

**MECHANICAL ENGINEERING ARTICULATION AGREEMENT GUIDE**

Washtenaw Community College – AS in Pre-Engineering Science Transfer

Eastern Michigan University – BS in Mechanical Engineering

**Washtenaw Community College Courses:****Eastern Michigan University Courses:****Michigan Transfer Agreement (MTA) Requirements (33 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 WCC. For WCC 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**

\* ENG 111 Composition I..... 4      WRTG 121 Composition II (3)+1 (prereq for SET 350W)..... 4

**2. A course in English Composition or Communication**

ENG 226 Composition II..... 3      WRTG 225 General Transfer Credit..... 3

**3. A course in Mathematics**

\* MTH 191 Calculus I..... 5      MATH 120 Calculus I (4)+1 ..... 5

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

\* CEM 111 General Chemistry I..... 4      CHEM 121/122 General Chemistry I with Lab..... 4

\*PHY 211 Analytical Physics I..... 5      PHY 223 Mechanics and Sound ..... 5

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

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

**6. Two courses in Social Sciences from different disciplines**

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

**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:** COM 225; **Natural Science:** ENV 101, 105; **Humanities:** ART 143, 150; COM 225; DAN 180; DRA 180; ENG 181, 213, 214, 224, 242; FLM 150, 221; HUM 175; MUS 180; **Social Science:** ANT 201; ECO 280; GEO 101; HST 108, 109, 123, 150, 230, 235; PSY 251; SOC 205. **These courses apply, but do not satisfy the MTA:** CCP 251

**WCC Program Requirements (28 credits)**

CEM 122 General Chemistry II..... 4      CHEM 123/124 General Chemistry II ..... 4

COM 101 Fundamentals of Speaking..... 3      COMM 124 Foundations of Speech Communication ..... 3

Choose one from CPS 141 or CPS 171 ..... 4      COSC 000 or COSC 236 ..... 4

\*MTH 192 Calculus II..... 4      MATH 121 Calculus II ..... 4

\*MTH 293 Calculus III (Math Restricted Elective)..... 4      MATH 223 Multivariable Calculus..... 4

\*MTH 295 Differential Equations (Math Restricted Elective) . 4      MATH 325 Differential Equations (3)+1 ..... 4

\*PHY 222 Analytical Physics II..... 5      PHY 224 Electricity and Light..... 5

**EMU Requirements and Electives that may be Taken at WCC or EMU (6 credits)**

\*MTH 197 Linear Algebra ..... 4      MATH 122 Elementary Linear Algebra (3)+1 ..... 4

Open Electives ..... 2      General Transfer Credit..... 2

**Credits at WCC: .....67      Credits that transfer to EMU..... 67**

\*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.

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 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 (53 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

**Technical Requirements (44 -46 credits)**

ME 100	Intro to Engineering Design & Manufacturing	3
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 Requirement**

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

<b>Credits at EMU:</b>	<b>53-55</b>
<b>Transfer Credits:</b>	<b>67</b>
<b>Total Credits:</b>	<b>120</b>

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 100  
 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)

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### 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. WCC 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 120 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. WCC 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 1<sup>st</sup>, May 1<sup>st</sup>, or August 1<sup>st</sup>
  - 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 is a renewal of an agreement made in September 2018. 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:

**Washtenaw Community College**  
 Larry David, Department Chair  
 Math and Engineering Studies  
[ln david@wccnet.edu](mailto:ln david@wccnet.edu)

**Eastern Michigan University**  
 GameAbove College of Engineering & Technology  
 Student Services, 734.487.9751  
[cet\\_advising@emich.edu](mailto:cet_advising@emich.edu)