

COMPUTER SCIENCE - CURRICULUM ARTICULATION AGREEMENT GUIDEWashtenaw Community College – **AS in Computer Science: Programming in Java**Eastern Michigan University – **BS in Computer Science Major - Curriculum****Washtenaw Community College Courses: Transfer to Eastern Michigan University:****Michigan Transfer Agreement (MTA) Requirements (30 credits)**

Students with an 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 major requirements at EMU.

For courses approved to satisfy the MTA go to <http://www.wccnet.edu/services/transferreresources/mta/> Students who do not have the 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	4
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2. A Course in English Composition or Communication

ENG 226 Composition II.....	3	University Elective	3
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3. A Course in Mathematics

¹ MTH 176 College Algebra	4	MATH 105 College Algebra (3)+1.....	4
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4. Two courses in Natural Sciences from different disciplines (one lab required)

* Complete the first course in a science sequence:	4-5	First course of required science sequence:.....	4-5
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BIO 162, CHM 111, GLG 114 or PHY 211		BIO 110/111, CHEM 121/122, ESSC 110, or PHY 223	
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Completion a course from the approved MTA list	3-4	University Elective	3-4
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5. Two courses in Humanities from different disciplines

Choose two from the approved MTA list	6	University Elective	6
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6. Two courses in Social Sciences from different disciplines

Choose from the approved MTA list	6	University Electives	6
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If needed, complete additional courses in any of the above categories to satisfy 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; HUM 150, 175, 221; MUS 180; **Social Science:** ANT 201; ECO 280; GEO 101; HST 109, 123, 150, 230, 235; PSY 251, 270; SOC 205. **These courses apply, but do not satisfy the MTA:** CCP 251

WCC AS in Computer Science: Programming in Java Requirements (31 credits)

CIS 121 Linux/UNIX I: Fundamentals.....	4	IA 212 University Elective (3)+1	4
CIS 282 Database Principles and Application	3	IS 000 University Elective	3
* CPS 161 An Introduction to Programming with Java	4	COSC 111 & 112 Intro to Programming	4
CPS 251 Android Programming using Java	4	IS 000 University Elective	4
* CPS 261 Advanced Java Concepts.....	4	COSC 211 & 212 Programming Data Structures	4
* CPS 276 Web Programming using Apache, MySQL, or PHP4	4	COSC 231 Internet Based Computing (3)+1.....	4
CPS 278 Java Server Programming.....	4	IS 000 University Elective	4
CPS 298 Professional Team Programming	4	AACR Gen Credit	4

EMU Requirements that May be Taken at WCC or EMU (17-18 credits)

*MTH 191 Calculus I.....	5	MATH 120 Calculus I (4) +1	5
*MTH 192 Calculus II.....	4	MATH 121 Calc II or other 200-level or higher non-teaching	4
*MTH 197 Linear Algebra	4	MATH 122 Elementary Linear Algebra (3) +1	4
* Complete the second course in the science sequence	4-5	Second course of required science sequence:.....	4-5
BIO 161, CHM 122, or PHY 222		BIO 120/121, CHEM 123/124, or PHY 224	

Credits at WCC:..... 78-79 Credits that transfer to EMU..... 75

*Required for EMU's Computer Science Major-Curriculum. If not transferred, must be completed at EMU.

¹ Prerequisite for MATH 191. If students initially place into Calculus I, College Algebra is not required.

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. Sign up at: <https://www.emich.edu/ccr/articulation-agreements/signup.php>

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Completion of EMU’s BS in Computer Science Curriculum

Major Requirements (49 credits)

Mathematics Requirements (3 credits)

STAT 360 Statistical Methods 3

Required Computer Science Courses (26 credits)

COSC 221 Computer Organization I 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 and Senior Project 3

Restricted Elective Courses (20 credits)

Five courses from the following:20

A minimum of two courses must be from List A and the remaining courses may be selected from either list.

List A

COSC 423 Computer Operating Systems (4)
 COSC 439 Computing Network Principles (4)
 COSC 444 Found of Automata & Languages (4)
 COSC 471 Database Principles (4)

List B

COSC 374 Applied Cryptography (4)
 COSC 411 Algorithm Design & Analysis (4)
 COSC 421 Systems Programming (4)
 COSC 422 Intro to Microprocessors (4)
 COSC 426 Software Dvlpmnt for Mobile Devices (4)
 COSC 436 Web Programming (4)
 COSC 445 Compiler Construction (4)
 COSC 456 Computer Graphics (4)
 COSC 457 Computer Game Programming (4)
 COSC 461 Heuristic Programming (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 undergraduate catalog or major advisor for options.

Credits at EMU: 49
Transfer Credits: 75
Minimum Credits to Graduate: 124

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Additional information:

1. Each institution will determine the satisfaction of their individual program and degree requirements. Both WCC and EMU agree to accept transferrable courses from each other and from other regionally accredited institutions. WCC courses indicated with an * are required for EMU's BS 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. Students who enrolled in college prior to fall semester 2014 will have until the end of summer semester 2019 to complete the MACRAO agreement. 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 49 credit hours must be completed at the four-year college level, of which 30 hours must be in courses offered by EMU, with 9 hours in the major at the 300-level or above. Of the last 30 hours completed before graduating, at least 10 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. A minimum cumulative GPA of 2.0 is required for admission to EMU. Students must meet 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. Students are encouraged to contact the computer science major advisor before applying to EMU. To facilitate advising and the evaluation of transcripts, sign up for this articulation agreement using the link <https://www.emich.edu/ccr/articulation-agreements/signup.php> and bring a copy to all advising sessions.

Effective Dates: September 1, 2017 until August 31, 2020.

This is an updated guide of the September 2017 renewal of an agreement made in September 2009 and renewed in January 2013. This guide 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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