NOT FOR USE FOR CURRICULAR COURSE CHANGES
REQUEST FOR PROGRAM IMPROVEMENTS

NOTE: Changes to programs may require course changes, which must be processed electronically. Any questions should be directed to Associate Provost David Reinhold at 7-4584 or david.reinhold@wmich.edu

DEPARTMENT: EDMMS
PROPOSED EFFECTIVE FALL YEAR: 2020

PROPOSED IMPROVEMENTS: Academic Program Proposed Improvements

☑ New degree*
☑ New major*
☑ New curriculum*
☑ New concentration*
☐ New certificate*
☐ New minor*
☐ Deletion*
☐ Revised major
☐ Revised minor
☐ Admission requirements
☐ Graduation requirements
☐ Change in Title
☐ Transfer

☑ Other (explain**)

** Other: Minor revisions to curriculum to accommodate new WES requirements

Title of degree, curriculum, major, minor, concentration, or certificate: B.S. in Engineering Management Technology

Chair, Department Curriculum Committee: Brallee
Date 10/22/19

CHECKLIST FOR DEPARTMENT CHAIRS/DIRECTORS

☐ For new programs and other changes that have resource implications, the dean has been consulted.
☐ When appropriate, letters of support from department faculty are attached.
☐ When appropriate, letters of support from other departments in the same college are attached.
☐ When appropriate, letters of support from other college deans, whose programs/courses may be affected by the change, are attached.
☐ The proposal has been reviewed by HIGE for possible implications for International student enrollment.
☐ The proposal is consistent with the departmental assessment plan, and identifies measurable learning outcomes for assessment.
☐ Detailed resource plan is attached where appropriate.
☐ All questions attached have been completed and supporting documents are attached.
☐ The proposal is written and complete as outlined in the Faculty Senate guidelines and the curriculum change guides.

Chair/Director: Relee
Date 10/22/19

CHECKLIST FOR COLLEGE CURRICULUM COMMITTEE

☐ The academic quality of the proposal and the faculty involved has been reviewed.
☐ Detailed resource plan is attached where appropriate.
☐ Consistency between the proposal and the relevant catalog language has been confirmed.
☐ The proposal has been reviewed for effect on students transferring from Michigan community colleges. Detailed information on transfer articulation must be included with undergraduate proposals.
☐ Consistency between the proposal and the College and department assessment plans has been confirmed.
☐ Consistency between the proposal and the College and department strategic plans has been confirmed.
☐ All questions attached have been completed and supporting documents are attached.
☐ The proposal is written and complete as outlined in the Faculty Senate guidelines and the curriculum change guides.

Chair, College Curriculum Committee:
Date

Revised Sept. 2018. All previous forms are obsolete and should not be used.
CHECKLIST FOR COLLEGE DEANS

- For new programs and proposed program deletions, the provost has been consulted.
- For new programs, letter of support from University Libraries Dean indicating library resource requirements have been met.
- When appropriate, letters of support from other college faculty and/or chairs are attached.
- When appropriate, letters of support from other college deans, whose programs/courses may be affected by the change, are attached.
- The proposal has been reviewed for implications for accreditation, certification, or licensure.
- Detailed resource plan is attached where appropriate.
- All questions attached have been completed and supporting documents are attached.
- The proposal is written and complete as outlined in the Faculty Senate guidelines and the curriculum change guides.

Dean: ____________________________ Date: ____________________________

FOR PROPOSALS REQUIRING REVIEW BY:
GSC/USC; EPGC, GRADUATE COLLEGE, and/or FACULTY SENATE EXECUTIVE BOARD

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*needs review by | Provost: | Date |

Revised Sept. 2018. All previous forms are obsolete and should not be used.
1. Explain briefly and clearly the proposed improvement:

Updated program content to address Western Essential Studies Program requirements and minor curriculum changes to accommodate WES. Increased credit hours for both Health and Wellness WES (formerly Gen Ed Area VIII-Health and Well-Being) and EDMM 4910 from 2 to 3 credit hours. CS 1021 and CS 1023 are no longer being offered and were deleted. MGMT 2520 was also removed because it is no longer as applicable to the degree. EDMM 4870 was added into the curriculum because it is more applicable to the degree. The sum total of all the changes moves the curriculum from 124 credit hours to 127.

In addition, all automotive courses were deleted from the list of approved electives because the professor retired and the position was eliminated as part of a budget cut.

2. Rationale. Give your reason(s) for the proposed improvement.

Required to remove references to general education requirements and update with Western Essential Studies Program requirements.

3. Effect on other colleges, departments, or programs. If consultation with others is required, attach evidence of consultation and support. If objections have been raised, document the resolution. Demonstrate that the program you propose is not a duplication of an existing one.

No effect.

4. Effect on your department's programs. Show how the proposed change fits with other departmental offerings.

None.

5. Alignment with college's and department's strategic plan, mission, and vision.

Provides broad-based liberal arts education for engineering technology students and supports both ABET requirements to ensure we graduate well-rounded engineering technologists ready to lead challenges facing our society.

6. Effects on enrolled students: Are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students' time.

No effect on enrolled students as they will continue under the catalog year with which they entered. A deliberate transition will occur university-wide to address any issues that arise for current students.

7. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand or need exists? What is the estimated enrollment? What other factors make your proposal beneficial to students?

Not applicable.

8. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. If proposing a new program, include a letter and/or email of support from the university libraries affirming that the library resource issues have been reviewed. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)

None. All revisions to the engineering technology program in response to the new Western Essential Studies Program were coordinated across the college and university through the Western Essential Studies Program design.

9. List the learning outcomes for the revised or proposed major, minor, or concentration. The department will use these outcomes for future assessments of the program.

The Engineering Management Technology Educational Objectives are:

1) Plan, design, analyze, implement and improve cost effective manufacturing service systems.
2) Build and use management tools to analyze and solve problems effectively and make decisions from a systems prospective.

Revised Sept. 2018. All previous forms are obsolete and should not be used.
3) Communicate effectively in verbal, written and graphic forms.
4) Pursue professional growth and interact effectively in work environments.

The Engineering Management Technology Student Outcomes are:

1) An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, or technology to solve broadly-defined engineering problems
2) An ability to design systems, components or processes for broadly-defined engineering technology problems appropriate to the program educational objectives
3) An ability to apply written, oral and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature
4) An ability to conduct standard tests and measurements; to conduct, analyze and interpret experiments; and to apply experimental results to improve processes
5) An ability to function effectively as a member or leader on a technical team

10. Describe how this change is a response to assessment outcomes that are part of a department or college assessment plan or informal assessment activities.

The changes were in response to a university-wide revised general education program.

11. (Undergraduate proposals only) Describe in detail how this change affects transfer articulation for Michigan community colleges. For new majors or minors, describe transfer guidelines to be developed with Michigan community colleges. For revisions to majors or minors, describe necessary revisions to Michigan community college guidelines. Department chairs should seek assistance from college advising directors or from the admissions office in completing this section.

This aspect is being addressed by the Director of the Western Essential Studies Program, the Associate Provost for Assessment and Undergraduate Studies, and the advising staff.

12. Please offer both “Current Catalog Language” and “Proposed Catalog Language” if there is to be a change in the catalog description for a given program. For the “current” language, please copy and paste relevant language from the most current catalog and for the “proposed” language, please share the exact proposed new catalog language. As possible, bold or otherwise note the key changes in the new proposed catalog language.

CURRENT CATALOG COPY

Put in current curriculum here)

Engineering Management Technology

↺Return to: Catalog Search


The Engineering Management Technology curriculum provides academic background in humanities, social sciences, communication, and technical subjects relating to manufacturing systems. Human relation skills used in industry when dealing with people are developed. The engineering manager may direct production employees working on line operations or may direct staff personnel specifically assigned to assist the line in meeting its objectives. Employment may be in the general areas of manufacturing and service industries.

The educational objectives of the Engineering Management Technology program are:

1. Manage projects, people, and resources effectively.
2. Plan, design, analyze, implement, and improve cost-effective manufacturing/service systems.
3. Build and use management tools to analyze and solve problems effectively and make decisions from a systems perspective.

Revised Sept. 2018. All previous forms are obsolete and should not be used.
4. Communicate effectively in verbal, written, and graphic forms.
5. Pursue professional growth and interact effectively in work environments.

(For up-to-date educational objectives and learning outcomes, see department web page at http://www.wmich.edu/edmms)

Requirements

Candidates for the Bachelor of Science must satisfy the following requirements in addition to those required by Western Michigan University:

1. A grade point average of 2.0 or better must be earned in courses presented for graduation with EDMM, IEE, ECE, and MSE prefixes.
2. No more than two grades of “D” or “DC” in courses presented for graduation may be counted for graduation.
3. Complete the following program of 124 semester credit hours. The schedule below is an example of one leading to graduation in eight semesters, beginning in fall.
4. Prior to enrollment in 3000/4000-level courses, students must 1) place resume with Career and Student Employment Services; 2) complete the following gate courses with a grade of “C” or better: CHEM 1100 and 1110; IEE 1020; EDMM 2460; IEE 2610; PHYS 1150 and 1160; MATH 1220 or 1700 or 2000; and have earned a GPA of 2.3 at WMU. These courses are indicated below.
5. The Engineering Management Technology curriculum requires students to complete a course in General Area I, Area II, Area III, Area IV, Area V, and Area VIII. At least two of the General Education Area courses must be at the 3000-4000 level, and no more than two courses from any one department may be used to satisfy the Area requirements. Engineering Management Technology majors are required to take ECON 2010 and EDMM 3020 for Area V.

CAEM Exam Requirement

The Certified Associate in Engineering Management (CAEM) exam is a graduation requirement for all undergraduate engineering management students. Each student is required to register for and take the Certified Associate in Engineering Management (CAEM) exam as administered by the American Society for Engineering Management (ASEM). Official proof of sitting for the exam must be provided to the undergraduate engineering management academic program advisor to fulfill the requirement and to be indicated as fulfilled in the student’s permanent WMU record.

Baccalaureate-Level Writing Requirement

1. Students who have chosen the Engineering Management Technology curriculum will satisfy the Baccalaureate-Level Writing Requirement by successfully completing EDMM 4910: Multidisciplinary Senior Proposal and EDMM 4920: Multidisciplinary Senior Project.

First Semester (15 hours)

- General Education Area VII Health and Well-being Credits: 2 hours
- IEE 1020 - Technical Communication Credits: 3 hours

Revised Sept. 2018. All previous forms are obsolete and should not be used.
• (With a grade of “C” or better. Satisfies General Education Proficiency 1)
• **EDMM 1420 - Engineering Graphics** Credits: 3 hours
• **EDMM 1500 - Introduction to Manufacturing** Credits: 3 hours
• (Satisfies General Education Area VII)
• **MATH 1180 - Precalculus Mathematics** Credits: 4 hours
• (Satisfies General Education Proficiency 3)

**Second Semester (15 hours)**

• **CHEM 1100 - General Chemistry I** Credits: 3 hours
• (With a grade of “C” or better. Satisfies General Education Area VI)
• AND
• **CHEM 1110 - General Chemistry Laboratory I** Credits: 1 hour
• (With a grade of “C” or better. Satisfies General Education Area VI)
• **CS 1021 - Introduction to Engineering Computing I: Spreadsheets** Credits: 1 hour
• **CS 1023 - Introduction to Engineering Computing III: Computer Programming** Credits: 1 hour
• **MATH 1220 - Calculus I** Credits: 4 hours
• (With a grade of “C” or better. Satisfies General Education Proficiency 4b)
• OR
• **MATH 1700 - Calculus I, Science and Engineering** Credits: 4 hours
• (With a grade of “C” or better. Satisfies General Education Proficiency 4b)
• OR
• **MATH 2000 - Calculus with Applications** Credits: 4 hours
• (With a grade of “C” or better. Satisfies General Education Proficiencies 3 and 4b)
• **PHYS 1130 - General Physics I** Credits: 4 hours
• (Satisfies General Education Area VI)
• AND
• **PHYS 1140 - General Physics I Laboratory** Credits: 1 hour
• (Satisfies General Education Area VI)

**Third Semester (14 hours)**

• **ACTY 2100 - Principles of Accounting I** Credits: 3 hours
• **ECON 2010 - Principles of Microeconomics** Credits: 3 hours
• (Satisfies General Education Area V)
• **IEE 2610 - Engineering Statistics** Credits: 3 hours
• With a grade of “C” or better.
• **PHYS 1150 - General Physics II** Credits: 4 hours
• With a grade of “C” or better.
• AND
• **PHYS 1160 - General Physics II Laboratory** Credits: 1 hour
• With a grade of “C” or better.

**Fourth Semester (16 hours)**

Revised Sept. 2018. All previous forms are obsolete and should not be used.
• General Education Area II* Humanities Credits: 3 hours

• EDMM 2001 - Applied Electricity/Electronics Credits: 3 hours
• EDMM 2460 - CAD - Solid Modeling Credits: 3 hours
• With a grade of “C” or better.
• EDMM 2810 - Statics and Strength of Materials Credits: 4 hours
• EDMM 2560 - Engineering Material Design Credits: 3 hours
• or
• MB 2500 - Materials Science for Engineers Credits: 3 hours

Fifth Semester (16 hours)

See departmental advisor for a list of approved technical elective courses in each specialized area. Also see Technical Elective Requirements below.

• EDMM 3020 - Engineering Teams: Theory and Practice Credits: 3 hours
• (Satisfies General Education Area V)
• EDMM 3050 - Work Analysis Credits: 3 hours
• EDMM 3150 - Work Analysis and Design Lab Credits: 1 hour
• IEE 3160 - Report Preparation Credits: 3 hours
• EDMM 3200 - Engineering Cost Analysis Credits: 3 hours
• Approved Technical Elective Credits: 3 hours

Sixth Semester (15 hours)

See departmental advisor for a list of approved technical elective courses in each specialized area. Also see Technical Elective Requirements below.

• EDMM 3120 - Systems Decision Making Credits: 3 hours
• EDMM 3260 - Operations Planning and Control Credits: 3 hours
• EDMM 3280 - Quality Assurance and Control Credits: 3 hours
• MGMT 2520 - Human Resource Management Credits: 3 hours
• Approved Technical Elective Credits: 3 hours

Seventh Semester (17 hours)

See departmental advisor for a list of approved technical elective courses in each specialized area. Also see Technical Elective Requirements below.

• General Education Area I* Fine Arts Credits: 3 hours

Revised Sept. 2018. All previous forms are obsolete and should not be used.
• **EDMM 4020 - Engineering Leadership** Credits: 3 hours
• **EDMM 4120 - Industrial Systems Management** Credits: 3 hours
• **EDMM 4910 - Multidisciplinary Senior Proposal** Credits: 2 hours
• (Satisfies General Education Proficiency 2)
• Approved Technical Elective Credits: 3 hours
• Approved Technical Elective Credits: 3 hours

**Eighth Semester (16 hours)**

See departmental advisor for a list of approved technical elective courses in each specialized area. Also see Technical Elective Requirements below.

• General Education Area III* The United States: Cultures and Issues Credits: 3 hours
• General Education Area IV* Other Cultures and Civilizations Credits: 3 hours

• **EDMM 4040 - Plant Layout and Material Handling** Credits: 4 hours
• **EDMM 4920 - Multidisciplinary Senior Project** Credits: 2 hours
• (Satisfies General Education Proficiency 2)
• **EDMM 4930 - Multidisciplinary Senior Project Consultation** Credits: 1 hour
• Approved Technical Elective Credits: 3 hours

**Note:**

* At least one of these General Education courses must be at the 3000/4000-level.

**Approved Electives - UEM**

• **EDMM 1220 - Automobile in Society** Credits: 3 hours
• **EDMM 2220 - Mobile Energy Sources and Lubricants** Credits: 3 hours
• **EDMM 2500 - Plastics Properties and Processing** Credits: 3 hours
• **EDMM 2540 - Machining Processes** Credits: 3 hours
• **EDMM 2990 - Cooperative Education** Credits: 1 to 3 hours
• **EDMM 3120 - Systems Decision Making** Credits: 3 hours
• **EDMM 3240 - Automotive Power Systems** Credits: 3 hours
• **EDMM 3250 - Automotive Electrical Systems** Credits: 3 hours
• **EDMM 3500 - Production Thermoplastic Processing** Credits: 3 hours
• **EDMM 3520 - Metal Casting** Credits: 3 hours
• **EDMM 3580 - Computer-Aided Manufacturing** Credits: 3 hours
• **EDMM 4250 - Automatic and Automated Drive Line Control Systems** Credits: 3 hours
• **EDMM 4260 - Automotive Structure, Ride, and Safety** Credits: 3 hours
• **EDMM 4520 - Die Casting** Credits: 3 hours
• **EDMM 4560 - Process Testing and Measurement** Credits: 3 hours
• **EDMM 4570 - Manufacturing for Sustainability** Credits: 3 hours

Revised Sept. 2018. All previous forms are obsolete and should not be used.
• EDMM 4590 - Mold Design and Construction Credits: 3 hours
• EDMM 4870 - Manufacturing Productivity Techniques Credits: 3 hours
• EDMM 4880 - Applied Process Reengineering Credits: 3 hours
• EDMM 5500 - Advanced Plastics Processing Credits: 3 hours
• IEE 3420 - Ergonomics and Design Credits: 3 hours
• BUS 1750 - Business Enterprise Credits: 3 hours
• BUS 2200 - Introduction to Global Business Credits: 3 hours
• MATH 1230 - Calculus II Credits: 4 hours
• OR
• MATH 1710 - Calculus II, Science and Engineering Credits: 4 hours
• MATH 2720 - Multivariate Calculus and Matrix Algebra Credits: 4 hours
• MATH 3740 - Differential Equations and Linear Algebra Credits: 4 hours
• MGMT 2500 - Organizational Behavior Credits: 3 hours
• MKTG 2500 - Marketing Principles Credits: 3 hours
• MSL 1020 - Introduction to the Profession of Arms Credits: 1 hour
• MSL 2020 - Army Doctrine and Team Development Credits: 2 hours
• MSL 3020 - Applied Leadership in Small Unit Operations Credits: 3 hours
• MSL 4020 - Mission Command and the Company Grade Officer Credits: 3 hours

Note:

Some courses taken as part of other CEAS degrees or technical degrees may be used as electives. Please see an advisor prior to taking any course not on this list.
Engineering Management Technology


The Engineering Management Technology curriculum provides academic background in humanities, social sciences, communication, and technical subjects relating to manufacturing systems. Human relation skills used in industry when dealing with people are developed. The engineering manager may direct production employees working on line operations or may direct staff personnel specifically assigned to assist the line in meeting its objectives. Employment may be in the general areas of manufacturing and service industries.

The Engineering Management Technology Educational Objectives are:

1) Plan, design, analyze, implement and improve cost effective manufacturing service systems.
2) Build and use management tools to analyze and solve problems effectively and make decisions from a systems prospective.
3) Communicate effectively in verbal, written and graphic forms.
4) Pursue professional growth and interact effectively in work environments.

The Engineering Management Technology Student Learning Outcomes are:

1) An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, or technology to solve broadly-defined engineering problems
2) An ability to design systems, components or processes for broadly-defined engineering technology problems appropriate to program educational objectives
3) An ability to apply written, oral and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature
4) An ability to conduct standard tests and measurements; to conduct, analyze and interpret experiments; and to apply experimental results to improve processes
5) An ability to function effectively as a member or leader on a technical team

(For up-to-date Educational Objectives and Student Learning Outcomes, see department web page at www.wmich.edu/edmms)

WMU Essential Studies Program Requirements

Students who have chosen the Engineering Management Technology curriculum will satisfy the Western Essential Studies Program Requirements as outlined within the course listings below. To satisfy these requirements students take courses in twelve (12) categories. Six (6) of the courses are designated within the Engineering Management Technology program requirements and six (6) are free electives which students choose from a list of courses in the corresponding course category. Students will meet the planetary sustainability outcome in EDMM 1500: Introduction to Manufacturing and must select a course that satisfies the Diversity and Inclusion outcome when choosing a course in one of the other six (6) categories.

Requirements

1. A “C” or better must be earned in all required courses with an EDMM or IEE prefix.

Revised Sept. 2018. All previous forms are obsolete and should not be used.
2. No more than two grades of “DC” or “D” in courses presented for graduation may be counted for graduation.

3. Complete the following program of 127 semester hours. The schedule below is one example leading to graduation in eight semesters.

4. Prior to enrollment in 3000/4000 level courses student's must:
   - Place resume with Career and Student Employment Services
   - Complete the following courses with a grade of “C” or better: CHEM 1100 & 1110, IEE 1020, EDMM 2460, IEE 2610, PHYS 1150 & 1160, and MATH 1220 or 1700.

5. The Engineering Management Technology curriculum requires students to complete twelve (12) Western Essential Studies (WES) courses.

CAEM Exam Requirement

The Certified Associate in Engineering Management (CAEM) exam is a graduation requirement for all undergraduate engineering management students. Each student is required to register for and take the Certified Associate in Engineering Management (CAEM) exam as administered by the American Society for Engineering Management (ASEM). Official proof of sitting for the exam must be provided to the undergraduate engineering management academic program advisor to fulfill the requirement and to be indicated as fulfilled in the student's permanent WMU record.

First Semester (16 hours)

- **Western Essential Studies (WES) Level 2: Personal Wellness** Credits: 3 hours
- **IEE 1020 - Technical Communication** Credits: 3 hours
  (Satisfies Western Essential Studies (WES) Level 1: Writing)
- **EDMM 1420 - Engineering Graphics** Credits: 3 hours
- **EDMM 1500 - Introduction to Manufacturing** Credits: 3 hours
  (Satisfies Western Essential Studies (WES) Level 2: Science and Technology & Planetary Sustainability)
- **MATH 1180 - Precalculus Mathematics** Credits: 4 hours
  (Satisfies Western Essential Studies (WES) Level 1: Quantitative Reasoning)

Second Semester (16 hours)

- **Western Essential Studies (WES) Level 2: Societies and Cultures** Credits: 3 hours
- **CHEM 1100 - General Chemistry I** Credits: 3 hours
  (Satisfies Western Essential Studies (WES) Level 2: Laboratory Science)
- **CHEM 1110 - General Chemistry Laboratory I** Credits: 1 hour
  (Satisfies Western Essential Studies (WES) Level 2: Laboratory Science)
- **MATH 1220 - Calculus I** Credits: 4 hours
  (Satisfies Western Essential Studies (WES) Level 1: Quantitative Reasoning)
  OR
- **MATH 1700 - Calculus I, Science and Engineering** Credits: 4 hours
  (Satisfies Western Essential Studies (WES) Level 1: Quantitative Reasoning)
  OR
- **MATH 2000 — Calculus with Applications** Credits: 4 hours
  (Satisfies Western Essential Studies (WES) Level 1: Quantitative Reasoning)
- **PHYS 1130 - General Physics I** Credits: 4 hours
- **PHYS 1140 - General Physics I Laboratory** Credits: 1 hour

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Third Semester (17 hours)

- **Western Essential Studies (WES) Level 2: Artistic Theory and Practice** Credits: 3 hours
- **ACTY 2100 – Principles of Accounting** Credits: 3 hours
- **ECON 2010 – Principles of Microeconomics** Credits: 3 hours
- **IEE 2610 - Engineering Statistics** Credits: 3 hours
  (Satisfies Western Essential Studies (WES) Level 1: Communications)
- **PHYS 1150 - General Physics II** Credits: 4 hours
- **PHYS 1160 - General Physics II Laboratory** Credits: 1 hour

Fourth Semester (16 hours)

- **Western Essential Studies (WES) Level 1: Inquiry and Engagement: Critical Thinking in the Arts and Humanities** Credits: 3 hours
- **EDMM 2001 - Applied Electricity/Electronics** Credits: 3 hours
- **EDMM 2460 – CAD – Solid Modeling** Credits: 3 hours
- **EDMM 2810 – Statics and Strength of Materials** Credits: 4 hours
- **EDMM 2560 - Engineering Material Design** Credits: 3 hours
  OR
- **ME 2500 - Materials Science for Engineers** Credits: 3 hours

Fifth Semester (16 hours)

- Approved Elective Credits: 3 hours
- **EDMM 3020 – Engineering Teams: Theory and Practice** Credits: 3 hours
- **EDMM 3050 – Work Analysis** Credits: 3 hours
- **EDMM 3150 – Work Analysis and Design Lab** Credits: 1 hours
- **IEE 3160 – Report Preparation** Credits: 3 hours
- **EDMM 3200 – Engineering Cost Analysis** Credits: 3 hours

Sixth Semester (15 hours)

- Approved Elective Credits: 3 hours
- **EDMM 3120 – Systems Decision Making** Credits: 3 hours
- **EDMM 3260 – Operations Planning and Control** Credits: 3 hours
- **EDMM 33280 – Quality Assurance and Control** Credits: 3 hours
- **EDMM 4870 – Manufacturing Productivity Techniques** Credits: 3 hours

Seventh Semester (15 hours)

- Approved Elective Credits: 3 hours
- Approved Elective Credits: 3 hours
- **EDMM 4020 – Engineering Leadership** Credits: 3 hours
- **EDMM 4120 – Industrial Systems Management** Credits: 3 hours
- **EDMM 4910 – Multidisciplinary Senior Proposal** Credits: 3 hours
  (Satisfies Western Essential Studies (WES) Level 3: Local and National Perspectives)

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Eighth Semester (16 hours)

- Approved Elective  Credits: 3 hours
- Western Essential Studies (WES) Level 3: Global Perspectives*  Credits: 3 hours
- Western Essential Studies (WES) Level 2: World Language and Cultures*  Credits: 3 hours
- EDMM 4040 - Plant Layout and Material Handling  Credits: 4 hours
- EDMM 4920 - Multidisciplinary Senior Project  Credits: 2 hours
- EDMM 4930 - Multidisciplinary Senior Project Consultation  Credits: 1 hour

NOTE:

*At least one of these Western Essential Studies (WES) courses must fulfill the Diversity and Inclusion requirement.

Approved Electives - UEM

- EDMM 2500 - Plastics Properties and Processing  Credits: 3 hours
- EDMM 2540 - Machining Processes  Credits: 3 hours
- EDMM 2990 - Cooperative Education  Credits: 1 to 3 hours
- EDMM 3500 - Production Thermoplastic Processing  Credits: 3 hours
- EDMM 3520 - Metal Casting  Credits: 3 hours
- EDMM 3580 - Computer-Aided Manufacturing  Credits: 3 hours
- EDMM 4520 - Die Casting  Credits: 3 hours
- EDMM 4560 - Process Testing and Measurement  Credits: 3 hours
- EDMM 4570 - Manufacturing for Sustainability  Credits: 3 hours
- EDMM 4590 - Mold Design and Construction  Credits: 3 hours
- EDMM 4880 - Applied Process Reengineering  Credits: 3 hours
- EDMM 5500 - Advanced Plastics Processing  Credits: 3 hours
- IEE 3420 - Ergonomics and Design  Credits: 3 hours
- BUS 1750 - Business Enterprise  Credits: 3 hours
- BUS 2200 - Introduction to Global Business  Credits: 3 hours
- MATH 1230 - Calculus II  Credits: 4 hours

OR

- MATH 1710 - Calculus II, Science and Engineering  Credits: 4 hours
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- MSL 2020 - Army Doctrine and Team Development  Credits: 2 hours
- MSL 3020 - Applied Leadership in Small Unit Operations  Credits: 3 hours
- MSL 4020 - Mission Command and the Company Grade Officer  Credits: 3 hours

Revised Sept. 2018. All previous forms are obsolete and should not be used.