

MECHANICAL ENGINEERING ARTICULATION AGREEMENT GUIDEMacomb Community College – **AS in Pre-Engineering**Eastern Michigan University – **BS in Mechanical Engineering****Macomb Community College Courses:****Eastern Michigan University Courses:****Michigan Transfer Agreement (MTA) Requirements (31 credits)**

Students with the MTA endorsement on their community college transcript have satisfied EMU's General Education Core Requirements and will be required to complete only the General Education Application Requirements of one Perspectives on a Diverse World course, one Learning Beyond the Classroom experience, and a Writing Intensive course in the major. Courses listed below for the MTA also satisfy program requirements at EMU and/or MCC. For MCC approved MTA courses go to the community college's website. Students without an MTA or MACRAO endorsement must complete EMU's general education program.

1. A course in English Composition

* ENGL 1220 or 1190 Composition or Communication 23-4 WRTG 121 Composition II (3)+1 (prereq for SET 350W)...3-4

2. A course in English Composition or Communication

Choose one from the approved MTA list.....3-4 General Transfer Credit.....3-4

3. A course in Mathematics

* MATH 1760 Analytic Geometry and Calculus I.....4 MATH 120 Calculus I.....4

4. Two courses in Natural Sciences from different disciplines (one lab required)

* CHEM 1170 General Chemistry I.....4 CHEM 121/122 General Chemistry I with Lab.....4

PHYS 1180 College Physics I.....4 PHY 221 Mechanics, Sound and Heat.....4

5. Two courses in Humanities and Fine Arts from different disciplines

Choose two from the approved MTA list6 General Transfer Credit.....6

6. Two courses in Social Sciences from different disciplines

ECON 1160 Principles of Economics 1.....3 ECON 201 General Transfer Credit.....3

Choose one from the approved MTA list.....3-4 General Transfer Credit.....3-4

If needed, complete additional credits in any of the above categories to meet the 30 credit minimum for the MTA.

EMU's Perspectives on a Diverse World requirement: Complete one course from the following list:

These courses also satisfy an MTA area: **Communication:** SPCH 2300; **Natural Science:** BIOL 1310; ENVS 1050; **Humanities:** ENGL 2740, 2800, 2810; HUMN 2100; INTL 2000, 2300, 2800; MUSC 1040, **Social Sciences:** ANTH 1000, 1100; ECON 2110; GEOG 2000; HIST 1260, 1700, 2375, 2520, 2650; POLS 1600; or SOCY 2550. **Courses applies but does not satisfy the MTA:** BUSN 2100

MCC Program Requirements (33 credits)

CHEM 1180 General Chemistry 2.....4 CHEM 123/124 General Chemistry II.....4

* ENGR 1000 Introduction to Engineering.....3 ME 100 Introduction to Engineering.....3

* MATH 1770 Analytic Geometry and Calculus 2.....4 MATH 121 Calculus II.....4

* MATH 2000 Introduction to Linear Algebra.....3 MATH 122 Elementary Linear Algebra3

* MATH 2760 Analytic Geometry and Calculus 3.....4 MATH 223 Multivariable Calculus.....4

* MATH 2770 Differential Equations.....4 MATH 325 Differential Equations (3)+14

* PHYS 2220 Analytical Physics 15 PHY 223 Mechanics and Sound5

* PHYS 2230 Analytical Physics 25 PHY 224 Electricity and Light.....5

EMU Requirements and Electives that may be Taken at MCC or EMU (8-10 credits)

Open Electives8-10 General Transfer Credit.....8-10

Credits at MCC:72-74 Credits that transfer to EMU..... 72-74

*Required for EMU's BS in Mechanical Engineering program. If not transferred, must be completed at EMU.

Sign up with us: If you let us know you are using this articulation agreement we can stay in touch with you and provide information and advising to you while you are still at your community college.

MECHANICAL ENGINEERING ARTICULATION AGREEMENT GUIDE

Macomb Community College – **AS in Pre-Engineering**

Eastern Michigan University – **BS in Mechanical Engineering**

Completion of the BS in Mechanical Engineering

Program admission requirements:

- Cumulative transfer gpa of 2.70
- Completion of PHY 223 or equivalent with a grade of “C” or higher
- Completion of MATH 120 and MATH 121 or equivalent with a grade of C or higher

Major Requirements (50 - 52 credits)

Foundational Requirements (9 credits)

CEET 151	Intro to Computing in Engineering Technology	3
EECE 212	Engineering Circuit Analysis (or ELEC 212)	3
SET350W	Engineering Communication	3

(or an ME tech elective approved by the program coordinator)

Technical Requirements (41 - 43 credits)

ME 211	Statics	3
ME 312	Dynamics (or PHY 230)	3-4
ME 313	Mechanics of Materials	3
ME 316	Thermodynamics (or PHY 360)	3-4
ME 317	Fluid Mechanics (or PHY 485)	3
ME 325	Mechanics of Composite Materials	2
ME 326	Composite Design and Processes	1
ME 330	Machine Design	3
ME 418	Heat Transfer	3
ME 420	Thermo/Fluids Lab	2
ME 431	Mechanical Design and Analysis	3
ME 432	Machine Dynamics	3
ME 435	Computational Solid Mechanics	3
ME 492	Senior Capstone I	3
ME 493	Senior Capstone II	3

LBC/Writing Intensive Requirement

Students must complete one Learning Beyond the Classroom course or noncredit experience offered by EMU and one Writing Intensive course. Consult your advisor for options.

Credits at EMU:50-52

Transfer Credits:72-74

Total Credits: 124

Sample Sequence of Classes

Winter

ME 211: prereq: MATH 120, PHY 223 (C or higher)
 CEET 151
 EECE 212: prereq: MATH 121, PHY 223
 SET 350W:prereq: WRTG 121

Fall

ME 312: prereq: ME 211 (C or higher)
 ME 313: prereq: ME 211
 ME 316: prereq: MATH 120, 121; PHY 223 (C or higher)

Winter

ME 317 prereq: (ME 316 or PHY 360), ME 211, and MATH 325
 ME 325/326 prereq: (ME 312 or PHY 230), ME 211, and ME 313
 ME 330 prereq: ME 313
 ME 431 prereq: ME 100, ME 313

Fall

ME418: prereq: (ME 316 or PHY 360) and (ME 317 or PHY 485) and (MATH 223) and (MATH 325)
 ME492: prereq: SET 350W; ME 431, coreq: ME432
 ME432: prereq: ME 312 or PHY 230 and ME 431
 ME435: prereq: ME 431, MATH 122, MATH 325

Winter

ME493: prereq: ME 492
 ME420: prereq: (ME 316 or PHY 360), (ME 317 or PHY 485), MATH 325, and (ME 418 May be taken concurrently)

MECHANICAL ENGINEERING ARTICULATION AGREEMENT GUIDEMacomb Community College – **AS in Pre-Engineering**Eastern Michigan University – **BS in Mechanical Engineering****Additional Information:**

1. Each institution will determine the satisfaction of their individual program and degree requirements. Both institutions agree to accept transferable courses from each other and from other regionally accredited institutions. MCC courses indicated with an * are required for EMU's BS in Mechanical Engineering. Substitutions for these courses must be approved by the EMU program coordinator.
2. Students with the MTA endorsement on their community college transcript have satisfied EMU's General Education Core Requirements and will be required to complete only the General Education Application Requirements of one "Perspectives on a Diverse World" course, one "Learning Beyond the Classroom" experience, and a "Writing Intensive" course in the major. The Perspectives on a Diverse World requirement may be transferred to EMU.
To use the Michigan Transfer Agreement (MTA), students must have an official community college transcript, with the "MTA Satisfied" endorsement sent to EMU's Admissions Office. Students who do not have "MTA Satisfied" on their community college transcript, will be required to satisfy EMU's general education requirements as applied to transfer students. The MTA may be completed after admission to EMU, however, students should inform their advisors or they may be advised to complete additional courses for the general education program. If already on the transcript, the MACRAO designation will be accepted at EMU after August 2019.
3. Only courses with a grade of "C" or better (2.0 on a 4.0 scale) will be accepted for transfer to either institution.
4. Under this agreement, EMU will waive the 60-hour rule and require that a minimum of 30 credit hours must be completed in EMU courses, with at least 15 hours in the program at the 300-level or above. Of the last 30 hours completed before graduating, a minimum of 10 credit hours must be in courses offered by EMU. A minimum of 124 credit hours, completed in-residence or accepted in transfer, is required for graduation.
5. Students must satisfy all admission requirements at the time of application for admission to EMU, including submitting transcripts from all previously attended colleges. MCC students will receive equal consideration with other students for course registration and financial aid.
6. Program admission requirements
 - Cumulative transfer GPA of 2.70
 - Completion of PHY 223 or equivalent with a grade of C or higher
 - Completion of MATH 120 and MATH 121 or equivalent with a grade of C or higher
 Application process
 - Complete all admission requirements
 - Submit an online application by January 1st, May 1st, or August 1st
 - Attend mandatory meeting with Mechanical Engineering faculty member or CET staff advisor.
7. Students are encouraged to contact EMU's Engineering and Technology advising center before applying to EMU. To facilitate advising and the evaluation of transcripts, [sign up for this articulation agreement](#) and bring a copy of this articulation guide to all advising sessions.

Effective Date: September 1, 2021 until August 31, 2024.

This agreement is consistent with the 2021-2022 catalog. Students have until summer 2029 to graduate from Eastern Michigan University following this agreement. In the event that a student does not complete the program within seven years, they may be required to have their credits reevaluated using the requirements of the current articulation guide.

Contacts:

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