

ELECTRICAL AND COMPUTER ENGINEERING ARTICULATION AGREEMENT GUIDE

Henry Ford College –Associate in Science in Pre-Engineering
Eastern Michigan University – BS in Electrical and Computer Engineering

Henry Ford College Courses: Transfer to Eastern Michigan University as:

Michigan Transfer Agreement (MTA) Requirements (30 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 EMU General Education Application Requirements of one Perspectives on a Diverse World course, one Learning Beyond the Classroom experience, and one writing intensive course in the major. Courses listed below for the MTA also satisfy program requirements at EMU and/or HFC.

1. A course in English Composition	
ENG 131 Introduction to College Writing 3	WRTG 120 University Elective 3
2. A Second course in English Composition or Communication	
² ENG 135 Business and Technical Writing and Research 3	WRTG 000 University Elective..... 3
3. A course in Mathematics	
^{1*} MATH 180 Calculus I 5	MATH 120 Calculus I (4)+1..... 5
4. Two courses in Natural Sciences from different disciplines (one lab required)	
^{1*} PHYS 231 Engineering Physics I 5	PHY 223 Mechanics and Sound 5
[*] CHEM 141 Principles of General and Inorganic Chemistry..... 5	CHEM 121/122 General Chemistry I (4)+1..... 5
5. Two courses in Humanities and Fine Arts from different disciplines	
Choose from the approved MTA list..... 5-6	University Elective 5-6
6. Two courses in Social Sciences from different disciplines	
Choose one from: BEC 151 or 152..... 3	ECON 201 or 202 University Elective 3
Choose a from the approved MTA list..... 3	University Electives 3

If needed, complete an additional course in 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: **Natural Science:** BIO 138 (non-lab); **Humanities:** ART 224, 225, 226, 227; ENG 243, 248; PHIL 201; WR 233, 236; **Social Science:** ANTH 131, 151, 152, 154; GEOG 132; HIST 113, 243, 261; POLS 152; PSY 296; SOC 152, 251. **This course applies, but does not satisfy the MTA:** BBA 250

HFC Pre-Engineering Program Requirements (30 credits)

^{1*} MATH 183 Calculus II 5	MATH 121 Calculus II (4)+1..... 5
[*] MATH 280 Calculus III 5	MATH 223 Multivariable Calculus (4)+1..... 5
[*] MATH 283 Linear Algebra (Credit toward AS) 3	MATH 122 Elementary Linear Algebra 3
[*] MATH 288 Differential Equations 5	MATH 325 Differential Equations (3)+2 5
[*] ENGR 130 Introduction to Engineering 3	ME 100 Intro to Engr Design & Manufacturing..... 3
[*] PHYS 232 Engineering Physics II..... 5	PHYS 224 Electricity and Light..... 5
Open Elective (Credit toward AS)..... 4	University Elective 4

EMU Requirements and Electives that may be taken at HFC or EMU (17 credits)

[*] CIS 170 C Programming (3) and	
[*] CIS 171 Java Programming (3)..... 6	COSC 111/112 Introduction to Programming (4)+2 6
[*] CIS 271 Advanced Java (Computer Engr Only) 0-4	COSC 211/212 Programming Data Structures..... 0-4
[*] ENGR 240 Circuits 5	EECE 212 Engineering Circuit Analysis (3)+2..... 5
Open Electives (not to exceed 77 credits at HFC)..... 2-6	University Electives 2-6
<i>HFC Recommended Electives: ENGR 205, 201, 232, 233, 235</i>	

Credits at HFC:77 Credits that apply to EMU's program..... 77

^{*} Required for the Electrical and Computer Engineering program at EMU. Must be taken at EMU if not completed prior to transferring.

¹ Admission requirement for the Electrical and Computer Engineering program at EMU. See page 3 of guide for all admission requirements.

² Approved substitute for WRTG 121 pre-requisite for SET 350W. Will require a department override at EMU to enroll in SET 350W.

Sign up to use this articulation agreement. 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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Completion of the BS in Electrical and Computer Engineering at EMU

Major Requirements (47 credits)

Foundational Requirements (6 credits)

CET 151	Intro to Computing in Engineering Tech	3
¹ SET 350W	Engineering Communication	3

Electrical & Computer Engineering (26 credits)

EECE 213	Engineering Circuit Analysis II	3
EECE 251	Digital Logic Design	3
EECE 341	Engineering Electronics	3
EECE 351	Microcontrollers	3
EECE 371	Signals and Systems	3
EECE 400	EECE Professional Practice	2
EECE 421	Control Systems Engineering	3
EECE 430	Power Electronics	3
EECE 480	Senior Capstone	3

Concentration (Choose 1 below) (9-12 credits)

Computer Engineering Concentration

COSC 221	Computer Organization I	3
EECE 352	Digital System Designs with HDL	3
EECE 452	Advanced Digital System Designs with FPGA	3

Electrical Engineering Concentration

EECE 342	Engineering Electronics II	3
EECE 365	Engineering Electromagnetics	3
EECE 372	Communication Systems	3
EECE 431	Digital Control Systems	3

LBC Requirement

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

University Elective (3-6 credits)

Students must complete a minimum of 47 credits at EMU unless otherwise approved through the department.

Credits at EMU: 47
Transfer Credits: 77
Total Credits: 124

¹ Satisfies EMU's Writing Intensive in the major requirement.

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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 transferrable courses from each other and from other regionally accredited institutions. HFC courses indicated with an * are required for EMU’s Electrical and Computer Engineering program. 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 or (9 hours in the major and 6 hours in the minor), 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. to EMU, including submitting transcripts from all previously attended colleges. HFC students will receive equal consideration with other students for course registration and financial aid.

5. To be considered for admission, students must meet the following requirements:

- A minimum EMU cumulative GPA of a 2.5 or cumulative transfer GPA of a 2.5.
- Completion of PHY 224, MATH 120, MATH 121, and EECE 212.

Application Process:

- Submit an application online by October 1, February 1, or July 1
- Attend a mandatory meeting with an Electrical and Computer Engineering faculty member or CET Staff Advisor.

6. Students are encouraged to contact the College of Engineering and Technology Student Services 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, 2019 through August 31, 2022.

This agreement is consistent with the 2019-2020 catalog. Students have until summer 2027 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.

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