused medical history taking and physical examination, including system anatomy and complex regional relationships. The selection, utilization, and interpretation of clinical laboratory, imaging, and other diagnostic tests used to evaluate system function are examined along with concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. An integrative approach is used to encourage application of information through clinical problem solving in the formulation of differential diagnoses and development of therapeutic and patient education plans. Prerequisite: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 7 hrs.

MDSC 6100 Special Topics in Physician Assistant This course examines selected topics in medicine. Topics considered will vary from semester to semester. Prerequisites: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 1-3 hrs.

MDSC 6110 The Diagnostic Process I This is the first in a series of three courses designed to develop the knowledge, attitudes and skills requisite for medical history taking, physical examination, clinical problem solving, diagnostic assessment, treatment implementation, and for counseling and educating patients. Learning methods include lecture format, skills performance, clinical decision-making, role-playing, individual research, and case problem solving to integrate and synthesize these competencies. Prerequisite: Admission to the Physician Assistant program or departmental permission. 2 hrs.
MDSC 6120  The Diagnostic Process II  This is the second in a series of three courses presented sequentially through the pre-clinical year of training. This course provides opportunities for the systematic evaluation of patient problems through history and physical examination, problem exploration, critical thinking and creative problem solving, lectures, demonstrations, group problem solving, practicum sessions, student examination of patients, as well as written and performance evaluation of these modalities, are included among the learning methodologies. Emphasis is placed on interviewing and physical examination, but more so on information gathering and synthesis to accomplish problem oriented patient care. Students will refine skills in eliciting and recording a complete patient database, as well as formulating differential diagnoses.  Prerequisite: Successful completion of prior semester P.A. course work or departmental permission.  2 hrs.

MDSC 6130  The Diagnostic Process III  This is the summative offering in this series of three courses designed to develop competence in both the art and the science of patient evaluation. Students will continue to assess patients utilizing history taking and physical examination skills. Students will master special examinations such as for the pediatric patient, as well as the pregnant patient. Further emphasis will be placed on formulating diagnoses, therapeutic and patient education plans. Students will develop competencies in prevention strategies, and recording and communicating information in a medical team model.  Prerequisite: Admission to the Physician Assistant program.  1 hrs.

MDSC 6210  Medical Pathophysiology I  This is the first in a three part sequence designed to provide the physician assistant student with a foundation for understanding human diseases. Students will review clinically relevant physiology and acquire a working knowledge of pathophysiology. Emphasis will be on the cellular mechanisms of disease and the body's reactions to them. Topics covered will parallel those in concurrent clinical science courses.  Prerequisite: Successful completion of prior semester P.A. course work or departmental permission.  1 hr.

MDSC 6220  Medical Pathophysiology II  This is the second in a three part sequence designed to provide the physician assistant student with a foundation for understanding human diseases. Students will review clinically relevant physiology and acquire a working knowledge of pathophysiology. Emphasis will be on the cellular mechanisms of disease and the body's reactions to them. Topics covered will parallel those in concurrent clinical science courses.  Prerequisite: Successful completion of prior semester P.A. course work or departmental permission.  1 hr.

MDSC 6230  Medical Pathophysiology III  This is the third in a three part sequence designed to provide the physician assistant student with a foundation for understanding human diseases. Students will review clinically relevant physiology and acquire a working knowledge of pathophysiology. Emphasis will be on the cellular mechanisms of disease and the body's reactions to them. Topics covered will parallel those in concurrent clinical science courses.  Prerequisite: Successful completion of prior semester P.A. course work or departmental permission.  1 hr.

MDSC 6310  Integrated Medicine I  This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and
available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life. Prerequisite: Admission to the Physician Assistant program. 2 hrs.

MDSC 6320 Integrated Medicine II This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life. Prerequisite: Admission to the Physician Assistant program. 2 hrs.

MDSC 6330 Integrated Medicine III This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life. Prerequisite: Admission to the Physician Assistant program. 2 hrs.

MDSC 6340 Integrated Medicine IV This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life. Prerequisite: Admission to the Physician Assistant program. 2 hrs.
MDSC 6350  Integrated Medicine V  This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life.  Prerequisite: Admission to the Physician Assistant program.  2 hrs.

MDSC 6360  Integrated Medicine VI  This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life.  Prerequisite: Admission to the Physician Assistant program.  2 hrs.

MDSC 6370  Integrated Medicine VII  This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life.  Prerequisite: Admission to the Physician Assistant program.  2 hrs.

MDSC 6380  Integrated Medicine VIII  This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes
MDSC 6390  Integrated Medicine IX  This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life.  

Prerequisite: Admission to the Physician Assistant program.  2 hrs.

MDSC 6410  Procedures and Diagnostic Testing–I This is the first in a three course series. The series presents a foundation for understanding the appropriate uses and interpretations of clinical diagnostic testing. Through exploration of each of the major body systems, this course presents instruction in medical procedures used in the diagnosis or treatment of the common disorders of each system. It also provides the basis for the selection, utilization and interpretation of clinical laboratory, imaging and other diagnostic tests used to evaluate each system's principal functions.  

Prerequisite: Admission to the Physician Assistant Program or departmental permission.  1 hr.

MDSC 6420  Procedures and Diagnostic Testing–II This is the second in a three course series. The series presents a foundation for understanding the appropriate uses and interpretations of clinical diagnostic testing. Through exploration of each of the major body systems, this course presents instruction in medical procedures used in the diagnosis or treatment of the common disorders of each system. It also provides the basis for the selection, utilization and interpretation of clinical laboratory, imaging and other diagnostic tests used to evaluate each system's principal functions.  

Prerequisite: Successful completion of prior semester P.A. course work or departmental permission.  1 hr.

MDSC 6430  Procedures and Diagnostic Testing–III This is the third in a three course series. The series presents a foundation for understanding the appropriate uses and interpretations of clinical diagnostic testing. Through exploration of each of the major body systems, this course presents instruction in medical procedures used in the diagnosis of treatment of the common disorders of each system. It also provides the basis for the selection, utilization and interpretation of clinical laboratory imaging and other diagnostic tests used to evaluate each system's principal functions.  

Prerequisite: Successful completion of prior semester P.A. course work or departmental permission.  1 hr.

MDSC 6510  Health Promotion and Patient Counseling I This is the first course in a three-semester series presented sequentially through the preclinical year of training. This course will focus on the knowledge, skills and attitudes requisite for counseling and educating patients. These courses will
emphasize counseling techniques, with application to clinical problems such as crisis intervention, substance abuse, human sexuality, multiculturalism, and patient/practitioner transference/counter transference. Theories of personality and psychopathology will be investigated as they relate to patient and practitioner coping styles and effectiveness. Students will also develop expertise in educating patients in wellness and disease prevention. Students will investigate the caregiver role and become insightful regarding their own needs and limitations. Prerequisite: Successful completion of prior semester of P.A. course work or departmental permission. 1 hr.

MDSC 6520 Health Promotion and Patient Counseling II This is the second course in a three-semester series presented sequentially through the preclinical year of training. This course will focus on the knowledge, skills, and attitudes requisite for counseling and educating patients. These courses will emphasize counseling techniques with application to clinical problems such as crisis intervention, substance abuse, human sexuality, multiculturalism, and patient/practitioner transference/counter transference. Theories of personality and psychopathology will be investigated as they relate to patient and practitioner coping styles and effectiveness. Students will also develop expertise in educating patients in wellness and disease prevention. Students will investigate the caregiver role and become insightful regarding their own needs and limitations. Prerequisite: Successful completion of prior semester of P.A. course work or departmental permission. 1 hr.

MDSC 6530 Health Promotion and Patient Counseling III This is the third course in a three-semester series presented sequentially through the preclinical year of training. This course will focus on the knowledge, skills, and attitudes requisite for counseling and educating patients. These courses will emphasize counseling techniques with application to clinical problems such as crisis intervention, substance abuse, human sexuality, multiculturalism, and patient/practitioner transference/counter transference. Theories of personality and psychopathology will be investigated as they relate to patient and practitioner coping styles and effectiveness. Students will also develop expertise in educating patients in wellness and disease prevention. Students will investigate the caregiver role and become insightful regarding their own needs and limitations. Prerequisite: Successful completion of prior semester of P.A. course work or departmental permission. 1 hr.

MDSC 6550 Professional Issues for Physician Assistants I This is the first in a series of two courses designed to examine the role of the Physician Assistant and the place and relationships of the PA profession in society. It also examines the legal aspects of P.A. practice including licensing, malpractice, supervision, delegation, and prescribing. Finally it addresses the ethical and practice standards which society expects of a medical professional. Prerequisite: Admission to the Physician Assistant program or departmental permission. 1 hr.

MDSC 6610 Pharmacotherapeutics I This is the first of a sequence of three courses that focus on the concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. This course sequence will present the pharmacology, pharmacokinetics, side effects, complications, dosages, and contraindications using a systems approach. Prerequisite: Admission to the Physician Assistant program or departmental permission. 2 hrs.

MDSC 6620 Pharmacotherapeutics II This is the second of a sequence of three courses that focus on the concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. This course sequence will present the pharmacology, pharmacokinetics, side
effects, complications, dosages, and contraindications using a systems approach. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 2 hrs.

MDSC 6630 Pharmacotherapeutics III This is the third of a sequence of three courses that focus on concepts of pharmacotherapeutics principles necessary to provide a rational basis for clinical prescribing decisions. This course sequence will present the pharmacology, pharmacokinetics, side effects, complications, dosages, and contraindications using a systems approach. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 2 hrs.

MDSC 6710 Advanced Clinical Anatomy I This is the first course in a three-semester human anatomy sequence designed to parallel and support clinical science courses in the Physician Assistant curriculum. Emphasis will be on achieving an understanding of anatomical concepts as they pertain to clinical problem solving and physical diagnosis. A laboratory component involving the study of cadaver prosections is included. Prerequisite: Admission to the Physician Assistant graduate program. 2 hrs.

MDSC 6720 Advanced Clinical Anatomy II This is the second course in a three-semester human anatomy sequence designed to parallel and support clinical science courses in the Physician Assistant curriculum. Emphasis will be on achieving an understanding of anatomical concepts as they pertain to clinical problem solving and physical diagnosis. A laboratory component involving the study of cadaver prosections is included. Prerequisite: Admission to the Physician Assistant graduate program. 1 hr.

MDSC 6730 Advanced Clinical Anatomy III This is the third course in a three-semester human anatomy sequence designed to parallel and support clinical science courses in the Physician Assistant curriculum. Emphasis will be on achieving an understanding of anatomical concepts as they pertain to clinical problem solving and physical diagnosis. A laboratory component involving the study of cadaver prosections is included. Prerequisite: Admission to the Physician Assistant graduate program. 1 hr.

MDSC 6800 Research Concepts for Physician Assistants Topics considered vary from semester to semester. Topics include a review of statistics, Epidemiology, study design, methods and measures, and strategies for critically evaluating medical literature and medical informatics. Emphasis will be placed on the interpretation of medical literature and the application of evidence from clinical research in clinical decision-making. The course prepares students to understand the methods and limitation of various types of research and how research impacts their practice of medicine. Prerequisite: Enrollment in the Physician Assistant program. 1-3 hrs.

MDSC 6810 Professional Field Experience - Women's Health This course will place the student in a structured obstetrics/gynecology medicine clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 4 hrs.

MDSC 6820 Professional Field Experience - Pediatrics This course will place the student in a structured pediatrics medicine clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures,
subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 4 hrs.

MDSC 6830 Professional Field Experience - Surgery This course will place the student in a structured surgery medicine clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 4 hrs.

MDSC 6840 Professional Field Experience - Medical Psychiatry This course will place the student in a structured mental health clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 4 hrs.

MDSC 6860 Professional Field Experience - Family Medicine This course will place the student in a structured family medicine clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 8 hrs.

MDSC 6870 Professional Field Experience - Internal Medicine This course will place the student in a structured clinical internal medicine rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and will develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 8 hrs.

MDSC 6910 Clinical Practice Issues I This is the first course of a three-course seminar series designed to present and discuss various topics relevant to current clinical practice. The topics will be generated by the challenges the students will encounter in the practice of medicine. The course will also address the evolutionary trends in the healthcare arena and will facilitate the student's transition to professional practice. Prerequisite: Completion of the preclinical year and concurrently enrolled in a professional field experience course or departmental permission. 1 hr.

MDSC 6920 Clinical Practice Issues II This is the second course of a three-course seminar series designed to present and discuss various topics relevant to current clinical practice. The topics will be generated by the challenges the students will encounter in the practice of medicine. The course will also
address the evolutionary trends in the healthcare arena and will facilitate the student's transition to professional practice. Prerequisite: Successful completion of MDSC 691 and concurrently enrolled in a professional field experience course or departmental permission. 1 hr.

MDSC 6930  Clinical Practice Issues III  This is the third course of a three-course seminar series designed to present and discuss various topics relevant to current clinical practice. The topics will be generated by the challenges the students will encounter in the practice of medicine. The course will also address the evolutionary trends in the healthcare arena and will facilitate the student's transition to professional practice. Prerequisite: Successful completion of MDSC 692 and concurrently enrolled in a professional field experience course or departmental permission. 1 hr.

MDSC 6950  Special Clinical Topics in Physician Assistant  This course examines selected topics in clinical medicine. Topics considered will vary from semester to semester. Prerequisite: Enrollment in the Physician Assistant program and successful completion of the first year of MDSC courses. 1-3 hrs.

MDSC 7100  Research Project/Professional Experience  This course will ensure that students are qualified in applying the lessons learned in MDSC 6800 in a practical clinical manner. This is the culmination course of the master's curriculum, and requires a paper of publishable quality and presentation of the same. Several permutations are possible, including research under faculty supervision, clinical elective field experience focus on a research topic, clinical case investigation, and others. Prerequisite: Completion of the preclinical year and at least one MDSC Field Experience or departmental permission. 2-6 hrs. (8 hrs. required in program)

MDSC 6560  Professional Issues for Physician Assistants II  This is the second in a series of two courses designed to examine the role of the Physician Assistant and the place and relationships of the PA profession in society. It also examines the health care delivery systems including reimbursement, documentation, coding, and billing. Finally, it addresses the socioeconomic issues affecting health care. Prerequisite: Successful completion of Professional Issues for Physician Assistants I. 1 hr.

Holistic Health Care

HOL 5300  Special Topics in Holistic Health  Variable topic, variable credit course for consideration of current and special interests in holistic health. Specific topics, number of credit hours and Prerequisites, if any, will be announced each time the course is scheduled. 1-4 hrs.

HOL 5310  Introduction to Holistic Health  The primary purpose of this course is to provide an introduction to the philosophies, theories, and concepts involved in holistic health care. It is meant to serve both as a general educational experience for persons wishing to become familiar with holism and essential basic instruction for persons wishing to apply for admission to the graduate certificate program in Holistic Health Care. Prerequisite: Senior or graduate status. 3 hrs.

HOL 5320  Holistic Approaches to Relationships  The purpose of this course is to provide an understanding of relationship development. In order to do this, students will acquire knowledge in self-concept formation, social systems theory, values development, and communication models. A major
emphasis in the course will be on how to assist people in establishing and maintaining healthy relationships. 3 hrs.

HOL 5330 Holism and Community A course designed to help students better understand the dynamics of community and the potential for holistic growth and health through the investment of self in a common and purposeful experience with others. 3 hrs.

HOL 5340 Holistic Health and Spirituality This course helps students better understand the spiritual dimensions of each individual and the relationship of spirituality to the meaning of health. Various spiritual traditions, philosophies and practices will be explored with the primary emphasis on the implications of these teachings for everyday living. The course will address the role of spirituality in the therapeutic process for health care professionals and resources available for practitioners and educators. The format for the course will include lecture, discussion, experiential activities and audio/video presentations. 3 hrs.

HOL 5350 Holistic Approaches to Stress This course will focus on the nature, sources and symptoms of stress, and provide a holistic approach for the management of stress. The relationship between stress and personality, lifestyle, health and illness will be explored. In addition, the reasons for, and management of, professional and organizational `burn-out will be presented. 3 hrs.

HOL 5360 Counseling Skills for Health Professionals This course is designed to provide basic information on the counseling process and techniques as they apply to health care settings. This course is designed for health care professionals in allied health professions and not for majors in counselor education and counseling psychology or social work. 3 hrs.

HOL 5370 Health and Humor This course will focus on the physical, intellectual, emotional and spiritual dimensions of laughter, humor and play. We will explore recent discoveries and research regarding their role in human physical and mental health. Students will learn about the social significance of humor and play, what makes people laugh and why, the role of happiness, and will learn ways to increase happiness and playfulness, use laughter and humor as a stress management technique, and build a basis for appropriate use of humor in helping others. 3 hrs.

HOL 5500 Introduction to Holism and Expressive Arts This course is a survey of expressive arts therapies used to facilitate the healing process and will deepen the student's understanding of the role of creative expression in health and healing. The use of arts therapies to promote health, reduce stress, and complement the traditional treatment of physical and mental illness will be discussed. Topics covered will be visual arts, sound/music, movement/dance, writing/poetry, and drama/psychodrama. The format for the course will be a combination of experiential creative activities, guest lectures, and video and audio presentations. No artistic experience or background required. 3 hrs.

HOL 5510 Holistic Approaches to Healing Through Visual Art This course introduces a holistic approach to the use of visual art in healing; how to choose and present appropriate art experiences; spontaneous and directed theme art activities, resources, and materials; guides for interpreting art; and ethics. A variety of activities such as drawing, painting, clay, sand tray, collage, mandalas, and masks will be explored. The format for the course is a combination of experiential activities, lectures, video, and slide presentations. The course is designed to give students and professionals in the counseling, social work, psychology, health care, occupational therapy, art, and other fields some practical tools and

580
considerations for using art for health and healing with others or for personal growth. No artistic talent is required. 3 hrs.

HOL 5520 Healing through Movement This course is a survey of the use of movement for health and healing. Several movement and dance specialty areas are covered in order to explore personal growth, creativity, balance, stress reduction, spirituality, and cultural perspectives on healing of self and others. Body awareness, breathing, and communication will be emphasized throughout the exploration of movement modalities, such as Authentic Movement, Contact Improvisation, Creative Movement, Feldenkrais, Interplay, Labyrinth Walking, Progoff Journal Writing, Tai Chi Chuan, Dances of Universal Peace, and Movement Therapy. The format for the course will be a combination of lectures, discussion, experiential activities, and audio and video presentations. Students enrolled in social work, counseling psychology, occupational therapy, nursing, physical education, and dance will especially benefit from this course. No movement or dance experience is required. 3 hrs.

HOL 5550 Successful Aging-Holistic Perspectives This course will focus on holistic factors of aging and lifestyle choices that enable people to preserve and even enhance wellness and vitality in later life. Current images and myths of aging will be explored and research studies that outline holistic ways to delay, prevent, or positively treat common chronic diseases will be presented along with programs and policies that enable older people to practice positive aging strategies. This course will highlight the qualities of older people who remain physically active, intellectually engaged, emotionally involved, spiritually connected, and vital throughout their years. 3 hrs.

HOL 5700 Field Education in Holistic Health This registration is designed to give the student a total learning experience during which the student can apply some of the knowledge and information obtained in the health and human services academic setting and further develop and refine his/her professional skills with the guidance and assistance of those professionals currently working in the health and human service area. Prerequisite: Consent of instructor. 1-6 hrs.

HOL 5980 Readings in Holistic Health This course provides individualized, independent study and reading under guidance of a faculty member. Initiative for planning topic for investigation and seeking the appropriate faculty member comes from the student, with consultation from the advisor. Prerequisite: Consent of instructor. 1-4 hrs.

HOL 6500 Seminar in Holistic Methods I This course will provide students with an understanding of health from a whole perspective. Through experiential activities and the exploration of new models and paradigms of health, students will develop a deeper knowledge of the relationship between body, mind, and spirit, and the effect on health and healing. The course will provide an opportunity for students to discuss ways to integrate holistic models and modalities into a health care setting or practice and to work with other health care providers. The format for this course will be a combination of experiential, lecture, discussion, small group activities, guest speakers, and audio and video presentations. Prerequisite: HOL 5310. 3 hrs.

HOL 6510 Seminar in Holistic Methods II An opportunity for further exposure to additional holistic methods utilizing the same format and evaluation system as HOL 6500. Prerequisite: HOL 5310. 3 hrs.
HOL 7120  Professional Field Experience
The purpose of this course is to provide advanced students in a health care related area an opportunity to become familiar with the “holistic” approach to health care. While using their own discipline as a take-off point, each student will become acquainted with different approaches to health care from both traditional and non-traditional perspectives. The principal goal is to encourage a perception of clients as whole persons whose symptoms represent an underlying discoordination in mind, emotions, and body.  Prerequisites: HOL 5310, 6500, 6510.  2-12 hrs

Social Work
SWRK 5970  Teaching Apprenticeship in Selected Social Work Curriculum Areas
The course focuses on the development of educational skills for social workers through faculty-directed participation in teaching activities in a selected social work course. Specific learning objectives and expectations for apprentices are arranged with participating faculty. This course may be taken a second time (1-4 hrs., or a maximum of 8 total toward degree) by a student who wishes to increase teaching skills through applied practice in another social work area. Prerequisite: Consent of instructor.  1-4 hrs.

SWRK 5980  Readings in Social Work
Offers advanced students with good scholastic records an independent program of study, arranged in consultation with the instructor. One to four hours credit per semester. Prerequisite: Consent of instructor.  1-4 hrs.

SWRK 6100  Foundations of Social Welfare Policy
This is the first course in the graduate program offered in the social welfare policy sequence of courses. Its general purpose is to introduce the subject area of social welfare policy as a central concern of social work. The goals of the course are to identify evolving socio-cultural bases of social welfare in America, to gain understanding of the substance of particular social policy areas, and to learn to approach the study of social welfare policy within the context of analytic frameworks. While SWRK 6100 places primary focus on the content of social welfare policy, other policy courses focus on specific subject areas or on the development of policy practice skills. Prerequisite: Admission to the MSW program or consent of the School of Social Work Director of Admissions.  3 hrs.

SWRK 6200  Social Services in Schools
The role of the social worker in elementary and secondary schools and the necessary adaptations to the changes taking place in the educational scene are examined and evaluated. Problem solving approaches are given special attention within the structure and organization of the schools and their relationships with the surrounding community. The specific contributions of a school social worker as a helping person to the pupils, the school staff, and the homes by various interventive means are explored. Prerequisite: Consent of instructor.  3 hrs.

SWRK 6230  Leadership in Nonprofit Organizations
This course addresses knowledge, skills, and attitudes in building leadership for developing, supporting, and maintaining effective service delivery in nonprofit organizations. The course focuses on such topics as leadership styles, power, motivation and conflict, task-group skills, supervision, women and other minorities in management, and ethics and values in leading nonprofit organizations.  2 hrs.
SWRK 6270 Planning in Nonprofit Organizations The course focuses on planning program changes and new programs in nonprofit organizations. Program planning is viewed as a creative, dynamic process carried out by a team. The stages and tasks of program planning are studied from analytical, technical, and interactional perspectives. 2 hrs.

SWRK 6300 Social Change and Community Analysis Social workers have a responsibility to promote social justice and to strive to abolish injustice. The course identifies and explores historical, theoretical, and ideological perspectives on social change issues. Social change is studied by analyzing the community at the local, national and international level and by exploring strategies for change at each level. Emphasis is placed on racism, sexism, and classism, and on social movements to alleviate these problems. Prerequisite: Admission to the MSW program or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6310 Human Behavior and the Social Environment This course provides students with a conceptual and theoretical framework for understanding human behavior as influenced by the social environment across the life span. Human development and behavior are approached as part of historical and contemporary sociocultural processes acting interdependently with psychology, biology, economics, geography, and politics. Diversity issues such as race/ethnicity, gender, sexual orientation, and social class are taken into consideration as critical elements in these processes and their relationships. The role of social welfare policy issues relevant to this course is also explored. Prerequisite: Admission to the MSW program or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6320 Organizations, Communities, Societies: A Change Perspective The course reviews frameworks for analyzing organizations, communities, and societies as a means of preparing students to engage in planned change. Students learn strategies and tactics to influence change in organizational, communal, and societal structures and processes. The course explores historical, theoretical, and ideological perspectives on change. Prerequisite: Admission to the Advanced Standing Program. 3 hrs.

SWRK 6330 Advanced Seminar in Culture, Ethnicity, and Institutional Inequality in Social Work Practice This course explores the social, psychological and structural implications of race and culture for social work practice. In order to relate more effectively to individuals and groups of different ethnic, cultural, and philosophical backgrounds, it is essential to: 1) gain knowledge about those differences; 2) understand our individual and collective reactions to those differences; and 3) discover ways in which those differences can be bridged within the context of social work practice. Prerequisite: Admission to the MSW program or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6360 Social Work Practice with Groups Focus of the seminar is on the theory and practice of social group work in clinical settings. Consideration is given to such issues as group dynamics, therapeutic factors, leadership, composition, direct and indirect intervention, and activities in social treatment. Prerequisite: SWRK 6620. 3 hrs.

SWRK 6380 Psychopathology for Social Work Practice This course provides students with knowledge of psychopathology as an aspect of human functioning and cultural labeling. Primary focus is on the interaction between physiological, developmental, emotional, and social aspects of adult and child psychopathology from both descriptive and psychodynamic points of view. General implications for social work intervention, ethical and value issues, and relevant research will receive some
SWRK 6400  Research and Evaluation Methods in Social Work  This course is designed to increase student knowledge of research and evaluation as a tool for social work practice. Students will acquire the basic skills and knowledge to utilize existing social research and evaluation for practice-related decision-making as well as the capacity to carry out systematic methods of inquiry in practice. Basic statistical methods are also covered.  Prerequisite: Consent of instructor. 3 hrs.

SWRK 6420  Evaluation of Social Work Practice  This course focuses on the knowledge and skill to understand and carry out research on social work practice. The components of the course consist of program evaluation, designs appropriate for the evaluation of clinical practice, and studies of empirical research that address the features and effectiveness of interventions in relation to the conditions that are targeted for amelioration. The course is designed to help practitioners make informed judgments about the utility of different treatment modalities, and their import for service delivery design.  Prerequisite: SWRK 6400. 3 hrs.

SWRK 6430  Leadership and Management in Human Services  This course addresses knowledge, skills, and attitudes essential in building leadership for developing, supporting, and maintaining effective service delivery in human service agencies. The course focuses on leadership styles; power, motivation, and conflict; task group skills; supervision; women and minorities in management; and values and ethics in leading human service organizations.  Prerequisite: Enrollment in School of Social Work or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6450  Administration in Human Service Organizations  The course introduces students to elements of administration in human service organizations. It focuses on project management, budgeting, fund development and marketing, and the role of governing boards in nonprofit organizations.  Prerequisite: SWRK 6720 or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6600  Seminar on Social Work Practice with Individuals, Families, and Groups  This course provides a conceptual framework for understanding, analyzing, and implementing social work practice with individuals, families, and groups from various theoretical perspectives within a “systems” frame of reference. The ultimate goal is for students to initiate the development of a practice model that is logically sound and consistent with their convictions and style and congruent with professional social work values. This course also focuses on the concrete relationship building, maintenance skills, and knowledge necessary for working with diverse human systems. Such diversity should include gender, race, religion, sexual orientation, age, physical capabilities, socio-economic status, and political orientations.  Prerequisite: Admission to the Advanced Standing Program. 3 hrs.

SWRK 6610  Social Work Practice: Individuals and Families  This course focuses on foundation level knowledge and skills necessary to help individuals and families. This includes engagement, assessment, contracting, problem-solving, and evaluation with attention to social work values, theoretical knowledge and practice conditions. Problem-solving in a bio-psycho-social framework and facilitation of client coping, competency and empowerment undergird this course. SWRK 6610 is taken concurrently with SWRK 6710, Field Education in Social Work Practice, to facilitate interaction
between field and classroom learning. Prerequisite: Admission to MSW program. Concurrent enrollment in SWRK 6710 is required. 3 hrs.

SWRK 6620 Social Work Practice: Groups and Organizations The course focuses on knowledge and skills related to social work practice with groups and organizations. Attention is paid to interpersonal, intrapersonal, and organizational levels of intervention. Practice skills in working with groups and organizations are developed. Prerequisite: SWRK 6610. Concurrent enrollment in SWRK 6720 is required. 3 hrs.

SWRK 6630 Seminar in Substance Abuse I An interdisciplinary seminar designed to reflect broadly conceived intervention strategies ranging from primary prevention to rehabilitation of the addict. The basic training in the principles of intervention and clinical practice will continue to be taught within the student's basic professional discipline. The seminar will be used to elaborate upon the application of these principles to the problems of substance abuse. 3 hrs.

SWRK 6640 Social Work Practice in Special Areas Study of problem-solving in specialized areas of social work practice. Focus upon the role of the social work practitioner in assessment, goal establishment, and intervention in the use of various social work methods in different arenas of practice. Specific topic will be announced each semester. Prerequisite: Consent of instructor. 3 hrs.

SWRK 6650 Seminar in Substance Abuse II Continuation of SWRK 6630. 3 hrs.

SWRK 6660 Social Work Practice with Individuals This course will introduce the student to social work practice with individuals. Social, psychological, economic, and biological stressors are considered as they impact on the individual's efforts to grow and survive. The ego developmental and crisis intervention approaches are the major orientations presented, augmented by concepts from cognitive theory. Particular attention will be paid to client's coping capacities. Prerequisite: SWRK 6610. 3 hrs.

SWRK 6670 Program Planning The course addresses the models, stages, and tasks of program planning in the human services. Students will learn how to work with a team in planning a service program. The course focuses on the tasks that are essential in carrying out a problem analysis and needs assessment, formulating program goals and objectives, designing service programs, and writing program proposals. Corequisite: SWRK 6670 or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6680 Social Work Practice with Families This course provides knowledge and skills in clinical social work practice with families. Family systems theory and principles and techniques of structural family therapy are the central foci of the course. Concepts from communications theory and related interventions are also covered. Aspects of human diversity are discussed in relation to their impact on family functioning. Prerequisite: SWRK 6610. 3 hrs.

SWRK 6690 Advanced Seminar in Planning and Administration The course addresses the recruitment, selection, development, supervision, and evaluation of program staff. Selected aspects of personnel law, affirmative action, and sexual harassment are examined. Students have opportunities to develop skill in the analysis and management of critical incidents in staff relationships. SWRK 6690 is
also used as the structure for assisting students in writing a program proposal that builds on content learned in PP&A courses and in the practicum. Prerequisite: SWRK 6670 or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6700 Seminar in Social Policy Practice This course is an integrative seminar in the Policy, Planning, and Administrative concentration that focuses on the skills needed for participation in the development and implementation of social policy in program planning and executive positions in the human services environment. The course focuses on technical and interactive aspects of practice, theoretical and ethical frameworks, and skills in the application of selected techniques of social policy practice. Prerequisite: SWRK 6100 or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6710 Field Education and Social Work Practice I This is the first of two field practice courses that entails 200 hours in a human service agency. Students apply knowledge and develop skills in conducting interviews, problem identification, data collection, problem assessment, and goal formulation with client systems in the context of social work values. Students integrate self-awareness and appreciation of diversity into professional practice. Students develop a working knowledge of the agency's functions, structure, processes, and its service provider role within the community. Prerequisite: Concurrent enrollment in SWRK 6610 is required. 3 hrs.

SWRK 6720 Field Education and Social Work Practice II This is the second of two field practice courses that entails 228 hours in a human service agency. Students further integrate and apply social work knowledge, skills, and values in their field practicums, including the problem-solving process, interviewing, use of self and understanding of diversity. Prerequisites: Completion of SWRK 6610 and SWRK 6710, and concurrent enrollment in SWRK 6620. 3 hrs.

SWRK 6750 Field Education in Advanced Standing Program Social Work Practice This is the first of three field courses for the Advanced Standing program students in the MSW curriculum. This course includes students in the Policy, Planning, and Administration and Interpersonal Practice concentrations. The course consists of two units: 1) four laboratory sessions on professional skill development and orientation to graduate field work, and 2) supervised field experience in a social work agency. Prerequisite: SWRK 6670 or consent of the School of Social Work Director of Admissions. Corequisites: SWRK 6320 and 6600. 3 hrs.

SWRK 6760 Field Education in Interpersonal Practice Placement will be in an agency unit offering direct service experiences with some combination of individuals, families, and groups and additional experiences consistent with the student's learning needs. Campus- or field-based seminars may supplement the field experiences. Prerequisites: SWRK 6660, 6720, and concurrent enrollment in SWRK 6360 and/or SWRK 6680. 3 hrs.

SWRK 6770 Field Education in Social Policy, Planning, and Administration Field education in the Social Policy, Planning, and Administration concentration is intended to provide students with opportunities to develop and exercise practice skills for designing, maintaining, and changing social systems. Field placements in social welfare organizations and special programs are arranged in accordance with student interests and abilities. Prerequisites: SWRK 6720 and concurrent enrollment in SWRK 6670, or consent of instructor. 3 hrs.

586
SWRK 6780  Advanced Field Education in Interpersonal Practice Continuation of SWRK 6760. Students remain in field placement; direct service experiences and other activities continue. Campus- or field-based seminars may supplement the field experience. Prerequisites: SWRK 6760 and concurrent enrollment in a course from the 6900 series. 3 hrs.

SWRK 6790  Advanced Field Education in Social Policy, Planning, and Administration The advanced field education experience for students concentrating in social policy, planning, and administration builds on the work which the student began in SWRK 6770 during the fall semester. Students remain in the same field work setting and work under the direction of the same field instructor. During the Spring semester, the emphasis will be upon the development of skills in the implementation of change and administration activities. It is expected that students will be assigned increased responsibilities in accordance with their professional growth. Prerequisites: SWRK 6770, concurrent with SWRK 6690. 3 hrs.

SWRK 6860  Applied Social Work Research This course involves working as a member of a faculty-led research team. Students will be involved in the conceptualization of a research problem, the design of a methodology, the collection and analysis of data, and the development of a report of the findings. This course is offered occasionally, depending on the existence of an appropriate research project. SWRK 6860 may replace SWRK 6420 and one elective in the student's plan of study. Prerequisites: SWRK 6400, 6720. 3-6 hrs.

SWRK 6910  Advanced Social Work Practice with Individuals This course provides students in interpersonal practice with an opportunity to deepen their knowledge and application of advanced clinical social work practice theory to work with at-risk individuals. Special attention is paid to interventions which promote optimal psychosocial functioning and development. This course builds on SWRK 6660 and SWRK 6380, and meets requirements for the advanced practice course in interpersonal practice. Prerequisites: SWRK 6380 and 6660 or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6920  Advanced Social Work Practice with Children This course provides students in interpersonal practice with an opportunity to deepen their knowledge of advanced clinical social work practice with children and their families in a variety of practice settings; e.g., child guidance, mental health, child welfare, school, corrections, and medical settings. This course builds on the content of SWRK 6660, SWRK 6680, and SWRK 6380, and meets the requirement for the advanced practice course in interpersonal practice. Prerequisites: SWRK 6380, 6660, and 6680 or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6960  Advanced Social Work Practice with Families This course provides students with the opportunity to broaden and deepen their knowledge of advanced clinical social work with families. Building on SWRK 6680, it provides theoretical content on structural strategic family therapy and may provide additional consideration of other perspectives such as communications and intergenerational approaches. Application of theoretical content is made to practice with families often encountered in social work practice, and seen as being at risk for problems in social and emotional functioning. The course meets the requirements for an advanced practice course in interpersonal practice. Prerequisites: SWRK 6380, 6680, and concurrent enrollment in SWRK 6780. 3 hrs.
SWRK 6970  Advanced Social Work Practice in Selected Areas  This variable topics course provides students an in-depth study of advanced interpersonal practice methods, models, and skills outside the scope of present course offerings. Topics vary from year-to-year, dependent upon student interest and timeliness of topic.  Prerequisites: SWRK 6660 and current enrollment in 6360 or 6680, and concurrent enrollment in SWRK 6780.  3 hrs.

SWRK 7100  Independent Research  2-6 hrs.

Speech Pathology and Audiology

SPPA 5520  Communication Problems of the Aged  This course acquaints the student with receptive and expressive communication problems common to older adults. Emphasis is on the clinical management of organic speech disorders and impaired auditory functions associated with aging.  3 hrs.

SPPA 5950  Oral Language Development and Dysfunction  This course provides the student preparing to be a classroom or special teacher with information about the nature of oral language, its development, conditions associated with dysfunction, and the principles and methods of treatment for children with specific speech or language disorders. Not applicable toward the master's degree in Speech Pathology and Audiology.  2 hrs.

SPPA 5970  Topics in Speech Pathology and Audiology  Selected topics in speech pathology and audiology are systematically explored through lectures, laboratory experiences, and student projects. Possible areas of study are instrumentation in audiology, manual communication, electrophysiologic audiometry, computer applications to speech communication, and contemporary professional issues. a. Autism 3 hrs. b. American Sign Language I 3 hrs. c. American Sign Language II 3 hrs.  1-4 hrs.

SPPA 5980  Readings in Speech Pathology and Audiology  Arranged on an individual basis to provide students the opportunity to pursue independently the study of special areas of interest in depth. 1-4 hrs.

SPPA 6010  Advanced Speech Science  Overview of the anatomy, physics, biology, physiology, and psychology of human speech production and speech perception. This course is intended to focus not only on well-established concepts in speech science, but also on the many research areas in which our understanding is incomplete. Prerequisite: Department approval.  3 hrs.

SPPA 6030  Anatomy and Physiology of Audition and Balance  A study of the anatomy and function of structures important to audition and balance. Prerequisite: Department approval.  2 hrs.

SPPA 6040  Psychoacoustics  A study of the principles, theories, and methods which provide the bases for hearing measurement in clinical and experimental settings. Topics include quantification, measurement and analysis of acoustic signals and subjective responses to those signals. Prerequisite: Department approval.  2 hrs.

SPPA 6050  Laboratory Instrumentation in Hearing and Speech Sciences  Basic principles of electronics and electronic instrumentation and application of laboratory instrumentation to measurements in hearing and speech sciences.  2 hrs.
SPPA 6150 Research Methods in Speech-Language Pathology and Audiology  This course deals with methods and procedures for gathering, reducing and analyzing data to reach conclusions concerning hypotheses regarding communication disorders and processes. Prerequisite: Department approval. 3 hrs.

SPPA 6160 Instrumentation in Audiology This course introduces the basic principles and applications of electronics and electronic instruments as they pertain to audiology. The first section of the course will be an introduction to basic principles of DC and AC electronics, with a particular focus on the concept of electrical impedance. The second section of the course will consist of a survey of the principles of operation and use of a variety of instruments that are used to generate, record, reproduce, control, calibrate, and measure electrical signals. Prerequisite: Department approval. 3 hrs.

SPPA 6190 Seminar in Speech and Hearing Science Selected topics in speech and hearing science are systematically explored through individual study projects. Instrumentation, procedures, and techniques employed in perceptual, physical and physiological analyses of normal speech and hearing are among the areas considered. Topics vary from semester to semester and are announced in advance. Prerequisite: Department approval. 1-4 hrs.

SPPA 6200 Auditory Disorders This course deals with pathologies and disorders of the outer ear, middle ear, inner ear, the auditory nerve, and the central auditory pathways, including causes, treatments, and impact on hearing. Coverage of tinnitus and hyperacusis also is included. Prerequisite: Department approval. 2 hrs.

SPPA 6210 Diagnostic Audiology I This course, which is one of two courses devoted to diagnostic audiology, deals with routine and special audiometric techniques for assessing hearing disorders to determine the need for medical or rehabilitative intervention. Prerequisite: Department approval. 4 hrs.

SPPA 6220 Hearing Aids Components, characteristics, evaluation, selection, use and maintenance of hearing aids are studied in detail. Prerequisite: Department approval. 3 hrs.

SPPA 6230 Pediatric Audiology This course deals with the identification, measurement, and management of hearing impairment in infants and young children. Prerequisite: Department approval. 3 hrs.

SPPA 6240 Educational Audiology This course deals with educational, psychological, and vocational needs of the hearing impaired child and the parameters of educational programming. Prerequisite: Department approval. 3 hrs.

SPPA 6250 Industrial and Public Health Audiology A study of hearing conservation programs in industry, including noise measurement, damage-risk criteria, hearing measurement, and medico-legal problems; noise as a public health hazard; and hearing screening and deafness prevention programs. Prerequisite: Department approval. 2 hrs.

SPPA 6310 Diagnostic Audiology II A course dealing with electrophysiologica
the need for medical or rehabilitative intervention. Prerequisite: SPPA 6210 Diagnostic Audiology I or equivalent. 4 hrs.

SPPA 6320 Diagnostic Audiology III This course focuses on physiological and electrophysiological techniques for the evaluation of cochlear and vestibular disorders, specifically otoacoustic emissions and electronystagmography, to determine the need for further medical or audiological intervention. Prerequisite: SPPA 6310 Diagnostic Audiology II or equivalent. 3 hrs.

SPPA 6330 Auditory Habilitation of Children This course deals with the assessment, management, and remediation of hearing impaired children in the areas of language, speech, and auditory skills development. Prerequisite: Department approval. 2 hrs.

SPPA 6340 Management of Audiologic Practice A study of principles important to establishing and managing an audiologic practice. Topics include professional credentials, ethics, quality of service, legal issues, and business management. Prerequisite: Department approval. 2 hrs.

SPPA 6390 Seminar in Audiology Selected topics in audiology are systematically explored through critical analyses of literature and through individual study projects. Pediatric audiology, geriatric audiology, hearing aids, residual hearing, and aural rehabilitation are among the possible areas of study. Topics vary from semester to semester and are announced in advance. a. Rehabilitative Audiology b. Geriatric Audiology c. Hearing Aids d. Cochlear Implants Prerequisite: Department approval. 1-4 hrs.

SPPA 6400 Voice Disorders Organic and functional disorders of laryngeal and resonator origin are studied in depth. Prerequisite: Department approval. 3 hrs.

SPPA 6420 Stuttering Theories and therapies applicable to the understanding and clinical management of stuttering are studied in depth. Prerequisite: Department approval. 3 hrs.

SPPA 6430 Aphasia in Adults This course deals comprehensively with the identification and treatment of communication problems in the adult aphasic individual. Prerequisite: Department approval. 3 hrs.

SPPA 6440 Motor Speech Disorders This course examines dysarthrias and verbal apraxis as manifested in children and adults. Prerequisite: Department approval. 3 hrs.

SPPA 6450 Augmentative and Alternative Communication This course deals with alternative and augmentative communication (AAC) for individuals with severe communicative disorders. Strategies and technologies for establishing or restoring functional communication are investigated. Communication disorders of various etiologies are surveyed in relation to intervention needs. Assessment, intervention, and advocacy are discussed in detail. Practical and simulated experiences with low- and high-technological AAC are included. Overall communication needs are highlighted in reference to educational, vocational, and social interaction purposes. Prerequisite: Department approval. 3 hrs.
SPPA 6490 Seminar in Speech-Language Pathology: Selected topics in speech pathology are systematically explored through critical analysis of literature and through individual study projects. Voice disorders, articulation disorders, language disorders, cleft palate, and stuttering are among the possible areas of study. Topics vary from semester to semester and are announced in advance. Prerequisite: Department approval. 1-4 hrs.

SPPA 6530 Diagnosis and Appraisal: The student is instructed in methods and procedures for evaluation of speech and language disorders. Prerequisite: Department approval. 3 hrs.

SPPA 6570 Disordered Language Development: Procedures and techniques for the identification, diagnosis, and clinical management of developmental disorders of language are explored intensively in this course. Prerequisite: Department approval. 3 hrs.

SPPA 6580 Theoretical Bases for Therapy: In this course disorders of communication are examined in terms of servo-system, learning theory, and personality theory. 3 hrs.

SPPA 6690 Principles of Professional Practice: Current professional and philosophical questions are studied with reference to the history of the profession of speech pathology and audiology. Prerequisite: Department approval. 2 hrs.

SPPA 6700 Clinical Practicum: Supervised clinical experience in the evaluation and/or management of speech, language and/or hearing disorders. Prerequisite: Department approval. 1-4 hrs.

SPPA 6710 School Internship in Speech-Language Pathology: This is a 10 week intensive speech-language pathology practicum in the school setting for students seeking endorsement as Teachers of Speech-Language Impaired in the state of Michigan or teacher certification in other states requiring school speech-language therapy internships. Prerequisite: Department approval. 6 hrs.

SPPA 7000 Master's Thesis: 6 hrs.
SPPA 7100 Independent Research: 2-6 hrs.
SPPA 7120 Professional Field Experience: 2-12 hrs.

Graduate College

GRAD 7000 Master's Thesis: Candidates for the master's degree may elect to write a thesis in their field of specialization under the supervision of a thesis committee. Prior to the first registration in 7000, Master's Thesis, a Permission to Elect form (available in all departments) must be completed and the student must meet with the Coordinator of Theses and Dissertations in The Graduate College so that the student is informed about the regulations pertaining to the preparation and publication of the manuscript and to the requirements for research involving regulated subjects and hazardous materials. Master's theses involving research with protected or regulated subjects must include documentation indicating compliance with federal, state, and University requirements for the protection of human/animal subjects or appropriate use of genetic or radioactive materials and chemical hazards. Written approval from the board/committee/officer must be included as an appendix to the thesis. The use of Guidelines for the Preparation of Theses, Projects, and Dissertations is required. This publication
is available for purchase in Western's Campus Bookstore, or for free downloading at <a href="http://www.wmich.edu/grad/guidelines.PM.pdf">http://www.wmich.edu/grad/guidelines.PM.pdf</a>. The course 7000, Master’s Thesis, is six credit hours and may be registered for in increments of one to six hours. Following a student's first enrollment in 7000, the student must have continuous enrollment in 7000 until all thesis requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the thesis within the first six hours of registration will be required to continue to enroll in 7000; however, only six hours of 7000 will count toward meeting the program requirements for the master’s degree. For students not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all fall and spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session. The thesis is graded on a Credit/No Credit basis. In case a student wishes to appeal a negative decision by the student's master's thesis committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case a master's thesis committee cannot reach unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the Dean of The Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the thesis. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the thesis committee if the case merits it.  6 hrs.

GRAD 7100  Independent Research  Designed for highly qualified advanced graduate students, or small groups, who wish to pursue individual studies or projects under the direction of a member of the Graduate Faculty. The faculty member shall be the instructor of record who is responsible for turning in a grade to the Registrar’s Office. A Permission to Elect form, signed by the student’s graduate advisor and the faculty supervisor, must be submitted to the Records Office prior to registration.  2-6 hrs.

GRAD 7110  Readings in Doctoral Specialization  In consultation with a faculty member, the doctoral student will design a reading list of 20 to 30 books in a specialized area; students wishing additional guided reading may register a second time. The student will master these works independently and, in consultation with faculty members, select a representation list of approximately 20 works on which to be evaluated in a two-hour oral examination, conducted by a committee of at least two faculty members.

Prerequisite: Doctoral Candidacy.  3 hrs.

GRAD 7120  Professional Field Experience  Designed for graduate students nearing completion of their degree who wish to pursue internships or apprenticeships. Effective internships relate to the student’s professional goals, require the student to function within the standard procedures of the setting, and require the student to assume increased specified professional activities. Because the work for a 7120 is ordinarily a culminating experience, students may enroll for 7120 only when the departmental graduate advisor or director deems that they have completed all appropriate course work and any other requirements that should precede the field experience. Permission to elect 7120 can be granted only when the student’s graduate advisor or committee deems that the project is integral to the student’s program of study and approves a prospectus outlining goals, rationale, activities, and methods of evaluation of the proposed field experience. 7120 should not supplant required or expected courses in the graduate program. If a graduate program has a required internship or field experience, approved by the university curricular review process, a maximum of 12 hours of 7120 may be applied to the graduate degree.  2-12 hrs.
GRAD 7130  Practicum in Teaching in the Discipline  A practicum in teaching in the discipline will be done as collaborative teaching with an experienced faculty member in a broad-based undergraduate course. There will be opportunity for both guided praxis and reflection on praxis.  3 hrs.

GRAD 7200  Specialist Project  The Specialist Project is designed for the units offering the specialist degree. Candidates for the specialist degree may elect to write a project in their field of specialization under the supervision of a project committee. Prior to the first registration in 7200, Specialist Project, a Permission to Elect form (available in all departments) must be completed and the student must meet with the Coordinator of Theses and Dissertations in The Graduate College so that the student is informed about the regulations pertaining to the preparation of the manuscript and to the requirements for research involving regulated subjects and hazardous materials. Specialist projects involving research with protected or regulated subjects must include documentation indicating compliance with federal, state, and University requirements for the protection of human/animal subjects or appropriate use of genetic or radioactive materials and chemical hazards. Written approval from the board/committee/officer must be included as an appendix to the project. The use of Guidelines for the Preparation of Theses, Projects, and Dissertations is required. This publication is available for purchase in Western's Campus Bookstore, or for free downloading at <a href="http://www.wmich.edu/grad/guidelines.PM.pdf">http://www.wmich.edu/grad/guidelines.PM.pdf</a>. A specialist project is six credit hours. It may be registered for in increments of one to six hours. Following a student's first enrollment in 7200, the student must have continuous enrollment in 7200 until all project requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the project within the first six hours of registration will be required to continue to enroll in 7200; however, only six hours of 7200 will count toward meeting the program requirements for the specialist degree. For students not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all fall and spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session. The project is graded on a Credit/No Credit basis. In case a student wishes to appeal a negative decision by the student's project committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case a project committee cannot reach unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the Dean of The Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the project. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the project committee if the case merits it.  6 hrs.

GRAD 7250  Doctoral Research Seminar  Units offering doctoral programs may use this number to designate their research seminars. Such seminars may be taken more than once by the student. Permission of instructor is required.  2-6 hrs.

GRAD 7300  Doctoral Dissertation  The Doctoral Dissertation is required in all doctoral programs and is completed under the supervision of a dissertation committee. Prior to the first registration in 7300, Doctoral Dissertation, a Permission to Elect form (available in all departments) must be completed and the student must meet with the Coordinator of Theses and Dissertations in The Graduate College so that the student is informed about the regulations pertaining to the preparation and publication of the
manuscript and to the requirements for research involving regulated subjects and hazardous materials. Doctoral dissertations involving research with protected or regulated subjects must include documentation indicating compliance with federal, state, and University requirements for the protection of human/animal subjects or appropriate use of genetic or radioactive materials and chemical hazards. Written approval from the board/committee/officer must be included as an appendix to the dissertation. The use of Guidelines for the Preparation of Theses, Projects, and Dissertations is required. This publication is available for purchase in Western's Campus Bookstore, or for free downloading at <a href="http://www.wmich.edu/grad/guidelines.PM.pdf">http://www.wmich.edu/grad/guidelines.PM.pdf</a>. A doctoral dissertation varies in credit from a minimum of 12 credit hours to a maximum of 24 credit hours. The hours required in a program of study are determined by the student's department. The course 7300, Doctoral Dissertation, may be registered for in increments of one or more hours. Following a student's first enrollment in 7300, the student must have continuous enrollment in 7300 until all dissertation requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the dissertation within the program-stipulated hours will be required to continue to enroll in 7300; however, only the program-stipulated hours for 7300 will count toward meeting the program requirements for the doctoral degree. For students not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all fall and spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session. The dissertation is graded on a Credit/No Credit basis. In case a student wishes to appeal a negative decision by the student's doctoral dissertation committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case a doctoral dissertation committee cannot reach unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the Dean of The Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the dissertation. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the doctoral dissertation committee if the case merits it. All doctoral dissertations will be microfilmed by Bell & Howell (formerly UMI). The student is also required to prepare an abstract of the dissertation for publication in Dissertation Abstracts International. 12-24 hrs.

GRAD 7320  Doctoral Clinical Internship  Designed for doctoral students pursuing a program-required 2,000 clock-hour internship at an approved professional site. Enrollment is approved for students with the Prerequisite academic preparation by the department committee supervising the area of the student's training. Permission of department is required. 1-4 hrs.

GRAD 7350  Graduate Research  Units offering doctoral programs may use this number to designate research projects for their doctoral students. Such projects may be taken more than once by the student. Permission of instructor is required. 2-10 hrs.

GRAD 7400  Teaching in Higher Education  This course will prepare Western Michigan University graduate teaching assistants for teaching in the twenty-first century learning environments. The course will consist of instruction in the lecture environment, collaborative-learning environment, and adoption of appropriate technology to the classroom. Prerequisite: Permission of the department, college, and Graduate College is required. 1-3 hrs.
GRAD 7450 Teaching Practicum in Higher Education This course continues the preparation of Western Michigan University graduate teaching assistants for teaching in the twenty-first century learning environments. The course will focus on the application of knowledge gained in GRAD 7400 via the preparation of course materials demonstrating mastery of instructional techniques for the lecture environment, collaborative-learning environment, and adoption of appropriate technology to the classroom. Prerequisite: Permission of the department, college, and Graduate College is required. 1-3 hrs.

Haworth College of Business

Interdisciplinary Courses

BUS 6150 Global Business and Intercultural Communication This course enables the student to explore how business practices and policies are affected by international, cultural, political, legal, social, and economic environments. Viewed from the perspective of corporate managers and entrepreneurs, this course provides a global foundation for other business work; for example, in accounting, information management, finance, management, and marketing. Additionally, intercultural communication skills required to conduct business successfully in a global environment will be examined. Written and oral reports will be incorporated to provide practical knowledge about intercultural business communication. Prerequisites: ACTY 6010 FIN 6020, ECON 6010, LAW 6040 or consent of the HCOB director of graduate programs. 3 hrs.

BUS 6160 Business Policy and the Social and Ethical Environment This course introduces students to the concepts of social responsibility and ethics in strategic business settings. Coverage includes strategic business concepts and associated legal issues. An examination of a firm's mission, goals, and business strategy will be considered within an ethical and legal framework. Diverse viewpoints regarding the nature and limits of corporate social responsibility will be explored in the context of alternative strategic choices for the firm. The emphasis will be on understanding the conceptual tools to analyze behaviors in the context of business decision making. Prerequisites: ACTY 6010 FIN 6020, ECON 6010, LAW 6040 or consent of the HCOB director of graduate programs. 3 hrs.

BUS 6180 Information Technology Management This course enables the student to understand the use of information technology as part of business strategy. Issues surrounding information technology such as information and communication systems and services and enterprise-wide systems-traditional, networked, extended, and virtual-in organizations will be explored. The growing convergence of technologies-computer, video, and telecommunications-within sophisticated information networks also will be examined. Students should gain knowledge about strategic issues involving information technology management rather than the development of specific computer skills. Prerequisites: ACTY 6010 FIN 6020, ECON 6010, LAW 6040 or consent of the HCOB director of graduate programs. 3 hrs.

BUS 6990 Business Strategy An advanced examination of the tasks of formulating long-run strategy for the organization. Using strategic cases and/or simulations, the course includes methods of (1) developing opportunities from analyses of environmental and market trends, (2) understanding company strengths, weaknesses, and competencies, and (3) directing the integration of strategy with operating plans through formal and informal networks. This is an integrative capstone course designed
to provide a total business perspective. Prerequisites: ACTY 6110 FIN 6120, MKTG 6130, MKTG/MGMT 6140, BUS 6160, MGMT 6170, BUS 6180. 3 hrs.

Accountancy

ACTY 6010  Accountancy  This course is designed for graduate students who have no academic background in accounting; M.S.A. students are not permitted to enroll in ACTY 6010. It is a study of the fundamental concepts and applications of financial and managerial accounting. The course emphasizes the use of accounting information and the analysis of accounting statements rather than the recording of transactions and the preparation of accounting statements. Students cannot receive credit for both ACTY 601 and equivalent courses. Prerequisite: Admission to the MBA program or consent of the Chair of the Department. 3 hrs.

ACTY 6100  Financial Accounting and Reporting  This course examines the pronouncements of authoritative, regulatory organizations, including the American Institute of Certified Public Accountants, the Securities and Exchange Commission, and the Financial Accounting Standards Board. The underlying logic (or lack thereof) behind these pronouncements is investigated. These pronouncements are studies in their broad concepts, including asset and liability recognition and measurement issues, revenue recognition alternatives, the timing of expense matching, and funds flow reporting. Practical, “real world” cases emphasizing these concepts form a major portion of the course. The impact of financial reporting on capital markets, from a user perspective, is also discussed. Prerequisite: ACTY 3110 or consent of the Chair of the Department or the Director of the MBA Program. 3 hrs.

ACTY 6110  Managerial Accounting  This course emphasizes the use of accounting information for planning, control, and decision making. The managerial accounting topics covered include job order costing, cost allocation, service costing, activity-based costing, standard costing, transfer pricing, and global accounting issues. The course is not available for credit to students who have completed ACTY 3220 or its equivalent; M.S.A. students are not permitted to enroll in ACTY 6110. Prerequisite: ACTY 6010 or equivalent. 3 hrs.

ACTY 6170  Attestation and Assurance Services  A critical study and examination of the theory of auditing and auditing practices, including the demand and supply for auditing services and current issues facing auditors in the United States and elsewhere. Prerequisite: ACTY 4160 with a “C”. 3 hrs.

ACTY 6210  International Accounting  This course examines international dimensions of accounting and the uses of accounting information for decision making in a multinational environment. Major emphasis is placed upon accounting and managerial issues of multinational corporations such as currency translation, financial reporting and disclosure, international taxation, transfer pricing, and current issues and developments. Prerequisite: ACTY 6110 with a “C” or consent of the Chair of the Department. 3 hrs.

ACTY 6220  Seminar in Management Accounting  This course examines a variety of advanced cost management concepts and techniques for manufacturing and service organizations. The topics may include advanced cost-volume-profit analyses, activity-based costing and activity-based management, strategic cost management, total quality management, re-engineering and process improvement, transfer
pricing, and other cost management issues in a global environment. Prerequisite: ACTY 3220 with a “C” or ACTY 6110 with a “C”. 3 hrs.

ACTY 6240 Business Tax Planning An advanced course in business taxation involving the identification and analysis of tax problems. Income tax strategy is studied involving the timing of income, types of business organizations, and the various alternative tax treatments. Tax problems of corporate acquisitions, reorganizations, liquidations, estates and trusts, partnerships, and capital gains will also be included. Case studies will be used, and research in taxation will be emphasized. The course will be conducted in a seminar setting with group discussion accentuated. Prerequisite: ACTY 3240 with a “C”. 3 hrs.

ACTY 6270 Accounting Fraud This course identifies various aspects and elements of fraud as it occurs in business. Three major categories of fraud will be examined: asset misappropriation, financial statement misstatement, and corruption. The specific sequence of content will begin with an introduction to the problem, and then how fraud can be prevented. The course will then proceed to the various methodologies for detection and investigation. Concluding materials will cover resolution attributes and related matters. Prerequisite: ACTY 4160. 3 hrs.

ACTY 6420 - 6450 Selected Topics in Accountancy The advanced study of selected topics in accountancy. Course varies according to topic. Prerequisite: MSA admission or consent of the Chair of the Department. 3 hrs.

ACTY 7000 Master's Thesis 6 hrs.
ACTY 7100 Independent Research 2-6 hrs.
ACTY 7120 Professional Field Experience 2-12 hrs.

Business Information Systems

CIS 5550 Topics in Computer Information Systems Special topics appropriate to business applications such as data base management systems, structured concepts, networking, programming documentation and efficiency, planning, organizing and directing management information systems. Prerequisite: Permission by the instructor. 3 hrs.

CIS 6000 Seminar in Computer Information Systems Intensive problem solving in the area of computer information systems. 3-4 hrs.

CIS 6200 ERP System Configuration Through hands-on experiences, students learn how to configure an integrated Enterprise Requirements Planning (ERP) system to manage a firm’s business processes and gain a better understanding of the nature of these processes. Management issues associated with implementing these packages are also explored. Prerequisites: ACTY 6110, BUS 6180, MGMT/MKTG 6140. 3 hrs.

CIS 6300 ERP Data Management The focus of this course is database design, management, administration, implementation and data migration from legacy systems to an ERP system. Modern database management systems and ERP software such as Oracle DBMS, PL/SQL development
environment, SAP implementation/configuration tools, and SAP SQL will be used for course instruction and project development. Prerequisite: BUS 6180. 3 hrs.

CIS 6620 ERP Project Management This course enables students to gain a clear and comprehensive understanding of structured project management. It introduces foundations for effective project management in projects with a high technological content. The course focuses on how to complete projects on schedule and within budget while meeting performance and quality objectives. Highly participative, the course involves interactive lectures, discussions, small-group work, and a unique information system project simulation exercise. Prerequisite: BUS 6180. 3 hrs.

CIS 6640 Business Intelligence This course is focused on major strategic and managerial issues of gathering, integrating, distribution, and analyzing enterprise-wide information quickly and effectively, which is a vital component in ERP systems management. Topics include introduction to BI spectrum and its road map, data extraction and reporting, OLAP, BI cycles, Extended BI through data warehousing and data mining, and total integration at enterprise level through model optimization and bridging the analysis gap. Emphasis on the use of conceptual, analytical, and technological models tools and techniques will be an integral part of the course. Business Intelligence course enables students/future knowledge workers to be more productive by effectively guiding the progress of business enterprises in accordance to the business goals, objectives, and strategies. Prerequisite: BUS 6180. 3 hrs.

CIS 6660 Enterprise Information Security Management The focus of this course is to explore the major issues in Enterprise Information Security Management. Prospective topics include introduction to information security management, security and contingency planning, security policy and programs, risk management, legal and regulatory issues, security personnel, and enterprise information security project management. This course is designed to provide the professional manager with an understanding of the identification and prioritization of information assets and their threats, information security strategy and architecture, how to plan for and respond to system intrusions, the implications of security and privacy issues, and the information disaster recovery plan after an accident. Prerequisite: BUS 6180. 3 hrs.

CIS 6740 ERP Portal Management This course focuses on ERP Portal Management. In particular, the course explores the justifications, requirements, implementation, and management of Enterprise Web Portals. Throughout the semester students will learn how to customize, maintain, and manage ERP Web Portals to maximize their effectiveness and efficiency in various business environments. Prerequisite: BUS 6180. 3 hrs.

CIS 7100 Independent Research 2-6 hrs.
CIS 7120 Professional Field Experience 2-12 hrs.

Finance and Commercial Law
FCL 5940 International Business Seminar A foreign study seminar designed for qualified and capable undergraduate students, graduate students, teachers, and business executives. The seminar introduces participants to a first-hand knowledge of business operations abroad through on-site inspection of foreign manufacturing, marketing, financial, and governmental organization, supplemented
by coordinated faculty lectures and assigned readings. Undergraduate or graduate credit of up to six
hours, in one or more of the following departments upon consent of department chair: Accountancy,
Business Information Systems, Finance and Commercial Law, Management, or Marketing. 1-6 hrs.

FCL 6000 Seminar in Business Intensive problem solving in the primary business fields. Consent
of instructor required. 3 hrs.

FIN 6020 Corporate Finance This course will introduce students to financial principles and
techniques which are essential for understanding the financial management function of a firm. 3 hrs.

FIN 6120 Financial Management This course will focus on a contemporary study of issues
and problems in financial management. Issues to be examined include short-term financing, capital
budgeting, asset pricing theory, sources of long-term capital, optimal capital structure, corporate
restructuring and international dimensions of corporate financial management. Prerequisite: FIN
6020 or equivalent. 3 hrs.

FIN 6190 Financial Markets and Institutions Study of money and capital markets, financial
instruments, and intermediaries in a global context. Topics include interest rate and security price
determination, term structure theory, hedging techniques with derivatives, commercial and investment
banking practices, and monetary policy methodology and influences. Prerequisite: FIN 6120.3 hrs.

FIN 6220 Financial Restructuring An investigation and analysis of the financial aspects of
corporate restructuring. The course emphasizes valuation of public and private companies. In addition, it
examines the financial implications of leveraged buyouts, spin-offs, and other types of divestitures.
Prerequisite: FIN 6120. 3 hrs.

FIN 6250 Financial Strategy The main focus of this course is on value creation. It attempts to
bridge the gap between theory and practice. Topics include financial analysis and forecasting, risk
management, working capital management, capital budgeting, capital structure theory and dividend
policy. Students identify problems facing the financial executive and recommend the best course of
action utilizing financial theory. Prerequisites: FIN 6120. 3 hrs.

FIN 6420 International Finance A study of contemporary issues in the areas of multinational
financial management and international investments with emphasis on the management of currency risk.
The areas to be examined include international treasury cash management, multinational capital
budgeting and hedging of transactions, operations and translation exposure. Prerequisite: FIN 6120. 3 hrs.

FIN 6450 Computer Applications in Finance Spreadsheets, web resources, and statistical
analyses are used to analyze finance issues with current computer software. Web research includes
searching security databases, downloading stock prices, and using stock screening programs. Statistical
analyses use regression. The cases cover topics such as capital budgeting, cash budgeting, estimating
beta, financial forecasting, and ratio analysis. Students work in teams to solve cases and give
presentations. Prerequisite: FIN 6120. 3 hrs.
FIN 6540 Investment Analysis and Management  A detailed analysis of the investigation of corporate securities as long-term investment media, largely from the standpoint of the individual investor. Investigates the techniques for security valuation and portfolio management, with some discussion of financial institution investment procedures. Considers mechanics, markets, institutions, and instruments important to the investment process. Not open to students with credit earned in FIN 4530 or its equivalent. Prerequisite: FIN 6120. 3 hrs.

FIN 6550 Portfolio Theory and Analysis  A study of the theoretical structures (models and their applications). Theoretical concepts are used to study model development and evaluate competing models. Extensive use of market-based data for computer applications of models such as Markowitz analysis, single and multiple index models, simplified techniques, duration and convexity. Prerequisite: FIN 6120. 3 hrs.

FIN 6620 Health Care Financial Management  This course deals with advanced financial management concepts affecting health care institutions. Working-capital management, capital-budgeting, and Medicare reimbursement programs are examined. Prerequisite: FIN 3200 or equivalent. 3 hrs.

FIN 6910 Seminar in Finance  The analysis of specialized financial problem areas (e.g., financial futures markets, financial forecasting, commodities, and similar contemporary problems). Topics will vary from semester to semester. Prerequisite: FIN 6120. 3 hrs.

FIN 6980 Readings and Research in Finance  Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Written consent of department chair. 1-3 hrs.

FIN 7000 Master's Thesis  6 hrs.
FIN 7100 Independent Research  2-6 hrs.
FIN 7120 Professional Field Experience  2-12 hrs.

LAW 6040 Legal, Regulatory, and Political Aspects of Business  This course provides an introduction to the legal, regulatory, and political environments of business. The course will examine the role of law in society; the structure of the American legal, regulatory, and political systems; and basic legal principles governing business conduct. The course reviews major legal problems encountered by business managers. The manager's role in dispute resolution and factors affecting the organization of business are also examined. 3 hrs.

LAW 6810 Legal and Ethical Issues for Nonprofit Organizations  This course will provide students with the basic understanding and practical applications of the legal framework pertaining to the establishment, operation, and funding of nonprofit organizations. It will also examine ethical behavior in the nonprofit world, provide examples of questionable conduct and unethical behavior, and offer solutions to ethical dilemmas. Not available for credit toward graduate business programs. 2 hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAW 6820</td>
<td>Managerial Aspects of Labor Law</td>
</tr>
<tr>
<td></td>
<td>Provides an overview of the background and consequences for business of the laws governing collective relationships between employers and employees and their representatives. Special emphasis is given to the interpretation and evaluation of current legislation. Prerequisite: LAW 6040. 3 hrs.</td>
</tr>
<tr>
<td>LAW 6840</td>
<td>International Business Law</td>
</tr>
<tr>
<td></td>
<td>Private international law and selected regional and national laws affecting foreign investment, licensing, and trade are reviewed. International sales, financing, transportation, intellectual property, and taxation topics are discussed. 3 hrs.</td>
</tr>
<tr>
<td>LAW 6860</td>
<td>Legal and Regulatory Issues in Marketing</td>
</tr>
<tr>
<td></td>
<td>This course examines the legal, regulatory, and political issues which affect marketing. The course offers legal and regulatory information that parallels and affects marketing decision-making. 3 hrs.</td>
</tr>
<tr>
<td>LAW 6880</td>
<td>Health Law Administration</td>
</tr>
<tr>
<td></td>
<td>The course provides a study of the law as it relates to the delivery of health care services. The cases, regulations and statutes in state and federal legal systems that affect the health care professional and institutions are examined. Legal concepts such as respondent superior, good Samaritan laws, informed consent, and confidentiality will be explored. Prerequisite: LAW 3800 or 6040. 3 hrs.</td>
</tr>
<tr>
<td>LAW 6890</td>
<td>Legal Problems of Health Care Organizations</td>
</tr>
<tr>
<td></td>
<td>An analysis of the organization and structure of various health care entities. The Medicare reimbursement program, medical malpractice and risk avoidance concepts will be discussed. Laws affecting the maintenance and disclosure of medical records and organizational certificate of needs will be examined. Prerequisite: LAW 688 or consent of department chair. 3 hrs.</td>
</tr>
<tr>
<td>LAW 6980</td>
<td>Readings and Research in Law</td>
</tr>
<tr>
<td></td>
<td>Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Written consent of department chair. 1-3 hrs.</td>
</tr>
<tr>
<td>LAW 7000</td>
<td>Master's Thesis</td>
</tr>
<tr>
<td></td>
<td>6 hrs.</td>
</tr>
<tr>
<td>LAW 7100</td>
<td>Independent Research</td>
</tr>
<tr>
<td></td>
<td>2-6 hrs.</td>
</tr>
<tr>
<td>LAW 7120</td>
<td>Professional Field Experience</td>
</tr>
<tr>
<td></td>
<td>2-12 hrs.</td>
</tr>
</tbody>
</table>

Management

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 6000</td>
<td>Seminar in Management (Topic)</td>
</tr>
<tr>
<td></td>
<td>Intensive problem solving in advanced management topics, including the preparation of a major staff report. 3 hrs.</td>
</tr>
<tr>
<td>MGMT 6100</td>
<td>International Management</td>
</tr>
<tr>
<td></td>
<td>The purpose of this course is to develop the skills, knowledge, and sensitivities necessary to manage successfully in an international environment. Students will learn why and how companies internationalize their operations, and the implications of managing in diverse environments worldwide. Prerequisite: BUS 6150. 3 hrs.</td>
</tr>
<tr>
<td>MGMT 6140</td>
<td>Business Process Management</td>
</tr>
</tbody>
</table>
|             | Improving business processes is fundamental to competitive organizations and their significant supply chain partners. Students will be introduced to the increasingly integrated areas of purchasing, operations, and logistics and given an
opportunity to examine the fundamental processes that shape business functions. Students will either develop and simulate new systems or improve existing systems within the supply chain of an organization. 3 hrs.

MGMT 6170 Managing Human Resources and Behavior Work is a dominant theme in the lives of most people. The way people are managed and relate to one another affects the quality of their lives and the effectiveness of their organizations. Understanding individual differences, sources of behavior, choices people make, and how issues come together in groups and organizations is imperative for today's managers. A clear understanding of how diverse managerial approaches positively impact the performance of a diverse workforce is of growing importance. The course instructional technology ranges from lecture to self-directed work. There is, however, an emphasis on participative and experiential learning. 3 hrs.

MGMT 6200 ERP System Configuration Through hands-on experiences, students learn how to configure an integrated Enterprise Requirements Planning (ERP) system to manage a firm’s business processes and gain a better understanding of the nature of these processes. Management issues associated with implementing these packages are also explored. Prerequisites: ACTY 6110 BUS 6180, MGMT/MKTG 6140. 3 hrs.

MGMT 6320 Incentive Compensation Incentive compensation covers pay related incentives useful for implementing business strategies. Topics covered include executive compensation (e.g. stock options), special group incentives, gain sharing, and ESOPs. Students are expected to develop an incentive plan for an existing organization. 3 hrs.

MGMT 6410 Business Venturing Focuses on all aspects of starting a new business, with emphasis on the critical role of recognizing and creating opportunities. Topics include evaluation of opportunities, sources of financing, and challenges of rapid growth. Term project involves development and presentation of a professional business plan. Prerequisite: Completion of MBA core or consent of the HCOB Director of Graduate Business Programs 3 hrs.

MGMT 6500 Managing Change The process of change inside organizations with particular emphasis on managerial actions that influence effectiveness is investigated. Change is examined at the strategic, organizational and behavioral levels. 3 hrs.

MGMT 6520 Strategic Human Resource Management The role of HRM in generating sustained competitive advantage is examined. Theory, policies, and practices that guide effective management of diverse human resources are explored. Strategic choices regarding staffing, evaluation, rewards, dismissal, and employment relations in a changing work environment are discussed. Prerequisite: Admission the MBA program or consent of the HCOB Director of Graduate Business Programs. 3 hrs.

MGMT 6540 Management History and Thought A study of the major management theories and executives and their contributions to the field of management from the start of the twentieth century to date, with primary emphasis on the years before 1980. Covers the contributions of such theorists as Frederick Taylor, Mary Parker Follett, Douglas McGregor, Theodore Levitt, and Peter Drucker, as well as of executives such as Henry Ford, Alfred Sloan, Chester Barnard, and Thomas Watson, Jr. Also
includes a summary of the major labor acts such as the Wagner Act (1935) and how they influenced the development of management practice and labor relations in the United States. Prerequisite: MGMT 6170. 3 hrs.

MGMT 6550 Organization Theory Theories, models, and applications relevant to the structure of complex organizations and their subunits. Emphasis on alternative designs, their causes and consequences. 3 hrs.

MGMT 6580 International Human Resource Management The purpose of this course is to investigate issues in the management of human resources on a global basis. It includes topics such as globalization and business strategy, culture, employment law, expatriate staffing, performance appraisals, cross-cultural training, and international labor relations. 3 hrs.

MGMT 6610 Introduction to Management Science A systematic study and application of the scientific method to management decision-making. Introduction to techniques of linear programming, inventory theory, scheduling theory, and other optimizing decision models. For students who will take more specialized courses as well as those in other disciplines desiring a limited exposure to the field. Prerequisite: MATH 2160 or equivalent. 3 hrs.

MGMT 6800 Management of Innovation and Technology (MOIT) An understanding of the concepts involved in developing core technological competencies, managing existing technologies, and developing new technologies through innovation. Focus will be on the management dimension of technology and innovation. Topics covered will include: technology and strategy (including technological forecasting), management of technology (including development of core technical competencies and technology acquiring options), management of innovation (including internal entrepreneurship and organizational change, and managing R&D), the economics of innovation, and the relevance of Management of Innovation and Technology in helping a firm meet or surpass global competition. 3 hrs.

MGMT 6850 Quality Management Strategies The purpose of this course is to investigate strategic quality management issues as they apply to the management of business in today's competitive environment where customer satisfaction and continuous improvement have become requirements. Topics covered will include product and process quality, leadership, benchmarking, employee participation and empowerment, quality function deployment, and process innovation. Students will be assigned materials from the latest textbooks and journals. Practice and application will result from participation in group projects conducted in local firms. Prerequisite: MGMT 6140 or MKTG 6140. 3 hrs.

MGMT 6950 Advanced Independent Study Independent study of current trends and advanced problems in the organization and management of complex organizations. Prerequisite: Consent of department chairman. 3 hrs.

MGMT 6990 Policy Formulation and Administration This course focuses on the job of the general manager in formulating short and long run strategy. Using cases drawn from actual situations, the course develops ways of (1) perceiving specific opportunities from an analysis of evolving environmental trends, (2) understanding company strengths and (3) integrating strengths and
opportunities in setting strategy and detailed operating plans. This is an integrative capstone course in that the tools and skills learned in other core courses are needed to develop practical, company-wide general management decisions. Prerequisite: Completion of MBA core courses. 3 hrs.

MGMT 7000 Master's Thesis 6 hrs.
MGMT 7100 Independent Research 2-6 hrs.
MGMT 7120 Professional Field Experience 2-12 hrs.

Marketing
MKTG6130 Customer-Driven Marketing Management An examination of marketing theory, concepts, and processes used by organizations to create customer value, achieve and sustain competitive advantage and accomplish their strategic mission and objectives. Emphasis on planning, implementing, and evaluating customer-driven marketing strategies to respond effectively to complex global, cultural, technological, competitive, and other market or environmental factors. 3 hrs.

MKTG6140 Business Process Management Improving business processes is fundamental to competitive organizations and their significant supply chain partners. Students will be introduced to the increasingly integrated areas of purchasing, operations, and logistics and given an opportunity to examine the fundamental processes that shape business functions. Students will either develop and simulate new systems or improve existing systems within the supply chain of an organization. 3 hrs.

MKTG6610 Healthcare Marketing This course presents the field of marketing and its application to the healthcare industry. Emphasis is on the design and use of marketing analyses in areas of patient and client satisfaction, critical path and performance models, continuous quality improvement, and the managerial application of market research findings. A range of health care provider services are researched using marketing techniques such as segmentation, fail point and boundary analyses for healthcare services. 3 hrs.

MKTG6630 Electronic Marketing Electronic marketing links customers directly with companies, suppliers, and other participants for the development and delivery of products and services. This course examines electronic marketing in terms of specific industries and designated target markets. Students will gain knowledge about customer relationship management using electronic technology, for example the Internet, and related methods and tools used to attract, delight, and retain customers via electronic platforms. Prerequisite: MKTG 6130. 3 hrs.

MKTG6710 Applied Marketing Research Applications of marketing research methods for marketing management using a variety of analytical techniques. Required for all MBA marketing concentrations; may be waived for those having MKTG 4710, or its equivalent, with a grade of “B” or better. 3 hrs.

MKTG6720 Distribution Strategy The design and implementation of distribution channels emphasizing customer service, least-total-cost design, and time-based competition. The course will include particular attention to the application of information technology; the integration of important strategic issues; the coordination of activities impacting channel efficiency; and the management of channel relationships. Prerequisite: MKTG 6130. 3 hrs.
MKTG 6730  New Product Management  A systematic examination of market-driven processes for developing and launching new products and managing them over their life cycles. Includes application of marketing research along with consideration of organizational, technological, competitive, and societal issues. Prerequisite: MKTG 6130. 3 hrs.

MKTG 6740  Integrated Marketing Communications Strategy  The course focuses on the study of the theoretical and practical sides of integrated marketing communications strategy development from a managerial perspective. Included is exposure to the elements of the integrated marketing communications mix (advertising, sales promotion, public relations, interactive marketing, and selected personal selling actions). Media strategy, creative strategy, integrated marketing communication objectives, and budget determination are also explored. Course format may include case studies and/or group projects. Prerequisite: MKTG 6130. 3 hrs.

MKTG 6750  Services Marketing  The study of services marketing with an emphasis on service quality and customer satisfaction. Topics will include the nature and environment of services, customer expectations and satisfaction, TQM, competitive benchmarking, service quality measurement and gap analysis, relationship marketing, and strategy planning for services. 3 hrs.

MKTG 6760  Multinational Marketing Management  Managerial analysis of the global marketing environment and evaluation of market entry strategies including exporting, licensing and direct investment; developing and assessing multinational product, pricing, promotional, and distribution strategies; critical discussion of contemporary international marketing issues. Prerequisites: BUS 6150 and MKTG 6130. 3 hrs.

MKTG 6770  Buyer Behavior  This course presents the theoretical and practical foundations of consumer and organizational behavior from a managerial perspective. Student will develop an understanding of why consumers and organization decision makers think and act as they do in the marketplace. Emphasis is placed on decision-making processes. Resource availability, cultural and intercultural contexts, psychological and sociological influences on decision making are explored. Prerequisite: MKTG 6130. 3 hrs.

MKTG 6780  Special Topics in Marketing  Critical examination of advanced topics within the marketing discipline. The course topic will be indicated in the student record. Prerequisite: MKTG 6130. 3 hrs.

MKTG 6790  Market Planning and Strategy  Emphasis on developing comprehensive customer-driven marketing strategies and plans within dynamic competitive environments. Experiential application of advanced marketing concepts and techniques to marketing problem-solving situations. Prerequisite: MKTG 6130. 3 hrs.

MKTG 6800  Global Sourcing and Logistics  This course will examine concepts in international purchasing and logistics to provide an in-depth understanding of the international supply chain. This course will examine how sourcing and logistics activities change and become more complex in the global environment. These aspects will be discussed in terms of opportunities, challenges and changing customer requirements presented by trading blocs, emerging markets and developing countries. Prerequisite: BUS 6150. 3 hrs.
MKTG 6970 Special Problems in Marketing Special problems based on individual and/or group need or interest under the direction of a member of the graduate faculty. Student application must be submitted to the individual faculty member and approved by the department chair prior to election of the course. Prerequisites: MKTG 6130 and 6710. 3 hrs.

MKTG 7000 Master's Thesis 6 hrs.
MKTG 7100 Independent Research 2-6 hrs.
MKTG 7120 Professional Field Experience 2-12 hrs.

Evaluation

EVAL 6000 Foundations of Evaluation This course is designed to introduce students to the fundamental logic and methodology of evaluation, as it applies to the full range of potential evaluands—including products, services, personnel, programs, projects, policies, interventions, organizations, manufacturing processes, information and communication systems. Topics will include an introduction to evaluation theory and models, needs assessment, the generation of comprehensive criterion checklists, setting standards, collecting and synthesizing mixed method data, drawing explicitly evaluative conclusions, and the basics of presenting evaluation findings to different client audiences. 3 hrs.

EVAL 6010 Interdisciplinary Seminar in Evaluation This seminar will provide a forum for the integration of core evaluation concepts across the program, developing an understanding of evaluation as a profession, and for exchange of ideas among evaluation students, faculty, and industry representatives from multiple disciplines. Topics will include: the history and nature of the evaluation profession, evaluation standards, meta-evaluation, the application of evaluation to different types of evaluand, similarities and differences in evaluation approaches used for different purposes, current issues in evaluation, and needs/opportunities for innovation in evaluation. 1 hr.

EVAL 6970 Advanced Evaluation: Variable Topics This course will present various advanced topics in evaluation theory, methodology, and/or practice, as applied to a diverse range of evaluands (e.g., products, policies, programs, and personnel) across a variety of disciplines, industries, and/or sectors. Although designed primarily for the interdisciplinary Ph.D. in Evaluation, this course is also likely to be of interest to students in other programs. Prerequisite: Permission of instructor. Prerequisites: SPED 537 or equivalent and consent of department. 1-3 hrs.

EVAL 7100 Independent Research 2-6 hrs.
EVAL 7110 Readings in Doctoral Specialization 3 hrs.
EVAL 7120 Professional Field Experience 2-9 hrs.
EVAL 7300 Doctoral Dissertation 1-12 hrs.

606