

ELECTRICAL AND COMPUTER ENGINEERING ARTICULATION AGREEMENT GUIDE

Schoolcraft College –Associate in Engineering

Eastern Michigan University – BS in Electrical and Computer Engineering

Schoolcraft 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 SC.

1. A course in English Composition

* ENG 102 English Composition 2..... 3 WRTG 121 Comp II (pre-req for SET 350W)..... 3

2. A Second course in English Composition or Communication

Choose from the approved MTA list..... 3 University Elective 3

3. A course in Mathematics

* MATH 150 Calculus with Analytic Geometry I..... 5 MATH 120 Calculus I (4)+1..... 5

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

* PHYS 211 Physics for Scientists and Engineers I 5 PHY 223 Mechanics and Sound 5

* CHEM 111 General Chemistry I..... 4 CHEM 121/122 General Chemistry I..... 4

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

Choose from the approved MTA list..... 4-5 University Elective 4-5

6. Two courses in Social Sciences from different disciplines

ECON 201 Principles of Macroeconomics 4 ECON 201 Principles of Macroeconomics (3)+1..... 4

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: BIOL 104; GEOG 212; **Humanities:** ENG 170, 275; HIST 138; HUM 201, 202, 203, 204; **Social Sciences:** ANTH 112, 201, 214; GEOG 133; HIST 138; POLS 207, 209; SOC 210

These courses apply, but do *not* satisfy the MTA: BUS 240; EDUC 200; SPE 100

SC Associate in Engineering Program Requirements (20 credits)

* MATH 151 Calculus with Analytic Geometry II..... 5 MATH 121 Calculus II (4)+1..... 5

* MATH 240 Calculus with Analytic Geometry III..... 5 MATH 223 Multivariable Calculus (4)+1..... 5

* MATH 252 Differential Equations 5 MATH 325 Differential Equations (3)+2 5

* PHYS 212 Physics for Scientists and Engineers II 5 PHY 224 Electricity and Light..... 5

EMU Requirements and Electives that may be taken at SC or EMU (27 credits)

* CIS 129 Introduction to Programming Logic (3) and

* CIS 290 Object Oriented Programming with Java (3) 6 COSC 111/112 Introduction to Programming (3)+3 6

¹ CIS 211 Introduction to C++ (2) and

¹ CIS 221 Advanced C++ (2) (Computer Engr Only)..... 0-4 COSC 211/212 Programming Data Structures..... 0-4

* ENGR 100 Intro to Engineering and Technology 3 ET 100 *sub for ME 100*..... 3

* MATH 230 Linear Algebra..... 4 MATH 122 Elementary Linear Algebra (3)+1 4

Open Electives 10-14 University Electives 10-14

Credits at SC:.....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 Required for Computer Engineering Concentration only.

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 Electrical and Computer Engineering Program at EMU

Major Requirements (47 credits)

Foundational Requirements (6 credits)

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

Electrical & Computer Engineer Courses (29 credits)

EECE 212	Engineering Circuit Analysis (or ELEC 212)	3
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 (0-3 credits)

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

University Elective (0-3 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

* EMU requires 124 credits to graduate. If sufficient credits are not transferred to EMU, the course credit must be taken at EMU.

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

² Satisfies EMU's Learning Beyond the Classroom requirement.

Sample course sequence

Winter Semester (9 credits)

CET 151	F, W	3
EECE 212 or ELEC 212 W,	pre-req PHY 224	3
SET 350W	pre-req WRTG 121	3

Fall Semester (9 credits)

EECE 213	F, pre-req MATH 325	3
EECE 251	F, pre-req COSC 111	3
EECE 341	F, pre-req PHY 223, MATH 120, MATH 121, COSC 111, EECE 212 or ELEC 212	3

Additional Requirements

EECE 351	pre-req: min grade of "C" in EECE 251	3
EECE 371	pre-req: min grade of "C" in EECE 213	3
EECE 400	pre-req: EECE/EECE 212, EECE 213, 251, 341, 351, 371, 421	2
EECE 421	pre-req: min grade of "C" in EECE 371	3
EECE 430	pre-req: min grade of "C" in EECE 341	3
EECE 480	pre-req: EECE/ELEC 212, 213, 251, 341, 351, 371, 400, 421	3
Concentration Courses		9-12
Learning Beyond the Classroom/Elective Course		0-3

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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. SC 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. A minimum of 30 semester hours must be completed at the four-year college level, of which 30 hours must be completed at EMU, with at least 15 hours in the program, at the 300- level or above. Of the last 30 semester hours prior to graduation, at least 10 hours must be completed 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. SC students will receive equal consideration with other students for course registration and financial aid.

6. Students are encouraged to contact the College of 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.

Contacts:

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