

**COMPUTER SCIENCE APPLIED ARTICULATION AGREEMENT GUIDE**

Schoolcraft College – AAS in CIS: Programming

Eastern Michigan University – BS in Computer Science Applied

**Schoolcraft 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. Courses listed below for the MTA also satisfy program requirements at EMU and/or SC. For SC 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 101 English Composition 1 ..... 3      WRTG 120 Composition I ..... 3

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

ENG 102 English Composition 2 ..... 3      WRTG 121 Composition II (GEEC) ..... 3

**3. A course in Mathematics**

\* MATH 150 Calculus w/ Analytic Geom (in place of MATH 113 or 126)5      MATH 120 Calculus I (4)+1 ..... 5

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

Choose two from the approved MTA list ..... 8      General Transfer Credit ..... 8

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

COMA 103 Fundamentals of Speech ..... 3      COMM 124 Found of Speech Communication (GEEC) ..... 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 one course from the following list:**

**These courses also satisfy an MTA area:** **Natural Science:** BIOL 104; GEOG 212; **Humanities:** COMA 240; ENG 170; HIST 138; HUM 201, 202, 203, 204; **Social Sciences:** ANTH 112, 201, 214; GEOG 133; HIST 138; POLS 207, 209; SOC 210, 211

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

**SC Program Requirements (38 credits)**

CIS 115 Introduction to Computer Based Systems ..... 3      IS 215 Information Systems for Business ..... 3

CIS 178 Technical Microsoft Windows ..... 3      BMMT 000 General Transfer Credit ..... 3

\* CIS 129 Introduction to Programming Logic (3) and

\* CIS 290 Object-Oriented Programming with Java (3) ..... 6      COSC 111/112 Intro to Programming/Online Lab (6)-2 ..... 4

\* CIS 211 Introduction to C++ (2) and

\* CIS 221 Advanced C++ (2) ..... 4      COSC 211/212 Programming Data Structures ..... 4

**Students should complete CIS 129 and 290 with a C or higher before enrolling for CIS 211 and 221**

CIS 223 Introduction to C# ..... 3      COSC 000 General Transfer Credit ..... 3

CIS 225 Database Management Systems ..... 3      IS 000 General Transfer Credit ..... 3

\* CIS 238 JavaScript (Elective) ..... 3      COSC 231 Internet Based Computing ..... 3

CIS 250 Systems Development and Design ..... 4      IS 000 General Transfer Credit ..... 4

CIS 255 Introduction to Linux ..... 3      IS 212 Open Source Platform &amp; Network Admin ..... 3

CNT 115 Cybersecurity Fundamentals ..... 3      ISAC 000 General Transfer Credit ..... 3

**EMU Requirements and Electives that may be Taken at SC or EMU (10 credits)**

\* Open Electives ..... 10      General Transfer Credit ..... 10

**Credits at SC: ..... 75      Credits that transfer to EMU ..... 75**

\*Required for EMU's BS in Computer Science Applied. If not transferred, must be completed at EMU.

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**Completion of the BS in Computer Science Applied****Major Requirements (45 credits)****Required Mathematics Courses (3 credits)**

STAT 360 Statistical Methods ..... 3

**Required Computer Science Courses (22 credits)**

COSC 221 Computer Organization ..... 3

COSC 311 Algorithms and Data Structures ..... 4

COSC 314 Computational Discrete Structures ..... 4

COSC 341 Programming Languages ..... 4

COSC 381 Software Engineering Solutions ..... 4

<sup>1</sup>COSC 481W Software Engineering and Senior Project ..... 3**Restricted Electives (20 credits)***Select twenty credit hours from the following:*

COSC 315 Symbolic Computing ..... 4

COSC 321 Computer Organization II ..... 4

COSC 374 Applied Cryptography ..... 4

COSC 405 Switching Theory ..... 4

COSC 411 Algorithm Design and Analysis ..... 4

COSC 421 Systems Programming ..... 4

COSC 422 Intro to Microprocessors ..... 4

COSC 423 Computer Operating Systems ..... 4

COSC 426 Software Development for Mobile Devices ..... 4

COSC 436 Web Programming ..... 4

COSC 439 Computing Network Principles ..... 4

COSC 444 Foundations of Automata AND Languages ..... 4

COSC 445 Compiler Construction ..... 4

COSC 456 Computer Graphics ..... 4

COSC 457 Computer Game Programming ..... 4

COSC 461 Intro to Artificial Intelligence ..... 4

COSC 462 Introduction to Information Retrieval ..... 4

COSC 471 Database Principles ..... 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: ..... 45****Transfer Credits: ..... 75****Total Credits: ..... 120***<sup>1</sup> Satisfies EMU's Writing Intensive requirement.*

**COMPUTER SCIENCE APPLIED ARTICULATION AGREEMENT GUIDE**Schoolcraft College – **AAS in CIS: Programming**Eastern Michigan University – **BS in Computer Science Applied****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. SC courses indicated with an \* are required for EMU's BS in Computer Science Applied. 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 45 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. SC students will receive equal consideration with other students for course registration and financial aid.
6. Students are encouraged to contact EMU's Undergraduate Admissions before applying to EMU. To facilitate advising and the evaluation of transcripts, bring a copy of this articulation guide to all advising sessions.

**Effective Date: September 1, 2022 until August 31, 2025.**

This is a renewal of an agreement made in September 2019. This agreement is consistent with the 2022-2023 catalog. Students have until summer 2030 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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[Schedule an appointment](#)