

Western Michigan University

ME Graduate Program Handbook

Department of Mechanical and Aerospace Engineering

2017

# Table of contents

	Page #
1.0. Introduction	1
2.0 Vision – Mission Statements	1
2.1 Vision statement	
2.2 Mission statement	
3.0 Master’s program in Mechanical Engineering	2
3.1 Mechanical Engineering graduate program objectives	2
3.2 Master of Science in Engineering (Mechanical)	2
3.2.1 Program options and requirements	2
3.2.2 Thesis option	3
3.2.3 Non-thesis option	3
3.2.4 Practical Training	4
3.3 Master of Science in Engineering (Mechanical-Accelerated)	4
3.3.1 Criteria for admission	5
3.3.2 Requirements for participation and graduation	5
3.3.3 Continuing eligibility	5
3.3.4 Withdrawal	6
3.3.5 Accelerated Graduate Degree Programs -general guidelines	6
3.3.6 Admission	6
4.0 Doctor of Philosophy in Mechanical Engineering	7
4.1 Program Requirements	7
4.2 Course work	8
4.3 Practical Training	9
4.4 Research Proposal and Comprehensive Examination	10
4.5 Final Oral exam (Dissertation Defense)	11
4.6 Ph. D student forms	11
5.0 Masters Student – Process and forms	12
Appendix- A – Forms	14
1. Graduate application for permission to elect	15
2. Notification of appointment to a dissertation thesis or specialist project committee	16-17
3. Application for permission to Elect-Masters(ME7000) or Ph. D (ME7300)	18
4. Graduate Student permanent program – Masters level	19
5. Accelerated graduate degree programs – course approval form	20
6. Doctoral program of study form	21-22
7. Dissertation defense scheduling form	23

# 1. Introduction

The Department of Mechanical and Aerospace Engineering offers a combination of coursework, laboratory and design experiences to prepare you for a career in mechanical or aerospace engineering. Our programs offer students diverse and multidimensional education that addresses fundamental understanding of the underlying mathematics, sciences, and engineering, design methodologies, use of modern simulation and design tools and extensive laboratories for undergraduate and graduate instruction and research. We offer programs leading to a Bachelor of Science, Master of Science, Doctor of Philosophy in engineering (mechanical), and a Bachelor of Science, and Master of Science in engineering (aerospace). Mechanical and aerospace engineering is a dynamic and continually evolving profession. Mechanical engineers design, build and maintain the products and processes that define industrial and post-industrial societies.

The graduate programs reflect the broad spectrum of graduate education in mechanical and aerospace engineering including, but not limited to, mechanical system, structural dynamics, system design and controls, materials, experimental stress analysis, vehicle dynamics, experimental and computational fluid dynamics, thermal and power systems, fuel cells, noise and vibrations, finite element analysis, and micro and nano-technology. The department houses state-of-the-art laboratories in advanced thermal systems and heat transfer, thermo-electrics, biomechanics, experimental and computational fluid mechanics, aerodynamics, control systems, combustion, fatigue and fracture, advanced composite structures, material science, noise and vibration, motion and control, space flight dynamics and control, space plasmas, advanced vehicle design and simulation, micro and nano-technology, battery testing, and alternative energy and fuel cells.

The department supports a balanced approach to teaching and research. Graduates are prepared to make strong contribution to either industry or academia.

## 2.1 Vision of Mechanical and Aerospace Academic

---

Student-centered engineering programs with scholars providing excellence in education and research.

## 2.2 Mission of Mechanical and Aerospace Academic Programs

To provide challenging relevant programs in a continuously improving student-centered education and research environment that motivates students and faculty to create, share and apply knowledge and experience.

## 3 Master's in Mechanical Engineering

### 3.1 Mechanical Engineering Graduate Program Objectives

The graduate program educational objectives are:

- To promote proficiency in advanced engineering design, modeling, and analysis.
- To provide opportunities for independent, creative discovery through active participation in innovative research.
- To enhance competency in technical communication.

### 3.2 Master of Science in Engineering (Mechanical)

Advisor: Muralidhar K. Ghantasala

All advising is done by appointment in the Engineering Advising Office located in room E-102 Floyd Hall (Call 269-276-3270).

Graduates with the Master of Science in Engineering (Mechanical) look forward to career opportunities at higher levels of responsibility. Areas of opportunity include, but are not limited to, mechanical systems and structural dynamics, system design and controls, smart and biomaterials, mechanics of composite materials, experimental stress analysis, fatigue and fracture of engineering materials, vehicle dynamics, experimental and computational fluid dynamics, thermal and power systems, alternate and renewable energy, fuel cells, combustion, 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.

#### 3.2.1 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. Following are the course of study requirements for Thesis and Non-Thesis options.

1. *A minimum of six hours must be mathematics oriented.*
2. *A maximum of six credit hours of course work allowed outside the department (as electives and only with prior approval from the program adviser)*
3. *At least half the courses taken must be at 6000 or 7000 level.*
4. *Practical Training program credits (ME 5990) cannot exceed 3 credit hours (maximum)*

### 3.2.2 Thesis Option

---

This option of the Master of Science in Engineering (Mechanical) consists of 30 hours, of which six must be taken as thesis.

*1. A minimum of 30 semester hours of credit*

---

Including 18 hours of approved courses in the area of mechanical engineering, six hours of electives, and six hours of ME 7000: Master's Thesis.

---

The mathematics-oriented courses may include mechanical engineering courses (e.g., ME 5600, 5610, 5620, 6350, 6370, 6510, 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: 1 to 6 hours

### 3.2.3 Non-Thesis Option

---

This option of the Master of Science in Engineering (Mechanical) consists of 36 hours, of which up to six may be taken as project.

*1. A minimum of 36 semester hours of credit*

---

Including 30 hours of approved courses in the area of mechanical engineering plus six hours of electives.

---

The mathematics-oriented courses may include mechanical engineering courses (e.g., ME 5600, 5610, 5620, 6350, 6370, 6510, 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.

## 2. *Project work:*

---

Up to six hours of project as shown below may be taken as part of the 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 to 6 hours

---

### 3.2.4. Practical Training

As part of their course work, Master's students who have had less than 6 months of prior industrial work experience in the U.S. may choose to register in up to 3 credits of ME 5990 in order to pursue practical training off-campus in industrial and/or other settings. To be eligible, students must be registered in the MAE department, must have completed at least 6 credits toward their graduate degree, and must have approval of the Graduate Programs Director or Department Chair. Students may choose to register for 1 credit of ME 5990 at a time, up to 3 semesters. These students will be classified as having full-time status for the purpose of loan deferments and insurance eligibility. International students may contact the International Services and Student Affairs Office before requesting department approval in order to enroll in ME 5990.

### 3.3 Master of Science in Engineering (Mechanical-Accelerated)

The accelerated master's degree program allows undergraduate students in mechanical engineering an opportunity to complete the requirements for the master's degree at an accelerated pace. Undergraduate students may count up to 12 (but not less than six) credit hours of 5000-level courses taken during their undergraduate studies towards a master's degree in mechanical engineering within 24 months of completing their bachelor's degree in mechanical engineering. Students may choose to pursue a master's degree in mechanical engineering under either the thesis option or the non-thesis option.

This program allows an undergraduate student, majoring in mechanical engineering, to complete an accelerated master's degree in mechanical engineering by completing either 147 combined undergraduate/graduate credit hours (if choosing the thesis option), or 153 combined undergraduate/graduate credit hours (if choosing the non-thesis option).

### 3.3.1. Criteria for Admission

Permission to pursue the accelerated degree program (AGDP) does not guarantee admission to the Graduate College. Admission is contingent on meeting the following eligibility requirements at the time of entering the graduate program:

1. Students must have completed a minimum of eighty (80) and a maximum of ninety-six (96) credit hours in the undergraduate program, including credits earned from advanced placement.
2. Transfer students must have completed a minimum of 30 credit hours as a full-time student at WMU.
3. Students must have a minimum accumulated grade point average (GPA) of 3.5/4.0 at WMU.

### 3.3.2. Requirements for Participation and Graduation

1. Students must complete the bachelor's degree prior to entering the master's program.
2. Students will only be allowed to count a maximum of twelve (12) 5000-level credits taken during their undergraduate studies toward this master's degree.
3. Students must receive a grade of "B" (3.0/4.0) or better in the 5000-level courses taken during their undergraduate studies.
4. No more than twelve (12) hours of work may be counted towards the requirements for both the bachelor's and master's degree.
5. Students must complete the master's degree within 24 months from the completion of the bachelor's degree. If the master's degree is not completed within these time limits, none of the 5000-level courses used for the bachelor's degree may be counted toward the master's degree.
6. In an exceptional case where following the completion of the bachelor's degree, the student is admitted into the mechanical engineering doctoral program, the credits earned as a part of the AGDP program will be applied to student's doctoral coursework (specified in the requirements for completion of a doctoral degree for students admitted with a bachelor's degree).

### 3.3.3. Continuing Eligibility

1. It is the responsibility of the student to recognize his/her eligibility status.
2. A student completing the bachelor's degree requirements with an accumulated GPA of less than 3.25/4.0 is no longer eligible to count the 5000-level credit hours specified toward the master's degree and is automatically terminated from the accelerated master's degree program.
3. A student who does not follow the program, laid out in the approved AGDP form, may become ineligible to participate in the accelerated degree program.

4. A student who is ineligible to participate in (or withdraws from) the accelerated program may not count any of the 5000-level courses specified in the AGDP form towards a master's degree.
5. A student who becomes ineligible to participate in the accelerated master's degree program must be informed by the graduate advisor, in writing, of his/her ineligibility. A copy of this letter must be sent to the Graduate College.

### 3.3.4. Withdrawal

A student may, at any time, withdraw from an approved accelerated program by informing the graduate advisor in writing. A copy of this request to withdraw must be sent to the both the Graduate College and the registrar's Office.

### 3.3.5. Accelerated Graduate Degree Programs – General guidelines

The Accelerated Graduate Degree Programs allows students to begin accumulating credits towards the completion of a master's degree while still enrolled as undergraduates. Undergraduate students admitted to an AGDP with senior standing can take up to 12 hours of designated 5000 and/or 6000 level courses for graduate credit which can be used in both the Bachelor's degree and the Master's degree. The [Accelerated Graduate Degree Program Course Approval form](#) should be completed when admitted to the AGDP.

Accelerated graduate degree programs mean that the masters is accelerated, not the bachelor's degree. Students in AGDPs are considered undergraduates for [tuition](#) purposes until they receive their bachelor's degree.

Up to 12 hours of graduate credit can be double counted in both the bachelors' degree and the master's degree. The [AGDP course approval form](#) must be completed and submitted to the Registrar's Office before the student takes graduate courses to be double counted.

Those graduate courses, which are double counted, will appear on the student's graduate transcript and will be part of the graduate GPA. The hours that are double counted will be added to the undergraduate transcript and the grades will be included in the undergraduate GPA. This will be done manually when the student completes the graduate degree.

It is important that both the application and the letter of acceptance from the department clearly indicate that the student is in an AGDP.

### 3.3.6. Admission

- The student follows the departmental Accelerated Graduate Degree Program application process.



- The student applies for graduation by completing their undergraduate audit with college advising office staff and returning the audit to the Registrar's Office. The Registrar's Office staff will update the Banner degree screen (SHADEGR) with the anticipated graduation date for the bachelor's degree. The semester following that anticipated graduation date will be effective term of the graduate admission.
- The student's undergraduate program and degree code will remain the same until completion of the bachelor's degree. For example, a student in Mechanical Engineering will maintain the undergraduate ABSEMCH-MEGJ program code until the bachelor's degree is awarded.
- The student completes the [online graduate application](#) and within the application selects the application type "Accelerated degree seeking – only available to current WMU undergraduate student."
- The department approves a conditional admission to the accelerated master's program and sends a copy of the departmental conditional admission letter to the Office of Admissions. Both the departmental admission form and letter should indicate that the student has been accepted to the accelerated master's program.
- Admissions staff confirms the entry term based on anticipated graduation term on SHADEGR, and admits the student to the Master's for the term immediately following the anticipated graduation term. The student's admission will be provisional pending completion of the bachelor's degree.
- The student will be considered a graduate student the first semester after the bachelor's degree is awarded and will assessed graduate tuition from this point forward.

## 4.0 Doctor of Philosophy in Mechanical Engineering

Advisor: Muralidhar K. Ghantasala

All advising is done by appointment in the Engineering Advising Office located in room E-102 Floyd Hall (Call 269-276-3270).

The Doctor of Philosophy in Mechanical Engineering is designed to intensify student knowledge and comprehension in the various disciplines of the subject, with emphasis on original research in a chosen area of specialty.

### 4.1 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.

At least 30 credit hours of coursework *beyond the master's level* must be taken by a Ph.D. student. Of these 30 credits, 15 may consist of a combination ME 7100 - Independent Study (up to six credit hours) and ME 7350 - Graduate Research (up to nine credit hours). In addition to the 30 credit hours of course work, 15 credit hours of dissertation research credit must be taken (ME 7300). At least 12 of the 30 non-research credit hours must be taken from the graduate courses within the Department of Mechanical and Aerospace Engineering.

For those students starting their doctoral studies after the completion of their bachelor's degree, at least 54 credit hours of coursework *beyond the bachelor's level* must be taken. Of these 54 credits, 15 may consist of a combination ME 7100 - Independent Study (up to six credit hours) and ME 7350 - Graduate Research (up to nine credit hours). In addition to the 54 credit hours of course work, 15 credit hours of dissertation research credit must be taken (ME 7300). Students who choose to discontinue their doctoral studies after completing 30 graduate credits, may be awarded a master's degree. The 54 credit hours of courses must be 5000, 6000 and 7000-level graduate courses. At least 40 of the 54 hours of coursework included for Ph.D. credit must be MAE department courses.

To ensure adequate preparation for the graduate research subject, enrollment in all courses must be approved by the doctoral advisor. A minimum grade point average of 3.25 is required in the doctoral studies. These graduation requirements complement the general university requirements.

Within the first year of graduate level study at WMU, the student should choose a Doctoral Dissertation Committee consisting of four members of the graduate faculty, including the doctoral advisor and at least one member from outside the MAE department. The doctoral student must acquire (through coursework and/or work experience) and demonstrate in a comprehensive examination competency in his/her research area. A comprehensive exam must then be taken to evaluate the depth acquired by the student in his/her research area of interest, and to determine the adequacy of preparation toward dissertation research. This exam is administered by the Dissertation Committee.

For students starting with a master's degree, this examination should be conducted before completion of 15 credit hours of coursework. For students starting with a bachelor's degree, this examination should be conducted before completion of 39 credit hours of coursework.

Details of the Ph.D. study process may be obtained from the Department Graduate Advisor or the web page of the Department of Mechanical and Aerospace Engineering located at [wmich.edu/mechanical-aerospace/academics/phd](http://wmich.edu/mechanical-aerospace/academics/phd).

## 4.2 Course work

At least thirty credit hours of coursework *beyond the Masters level* must be taken by a Ph.D. student. In addition, fifteen credit hours of dissertation research credits must be taken (ME 7300). The thirty credit hours of courses must include 6000 and 7000 level graduate courses with the following restrictions and exceptions:

- Ph.D. credit will be given for MAE department 5000 level courses only in the special

circumstance that the specific course is a pre-requisite for 6000 or 7000 level courses subsequently taken by the student, or is required by the doctoral dissertation committee.

- Twelve of the thirty hours of coursework included for Ph.D. credit must be MAE department courses
- Ph.D. credit will be given for ME 6950, only when it is specifically offered as a new course in preparation while the university-wide curriculum approval process is being completed
- ME 6970 is not approved for Ph.D. credit
- Up to six hours of ME 7100 (independent research) will be allowed as part of the thirty credits.
- Up to nine hours of ME 7350 (graduate research) will be allowed as part of the thirty credits.

For those students starting their doctoral studies after the completion of their Bachelor's degree, at least fifty-four credit hours of coursework *beyond the Bachelor's level* must be taken. In addition, fifteen credit hours of dissertation research credits must be taken (ME 7300). Students who choose to discontinue their doctoral studies after completing thirty graduate credits, may be awarded a Master's degree. The fifty- four credit hours of courses must be at the 5000, 6000 and 7000 level graduate courses with the following restrictions and exceptions:

- Students may take no more than fifteen credits of 5000 level courses unless specifically directed by their committee.
- At least thirty of the fifty-four hours of coursework included for Ph.D. credit must be MAE department courses
- Ph.D. credit will be given for ME 6950, only when it is specifically offered as a new course in preparation while the university-wide curriculum approval process is being completed
- ME 6970 is not approved for Ph.D. credit
- Up to six hours of ME 7100 (independent research) will be allowed as part of the thirty credits.
- Up to nine hours of ME 7350 (graduate research) will be allowed as part of the thirty credits.

## 4.3 Practical Training

As part of their 30 credit hours of course work, doctoral students who have had less than 6 months of prior industrial work experience in the US may choose to register in up to 3 credits of ME 6990 in order to pursue practical training off-campus in industrial and/or other settings. To be eligible, students must be registered in the MAE department, must have completed at least 6 credits toward their doctoral degree, and must have approval of their faculty advisor and Graduate Programs Director or Department Chair. Students may choose to register for 1 credit of ME 6990 at a time, up to 3 semesters. These students will be classified as having full-time status for the purpose of loan deferments and insurance eligibility. International students must contact the International Services and Student Affairs Office before requesting department approval in order to enroll in ME 6990.

## 4.4 Research proposal and comprehensive examination

Within the first year of graduate level study at WMU, the student should choose a Doctoral Dissertation Committee consisting of four members of the Graduate Faculty, including the doctoral advisor and at least one member from outside the MAE department. The student is required to submit a detailed research proposal for evaluation by this committee. The research proposal must include the background, literature review, objectives, and proposed research methodology for the dissertation research. Adequacy of the dissertation proposal will be determined on the basis of preparation, originality, scope and depth of the proposed work, proposed research methodology, anticipated difficulties in execution, and resources available to conduct the proposed work.

For students starting with a Master's degree, the research proposal should be prepared before completion of fifteen credit hours of coursework. For students starting with a Bachelor's degree, the research proposal should be prepared before completion of thirty-nine credit hours of coursework.

A comprehensive exam must then be taken for the evaluation of the depth acquired by the student in his/her area of interest, and to determine the adequacy of preparation toward dissertation research. Within one month of submission of the proposal, the committee will collectively determine the adequacy of the proposal. If this proposal is considered substantially adequate for discussion with the student, an exam (written, oral, or both) in the specialty areas that are directly related to the proposed research will be administered by the committee. The committee will review and evaluate the student exam results and proceed with one of the following courses of action:

- a) If the committee deems both the student's proposed solutions to the specific problems and the dissertation proposal to be substantially satisfactory, an oral presentation of the dissertation proposal will be held. This presentation will be open to all interested faculty. At the conclusion of the presentation, a closed session will be held between the student and the committee, in which the student's answers to the specific questions are discussed, and the committee may make minor suggestions regarding the proposed dissertation research. No re-submission will be required. The student will then be considered to have passed the comprehensive exam, and will officially become a Ph.D. candidate in the department. A letter to this effect will be forwarded to the student, the MAE department Chair, and the Graduate College.
  
- b) An oral presentation of the dissertation proposal will also be held if the committee identifies some deficiencies in the response to the specific exam questions, and/or the dissertation proposal, but considers the combined submissions to be adequate for further discussion. This presentation will be open to all interested faculty. At the conclusion of the presentation, a closed session will be held between the student and the committee, in which the student's answers to the specific questions are discussed, and the committee may recommend a submission of modified answers. In addition, modifications to the proposed dissertation research will be recommended, based on the above-mentioned

criteria. The student will submit the revised response within two weeks of the oral presentation for a re-evaluation by the committee. If the re-submission is deemed acceptable by the committee, the student will be considered to have passed the comprehensive exam, and will officially become a Ph.D. candidate in the department. A letter to this effect will be forwarded to the student, the MAE department Chair, and the Graduate College.

- c) If the response to the specific exam questions, and/or the dissertation proposal is deemed inadequate, a re-examination will be required at least one semester after the date of the first exam. This will be considered a failed attempt at the comprehensive exam. Additional preparation, which might be comprised of coursework, independent research, and other appropriate measures, will also be recommended by the committee in writing. This preparation must be accomplished before the exam is offered again. The re-examination will require a re-submission of the proposal. A student may retake this exam only once and will be dismissed from the MAE doctoral program if the exam is not passed the second time.

## 4.5 Final Oral Exam (Dissertation Defense)

At the conclusion of the research and at least 6 months after the approval of the research proposal and achievement of candidacy status, the dissertation may be submitted to the dissertation committee. The first portion of the defense will be open to the public, and the second portion held in a closed session with the dissertation committee. The dissertation defense must be held within five years after the student has passed the comprehensive exam. If the defense is not held within this time, the student will be required to re-take the comprehensive exam. Based on the presentation of dissertation work, the committee may recommend required modifications to the dissertation that might include further research, revisions to the dissertation, and other measures, as appropriate (such as a second oral exam); or approval of the Ph.D. dissertation and award of the degree.

## 4.6 Ph. D Student – forms

1. To enroll in ME 7100 (Maximum – 6 credit hours) or ME 7350 (maximum – 9 credit hours), you need to complete form-1.
2. At the end of the first year of your stay at WMU, you need to form the Dissertation committee. You need to complete form-2. You should complete form-2 in consultation with your thesis adviser and submit the same to MAE Office.
3. After successful completion of your Research proposal and comprehensive exam, you need to complete the research ‘proposal approval’ form, provided in the graduate college web site: <https://wmich.edu/grad/forms>
4. To start enrolling in ME7300 thesis credit hours. You need to complete forms-3 and 1, when you are enrolling to ME7300 credit hours for the first time.
5. When you are enrolling for ME7300 in the subsequent semesters, use form-1.
6. One semester before you decide to schedule your dissertation defense, you should

complete your graduate audit. You need to complete form-6 and submit in MAE Office. For graduation, further please follow the application procedure provided in the registrar's office website: <https://wmich.edu/registrar/graduation-doctoral>

7. Dissertation Defense Scheduling form (form-7) should be submitted to the graduate college at least 2-3 weeks prior to the proposed defense
8. Student will have to submit the 'Dissertation check-in form', along with your thesis, after completing the dissertation defense. (<https://wmich.edu/grad/forms>)

## 5.0 Masters Student – Process and forms

9. To enroll for courses for the first time, meet with your graduate advisor to finalize the course selection and enrollment

### Thesis Option:

10. If you have decided to pursue thesis option and want to enroll to independent research use form -1. (In this case you should select ME7100 course.) Please note that you are not allowed to enroll in ME6970, when you are pursuing thesis option.
11. At the end of first year of Masters' program, you need to form a thesis committee. **At this stage you must see your graduate advisor by taking an appointment at the advising office.** You should complete form-2 in consultation with your thesis adviser and submit the same to graduate college. After obtaining approval from graduate college, you will be able to register for Thesis credits (ME 7000) by completing forms-3 and 1. Please note that forms 2 & 3 require final approval from graduate college. Hence, you must ensure to complete this process one semester before you want to register for thesis credits. Also, note that you need to obtain additional permissions to satisfy the requirements for research involving regulated subjects and hazardous materials, if your research involves the use of **hazardous materials and/or human subjects/animals/chemical or radiation hazards**. Check with Graduate Advisor, if you are not sure about it. However, for enrollment in the subsequent semesters, you need to fill form-1 only.
12. After completion of the thesis work, you will have to decide on the date of dissertation defense in consultation with your committee.
13. In thesis option, you need to complete a total of 30 credit hours of course work (including 6 credit hours of thesis ME7000). At a time, when you are one semester away to your graduation, you need to complete form-4 (Graduate student permanent program – Masters' level) and meet with your graduate advisor. For graduation, further please follow the application procedure provided in the registrar's office website: <https://wmich.edu/registrar/graduation-masters>. After graduate advisor approval and signature, you need to submit these forms in the registrar's office. This graduation audit completes the official university requirement for the award of the degree.

### Non-Thesis option:

14. If you have decided to pursue non-thesis option and want to enroll to advanced engineering study/research use form -1. (In this case you should select ME6970 course). Please note that you are not allowed to enroll in ME7100, when you are pursuing non-thesis option.
15. In non-thesis option, you need to complete a total of 36 credit hours of course work. At a time, when you are one semester away to your graduation, you need to complete form-4 (Graduate student permanent program – Masters' level) and meet with your graduate advisor. After graduate advisor approval and signature, you need to submit these forms in the registrar's office. For graduation, further please follow the application procedure provided in the registrar's office website: <https://wmich.edu/registrar/graduation-masters>. This graduation audit completes the official university requirement for the award of the degree. Once your graduation audit is complete, you will be notified via email from the auditor.

### Accelerated Masters Students:

16. Students enrolled into accelerated masters' program should complete form-5 to enroll into courses (at 5000 level) to be dual counted for the undergraduate/graduate programs. You can dual enroll up to a maximum of 12 credit hours. You need to complete this form to enroll into graduate courses until you complete your undergraduate program.
17. All the above forms are available at the website: <https://wmich.edu/grad/forms>
18. Form-1 is available at the website:  
<https://wmich.edu/sites/default/files/attachments/u593/2015/Permission%20to%20elect.pdf>

## **Appendix – A Forms:**



Form-1

Term Requested \_\_\_\_\_

Call Number \_\_\_\_\_

**GRADUATE APPLICATION FOR PERMISSION TO ELECT**  
**(This form must be approved before student is allowed to register for**  
**ME5950, ME6950, ME6970, ME7000, ME7100, ME7300, or ME7350)**

**Please circle one course (use a separate form to elect each course):**

\* ME 5950: Topics in Mechanical Engineering (Faculty: \_\_\_\_\_ credits registered = \_\_\_\_\_ )

Catalog description: A specialized course dealing with some particular area of mechanical engineering not included in other course offerings. May be repeated for credit with a different topic up to 6 credits.

\* ME 6950: Advanced Topics in Mech. Eng. (Faculty: \_\_\_\_\_ credits registered = \_\_\_\_\_ )

Catalog description: A specialized course dealing with some particular advanced area of Mechanical Engineering not included in other course offerings. May be repeated for credit with a different topic up to 6 credits.

(\*\*Ph.D. credit will be given for ME 6950, only when it is specifically offered as a new course in preparation while the university-wide curriculum approval process is being completed)

\* ME 6970: Problems in Mechanical Engineering (Faculty: \_\_\_\_\_ credits registered = \_\_\_\_\_ )

Catalog description: Special problems of individual need or interest under the direction of a member of the graduate faculty. Application must be submitted and approved prior to the election of the course. May be repeated up to maximum of six credit hours. (\*\* Ph.D. Students are not eligible to take ME 6970)

\* ME 7000: Master's Thesis (Faculty: \_\_\_\_\_ credits registered = \_\_\_\_\_ )

(subject to continuous enrollment requirement - requires completion of 2 other forms first time registered)

\* ME 7100: Independent Research (Faculty: \_\_\_\_\_ credits registered = \_\_\_\_\_ )

(\*\*Ph.D. students: Maximum 6 credits allowed – Master's students in Thesis Option: Maximum 3 credits allowed)

\* ME 7300: Doctoral Dissertation (Faculty: \_\_\_\_\_ credits registered = \_\_\_\_\_ )

(subject to continuous enrollment requirement - requires completion of 2 other forms first time registered)

\* ME 7350: Graduate Research (Faculty: \_\_\_\_\_ credits registered = \_\_\_\_\_ )

(\*\*Ph.D. students only: Maximum 9 credits allowed)

Name \_\_\_\_\_ WIN Number \_\_\_\_\_

Address \_\_\_\_\_

Email Address \_\_\_\_\_ Phone \_\_\_\_\_

Degree \_\_\_\_\_

Description: Write a specific statement concerning your readings, study, or project. Bound the problem such that it is possible to complete within the allotted time. Provide a time schedule with respect to completion of specific segments of your undertaking. Include a statement, which is mutually agreed to by you and the instructor concerning the method of evaluation. (Use a separate sheet if you need to.)

\_\_\_\_\_  
\_\_\_\_\_

Written report to be submitted: ( ) Yes ( ) No

\* One credit should require nominally 45 hours of student work per semester.

\_\_\_\_\_  
Signature of Student Date

\_\_\_\_\_  
NAME of Faculty Member under whom ME6970, Date  
ME7000, ME7100, ME7300, or ME7350 is to be completed

\_\_\_\_\_  
Signature of Department Graduate Adviser

\_\_\_\_\_  
SIGNATURE of Faculty Member supervising Date  
ME6970, ME7000, ME7100, ME7300, or ME7350



---

**WESTERN MICHIGAN UNIVERSITY**

---

The Graduate College

**NOTIFICATION OF APPOINTMENT TO A DISSERTATION, THESIS  
OR SPECIALIST PROJECT COMMITTEE**

1. **This form is interactive.** Please type all information directly in the form before printing out.
2. Gather signatures from the following:
  - a. Department Chair
  - b. Committee Chair and Members
  - c. Graduate Program Advisor
  - d. Associate Dean or Dean of the Academic College
3. Forward this document to the Graduate College for the Dean's signature
4. The Graduate College will forward a final copy to the Department Chair and to the Graduate Program Advisor.
5. Please submit this document to the Graduate College no later than one week after the committee is formed. Committees should be configured as early in the process as possible in order to ensure that all members have graduate faculty status at WMU.



WESTERN MICHIGAN UNIVERSITY

NOTIFICATION OF APPOINTMENT TO A DISSERTATION,  
THESIS OR SPECIALIST PROJECT COMMITTEE

CURRENT DATE *(select from drop down)*: \_\_\_\_\_ DEGREE SOUGHT: \_\_\_\_\_

STUDENT NAME: \_\_\_\_\_ WIN: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
Street City/Town State ZIP Code Country

DEPARTMENT/PROGRAM: \_\_\_\_\_

PROGRAM: *(Type here if not listed)* \_\_\_\_\_

Check One:  Initial Appointment  Revised Appointment *(attach rationale for request)*

**Proposed Committee Members**

NAME	INSTITUTION	DEPARTMENT	DATE (mm/dd/yyyy)
------	-------------	------------	-------------------

Type name here and sign above  
**(Committee Chair)**

Type name here and sign above

Type name here and sign above

Type name here and sign above

Type name here and sign above

Type name here and sign above

_____ <b>Chairperson, Department</b>	_____ <b>Date Requested</b>
_____ <b>Advisor of Graduate Program</b>	_____ <b>Dean or Associate Dean of the Academic College (Required for dissertation only)</b>
_____ <b>Dean, The Graduate College</b>	_____ <b>Date Approved</b>

**Approved Copies to:** Major Advisor, Department Chair, Graduate Program Advisor

Form-3

**WESTERN MICHIGAN UNIVERSITY**  
**APPLICATION FOR PERMISSION TO ELECT**

Call Number \_\_\_\_\_

Please circle one course (use a separate form to elect each course):

- |        |                               |            |
|--------|-------------------------------|------------|
| * 7000 | Master's Thesis               | 6 hours    |
| 7100   | Independent Research          | 2-6 hours  |
| 7120   | Professional Field Experience | 2-12 hours |
| * 7200 | Specialist Project            | 6 hours    |
| 7250   | Doctoral Research Seminar     | 2-6 hours  |
| * 7300 | Doctoral Dissertation         | 15 hours   |
| 7350   | Doctoral Research             | 15 hours   |

\*(These courses are subject to a continuous enrollment requirement. This form is only filled out the first time you wish to enroll in 7000, 7200, or 7300 hours.)

Please indicate your plan for enrolling in the course:

1st Enrollment - Semester/Session \_\_\_\_\_ Year \_\_\_\_\_ Hours \_\_\_\_\_  
 2nd Enrollment - Semester/Session \_\_\_\_\_ Year \_\_\_\_\_ Hours \_\_\_\_\_  
 3rd Enrollment - Semester/Session \_\_\_\_\_ Year \_\_\_\_\_ Hours \_\_\_\_\_

Name \_\_\_\_\_ W N Number \_\_\_\_\_

Address \_\_\_\_\_

Email Address \_\_\_\_\_ Phone \_\_\_\_\_

Department \_\_\_\_\_ Degree \_\_\_\_\_

Description of Study (including methodology, if research or description of field experience [including name of site and supervisor])

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

*I understand that research involving human or animal subjects, recombinant DNA, chemical hazards, or radioactive material must have prior approval of the research proposal by the appropriate University review body, thus assuring compliance with the regulations for the protection of such subjects or for the use of such materials. (See the reverse side of this form for the specific requirements.) In addition, I understand that The Graduate College will not approve any master's thesis, specialist project, or doctoral dissertation which does not comply with these requirements, and in that event no credit will be granted for the course.*

Signature _____	Date _____	Signature of Faculty Member under whom study is to be completed _____	Date _____
-----------------	------------	---	------------

Signature of Department Chairperson _____	Date _____	*Signature of The Graduate College Representative (needed for 7000, 7200, and 7300 only) _____	Date _____
---	------------	--	------------

Distribution: Department Chairperson, Faculty Advisor, Student, Records Office, \*Graduate College

Revised 4/06

(over)



Form-5

## Accelerated Graduate Degree Programs Course Approval

Submit in person to:  
Office of the Registrar  
Seibert Administration Building, 3rd Floor  
Monday through Friday  
8 a.m. to 5 p.m.



Submit by mail:  
Office of the Registrar  
Western Michigan University  
1903 W. Michigan Avenue Kalamazoo, MI 49008-5256  
Telephone: (269) 387-4300  
Fax: (269) 387-3545

*The Accelerated Graduate Degree Programs (AGDP) allows students to begin accumulating credits towards the completion of a master's degree while still enrolled as undergraduates. Undergraduate students admitted to an AGDP with senior standing can take up to 12 hours of designated 5000 and/or 6000 level courses for graduate credit which can be used in both the Bachelor's degree and the Master's degree. The Accelerated Graduate Degree Program Course Approval form should be completed when admitted to the AGDP.*

### 1. STUDENT INFORMATION

### 2. PROGRAM INFORMATION

Western Identification Number (WIN) \_\_\_\_\_

Department \_\_\_\_\_

Last Name \_\_\_\_\_

First Name \_\_\_\_\_

Program \_\_\_\_\_

Admission Term \_\_\_\_\_

### 3. APPROVED AGDP COURSES - To be double counted

### 4. ALTERNATE COURSES (if first choice is unavailable)

Course	Course Number	Credit Hours	Term

Course	Course Number	Credit Hours	Term

Students admitted to an Accelerated Graduate Degree Programs (AGDP) understand and agree to the following:

- ♦ Unless otherwise specified by AGDP policies of the department or school, requirements for the baccalaureate degree will be completed and the degree awarded within one calendar year after initial enrollment in the AGDP.
- ♦ A grade of "B" or above must be earned in each of the AGDP courses. *Students who do not achieve a "B" or better must apply for readmission into the graduate program. Students who complete the undergraduate degree including a "B" or above in the AGDP courses will be admitted as graduate students (with the relevant graduate credit) in the next semester or session after receiving the bachelor's degree. Students should check with their department to see if there are additional requirements for admission to the AGDP.*
- ♦ Graduate courses substituting for required courses within the undergraduate degree must be designated by the program as equivalent in content but delivered with graduate level rigor.
- ♦ 5000-level courses (required or elective) in the bachelor's degree must be taken at the graduate level to be double counted.
- ♦ The AGDP courses will appear on the student's transcript and grades earned will be reflected in the graduate GPA. All grades earned in courses taken for graduate credit will be reflected in student's graduate GPA.
- ♦ The courses which are double counted will be identified as such on the graduate transcript.
- ♦ Both undergraduate and graduate transcripts will show that the student completed the Accelerated Graduate Degree Programs.
- ♦ Upon completion of the bachelor's degree, the hours earned in the AGDP courses will be added into the undergraduate GPA and credit hours.

### 5. SIGNATURES

Student Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Advisor Signature: \_\_\_\_\_

Date: \_\_\_\_\_



Student Name:		WIN:	
---------------	--	------	--

**Identity Research Tools:**

**List Exams Scheduled/Passed**

Exam Name	Scheduled	Passed	Comments

**Other Requirements (foreign language(s), DGEs, prelims, etc.)**

Required Signatures:

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Program Advisor: \_\_\_\_\_ Date: \_\_\_\_\_

Department Chair: \_\_\_\_\_ Date: \_\_\_\_\_

Copies to: Graduation Auditing Student Advisors Department



Form-7:

The Graduate College



Kalamazoo, Michigan 49008-5121  
269 387-8212

---

## WESTERN MICHIGAN UNIVERSITY

---

### DISSERTATION DEFENSE SCHEDULING FORM

In order to schedule the public dissertation defense, the following procedures must be observed:

1. The doctoral candidate must have applied for graduation, be currently listed in an active graduation class, and the candidate's graduation audit must show that all requirements except the defense and submission of the dissertation have been met.
2. This completed form along with the dissertation abstract (email abstract to: jennifer.holm@wmich.edu) must be submitted to The Graduate College at least 2 weeks prior to the proposed defense.
3. A two-hour block of time must be reserved for the defense.

To notify The Graduate College of the candidate's defense, please provide the following information:

Doctoral Oral Examination of \_\_\_\_\_

For the degree of \_\_\_\_\_

Department/Academic Unit Mechanical and Aeronautical Engineering

Date \_\_\_\_\_

Time \_\_\_\_\_ am/pm to \_\_\_\_\_ am/pm

Place (including room number) \_\_\_\_\_

Dissertation Title

Committee Chairperson \_\_\_\_\_

Committee Members \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_