COMPUTER SCIENCE CURRICULUM ARTICULATION AGREEMENT GUIDE

Oakland Community College – **AAS in CIS - Software Engineering Option**
Eastern Michigan University – **BS in Computer Science Curriculum**

Oakland Community College Courses:	Eastern Michigan University Courses:

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 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. <u>Courses listed below for the MTA also satisfy program requirements at EMU and/or OCC.</u> For OCC 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 1510 Composition I......3	WRTG 120 General Transfer Credit......3

2. A course in English Composition or Communication

COM 1290 Interpersonal Communication......3	COMM 227 General Transfer Credit......3

3. A course in Mathematics

* MAT 1730 Calculus I......4	MATH 120 Calculus I......4

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

Complete the first course in a science sequence:

* BIO 1530, CHE 1510, PHY 2400 4-5	BIO 110/111 (5), CHEM 121/122 (4), PHY 223 (5) 4-5
Choose one from the approved MTA list......3-4	General Transfer Credit......3-4

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

PHI 1710 Introduction to Formal Logic 3	PHIL 120 General Transfer Credit......3
Choose one from the approved MTA list......3	General Transfer Credit……………......3

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 <u>one</u> OCC course from the following list:
 These courses also satisfy an MTA area: Communication: COM 2290; **Natural Science**: BIO 1500; **Humanities:** ENG 1610, 2540, 2570; HIS 1520; MUS 1585; **Social Sciences:** ANT 1540; GEO 1520; HIS 1520, 1550, 2620; POL 2530, 2610; SOC 2620
 These courses apply, but do <u>not</u> satisfy the MTA: BUS 2150; PSY 2730; SOC 2530, 2560

OCC Program Requirements (46 credits)

CIS 1200	Introduction to Database Systems......4	BMMT 000 General Transfer Credit......4
CIS 1300	Networking Concepts......4	IT 110 General Transfer Credit......4
CIS 1420	HTML5 Programming 3	CMT 000 General Transfer Credit......3
CIS 1440	JavaScript Programming for Websites......4	COSC 000 General Transfer Credit......4
*CIS 1500	Introduction to Programming (Java)......4	COSC 111/112 Introduction to Programming......4
CIS 1512	Principles of Software Engineering......3	COSC 000 General Transfer Credit......3
CIS 2111	Systems Analysis and Design (UML)......4	ISAC 000 General Transfer Credit......4
CIS 2151	Object-Oriented Programming (Java)......4	COSC 000 General Transfer Credit (or COSC 111/112) 4
CIS 2252	Object-Oriented Programming (C++)......4	IS 000 General Transfer Credit (or COSC 111/112) 4
*CIS 2353	Data Structures......4	COSC 211/212 Programming Data Structures......4
CIS 2454	Web System Development (PHP, Java)......4	IS 000 General Transfer Credit......4
CIS 2818	Mobile Application Development (Android)......4	COSC 000 General Transfer Credit......4

EMU Requirements and Electives that may be Taken at OCC or EMU (8-9 credits)

* Complete the second course in a science sequence 4-5	Second course in a science sequence 4-5
BIO 1560, CHE 1520, PHY 2500	BIO 120/121 (5), CHEM 123/124 (4), PHY 224 (5)
*Choose two from: MAT 1740, 2880, 2810, 2740......4	MATH 121, 122 (3)+1, 325 (3)+1, 223 4

Credits at OCC: 84-85	**Credits that transfer to EMU....... 84-85**

*Required for EMU's BS or BA in Computer Science program. If not transferred, must be completed at EMU.
<u>Sign up with us:</u> 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 Computer Science Curriculum

Major Requirements   (42 credits)

Program Requirements (33 credits)
COSC 221   Computer Organization 3
COSC 231   Internet Based Computing..............................3
COSC 311   Algorithms and Data Structures.......................4
COSC 314   Computational Discrete Structures..................4
COSC 321   Computer Organization II 4
COSC 341   Programming Languages 4
COSC 381   Software Engineering Solutions 4
COSC 481W Software Engineering & Senior Project...........4
STAT 360   Statistical Methods 3

Restricted Electives (20 credits)
*Choose five courses from the following. At a minimum, two courses must be from List A. The remaining three courses may be selected from either list:
List A
COSC 423   Computer Operating Systems 4
COSC 439   Computing Network Principles 4
COSC 444   Foundations of Automata and Languages.......4
COSC 471   Database Principles.......................................4
List B
COSC 374   Applied Cryptography 4
COSC 411   Algorithm Design and Analysis.......................4
COSC 421   Systems Programming 4
COSC 422   Introduction to Microprocessors 4
COSC 426   Software Development for Mobile Devices......4
COSC 436   Web Programming...4
COSC 445   Complier Construction 4
COSC 456   Computer Graphics 4
COSC 457   Computer Game Programming 4
COSC 461   Introduction to Artificial Intelligence 4
COSC 462   Introduction to Information Retrieval................4
COSC 472   Big Data I..4
COSC 473   Big Data II...4
COSC 480   Special Topics 4

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

Credits at EMU: 53
Transfer Credits 84-85
Minimum Credits to Graduate:............120

1 Satisfies EMU's Writing Intensive 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 transferable courses from each other and from other regionally accredited institutions. OCC courses indicated with an * are required for EMU's BS or BA in Computer Science. 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 53 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. OCC students will receive equal consideration with other students for course registration and financial aid.

6. Students are encouraged to contact EMU's Francine Parker 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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