ARTICULATION AGREEMENT BETWEEN
Monroe County Community College
AAS in Computer Information Systems: Computer Science
and
Eastern Michigan University
BA in Computer Science, BS in Computer Science Applied, or BS in Computer Science
Curriculum

Article I
Agreement on Principle

Eastern Michigan University (EMU) and Monroe County Community College (MCCC) agree that students who choose to begin their studies at a community college and transfer to a university to earn a bachelor's degree should be provided with a smooth curriculum transition that minimizes loss of credit and duplication of coursework. Therefore, EMU and MCCC agree to enter into this articulation agreement to facilitate the completion of the AAS in Computer Information Systems: Computer Science at MCCC and the BA in Computer Science, BS in Computer Science Applied, or BS in Computer Science Curriculum at EMU. Both parties enter into this agreement as cooperating, equal partners who shall maintain the integrity of their separate programs.

Article II
Agreement on Program Specifics

EMU and MCCC agree that interested students may transfer the course credits indicated on the attached articulation guide toward a BA in Computer Science, BS in Computer Science Applied, or BS in Computer Science Curriculum at EMU. Under this agreement, EMU will waive the 60-hour rule and require that a minimum of 30 credit hours must be completed in courses offered by EMU, of which 15 hours must be in major/program requirements at the 300-level or above. A minimum of 120 total credits is required to graduate.

To use this agreement, students must apply and be admitted to EMU. MCCC students will receive equal consideration with other students seeking admission and financial aid.

The Michigan Transfer Agreement (MTA) requirements may be completed at the most appropriate time for the student whether before or after admission to EMU. If already on the transcript, the MACRAO designation will be accepted at EMU after summer semester 2019. Students who have not satisfied the MTA or MACRAO agreement must complete EMU's General Education Requirements as applied to transfer students. All other EMU graduation and program requirements must be satisfied whether by transferred courses, EMU courses, or approved substitutions or waivers.

For the purpose of this articulation agreement, both MCCC and EMU agree to accept transferable courses from each other and from other regionally accredited institutions. Articulation guides will be provided to assist students in completing the articulated program of study. Each institution will determine the satisfaction of their individual program and degree requirements. MCCC courses indicated with an * on the articulation guide are required for EMU's program. Any substitutions for these courses must be approved by the EMU program coordinator if not already stated in the agreement. In the case of a student who has accumulated credits before declaring this program, every effort will be made to maximize the use of credits already completed. All students using this agreement will be encouraged to complete an associate degree, although it is not required. Students will be informed of

reverse transfer opportunities. Disputes regarding the transfer of courses may be appealed to the EMU Provost by contacting the Office of Transfer Partnerships 734.487.6577.

Article III
Agreement on Communication

EMU and MCCC agree to cooperate in communicating with each other and with their common and respective publics concerning the established relationship between the two institutions. Communication may include the development of various kinds of publications to inform those who might benefit personally or professionally from the opportunities provided by this agreement. Faculty and staff at both institutions will share the information in this agreement with interested and qualified students and both institutions will provide counseling and advising to students and prospective students. EMU will provide transfer student performance data to MCCC officials annually through the Community College Transfer Student Report.

Article IV
Maintenance and Review Procedures

At least one administrative or faculty member from each institution will be appointed to act as agents for the implementation of this agreement, to speak for the institutions and to communicate changes to respective faculty members, advisors, counselors, and others to whom the information is pertinent. Responsibility for oversight of this agreement rests with the Dean of the Business at MCCC and the Department Head of Computer Science at EMU. Both parties agree to communicate annually any changes in their respective programs that may affect this articulation agreement.

Effective Date: September 1, 2024 until August 31, 2027.
This agreement is consistent with the 2024-2025 catalog. Students have until summer 2032 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.
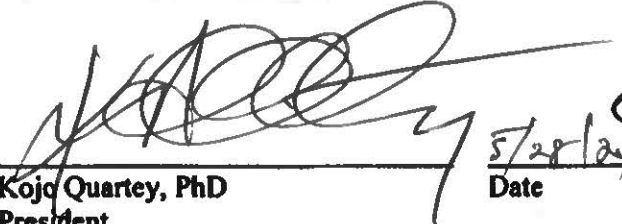
ARTICULATION AGREEMENT BETWEEN
Monroe County Community College - AAS in Computer Information Systems: Computer Science
Eastern Michigan University- BA in Computer Science, BS in Computer Science Applied, or BS in Computer Science Curriculum

Monroe County Community College and Eastern Michigan University agree to the terms of this agreement, which will be in effect from September 1, 2024 until August 31, 2027.
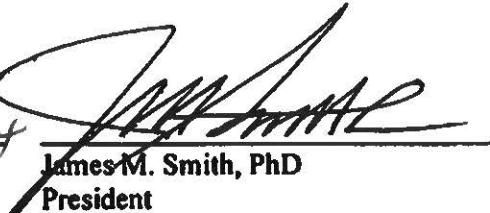
Signatures

Monroe County Community College
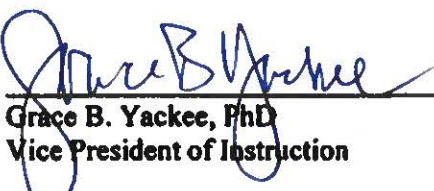
Kojo Quartey, PhD
President

Date 5/28/24

Grace B. Yackee, PhD
Vice President of Instruction

Date 05/08/2004

Leon J. Letter, JD
Dean, Business Division

Date 05/28/2024

Eastern Michigan University

James M. Smith, PhD
President

Date 5/20/24

Rhonda Longworth, PhD
Provost & Executive Vice President
Academic and Student Affairs

Date 5/9/24

Dana Heller, PhD
Dean, College of Arts and Sciences

Date 5/9/2024

Krish Narayanan, PhD
Department Head, Computer Science

Date 05/08/2024

COMPUTER SCIENCE APPLIED ARTICULATION AGREEMENT GUIDE

Monroe County Community College – **AAS in Computer Information Systems: Computer Science**
Eastern Michigan University – **BS in Computer Science Applied**

Monroe County 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. Courses listed below for the MTA also satisfy program requirements at EMU and/or MCCC. For MCCC approved MTA courses go to MCCC's website. Students without an MTA or MACRAO endorsement must complete EMU's general education program.

1. A Course in English Composition
ENGL 151 English Composition I.........................3 WRTG 120 Composition I.......................................3

2. A Second Course in English Composition or Communication
Choose from the approved MTA list ....3 General Transfer Credit..3

3. A Course in Mathematics
*¹ MATH 171 Calculus I..4 MATH 120 Calculus I...4

4. Two Courses in Natural Sciences from different disciplines (one lab required)
Choose from the approved MTA list.................7-8 General Transfer Credit.....................................7-8

5. Two Courses in Humanities from different disciplines
Choose from the approved MTA list......................6 General Transfer Credit..6

6. Two Courses in Social Science from different disciplines
Choose from the approved MTA list......................6 General Transfer Credit..6

EMU's Perspectives on a Diverse World requirement: Transfer students are required to complete one course that meets the diversity requirement. The course may also fulfill an MTA requirement at MCCC. The following courses can be used to fulfill MTA requirements above: **Natural Science**: BIOL 156; **Humanities**: ENGL 240, 255, 266; HUMAN 257; **Social Sciences**: ANTHR 152; GEOG 152; GWST 151; HIST 159, 173; POLSC 211, 252; SOC 253.
These courses apply, but do not satisfy the MTA: BMGT 220; CIA 105

MCCC AAS in Computer Information Systems (38 credits)

CIS 130 Introduction to Computer Info Systems 3	IS 215 Information Systems for Business 3
*CIS 150 Computer Science I..4	COSC 111/112 Introduction to Programming........................4
CIS 153 Desktop App Programming 3	COSC 000 General Transfer Credit..................................3
*CIS 167 Discrete Structures..4	COSC 314 Computational Discrete Structures 4
CIS 183 Mobile App Development 4	IS 000 General Transfer Credit..................................4
CIS 212 Full Stack Development 3	COSC 000 General Transfer Credit..................................3
*CIS 250 Computer Science II...4	COSC 211/212 Programming Data Structures.....................4
CIS 267 Beginning Game Programming 3	COSC 000 General Transfer Credit..................................3
*CIS 268 Assembly Language/Computer Architecture...........4	COSC 221 Computer Organization I (3)+1 4
CIS or CIA Course Elective 6	General Transfer Credit..6

EMU Requirements that may be completed at MCCC or EMU (11 credits)

Open Electives 11	General Transfer Credit...11

Credits at MCCC: 79	**Credits that transfer to EMU........................ 79**

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

COMPUTER SCIENCE APPLIED ARTICULATION AGREEMENT GUIDE
Monroe County Community College – **AAS in Computer Information Systems: Computer Science**
Eastern Michigan University – **BS in Computer Science Applied**

Completion of EMU's BS in Computer Science Major Applied

Major Requirements   (41 credits)

Mathematics Requirements (3 credits)
STAT 360   Statistical Methods 3

Required Computer Science Courses (18 credits)
COSC 231   Internet-based Computing...........................3
COSC 311   Algorithms and Data Structures 4
COSC 341   Programming Languages...............................4
COSC 381   Software Engineering Solutions....................4
[1] COSC 481W   Software Engineering and Senior Project 3

Restricted Elective Courses (20 credits)
Select 20 credits from the following: 20
Only one 300-level course may be used to satisfy this requirement.

     COSC 315   Symbolic Computing
     COSC 321   Computer Organization
     COSC 374   Applied Cryptography
     COSC 405   Switching Theory
     COSC 411   Algorithm Design and Analysis
     COSC 421   Systems Programming
     COSC 422   Intro to Microprocessors
     COSC 423   Computer Operating Systems
     COSC 426   Software Dvlpmnt for Mobile Devices
     COSC 436   Web Programming
     COSC 439   Computing Network Principles
     COSC 444   Found of Automata & Languages
     COSC 445   Compiler Construction
     COSC 456   Computer Graphics
     COSC 457   Computer Game Programming
     COSC 461   Heuristic Programming
     COSC 462   Introduction to Information Retrieval
     COSC 471   Database Principles
     COSC 472   Big Data I
     COSC 473   Big Data II
     COSC 480   Special Topics (4)

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

Credits at EMU: 41
Transfer Credits 79
Credits to Graduate:...120

1 *Fulfills EMU's Writing Intensive Requirement.*

ARTICULATION AGREEMENT GUIDE

Monroe County Community College – AAS in Computer Information Systems: Computer Science
Eastern Michigan University - BS in Computer Science Curriculum

Monroe County 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 MCCC.</u> For MCCC approved MTA courses go to MCCC's website. Students without an MTA or MACRAO endorsement must complete EMU's general education program.

1. A Course in English Composition
ENGL 151 English Composition I .... 3 | WRTG 120 Composition I 3

2. A Second Course in English Composition or Communication
Choose from the approved MTA list .... 3 | General Transfer Credit 3

3. A Course in Mathematics
*¹ MATH 171 Calculus I .... 4 | MATH 120 Calculus I 4

4. Two Courses in Natural Sciences from different disciplines (one lab required)
*First course in science sequence .... 4-5 | First course in science sequence 4-5
   BIOL 151, CHEM 151, PHY 251 | BIO 110/111, CHEM 121/122, or PHY 223
Choose from the approved MTA list .... 3-4 | General Transfer Credit 3-4

5. Two Courses in Humanities from different disciplines
Choose from the approved MTA list .... 6 | General Transfer Credit 6

6. Two Courses in Social Science from different disciplines
Choose from the approved MTA list .... 6 | General Transfer Credit 6

EMU's Perspectives on a Diverse World requirement: Transfer students are required to complete one course that meets the diversity requirement. The course may also fulfill an MTA requirement at MCCC. The following courses can be used to fulfill MTA requirements above: <u>**Natural Science**</u>*: BIOL 156;* <u>**Humanities**</u>*: ENGL 240, 255, 266; HUMAN 257;* <u>**Social Sciences**</u>*: ANTHR 152; GEOG 152; GWST 151; HIST 159, 173; POLSC 211, 252; SOC 253.*
  These courses apply, but do <u>*not*</u> *satisfy the MTA: BMGT 220; CIA 105*

MCCC AAS in Computer Information Systems (32 credits)

CIS 130 Introduction to Computer Info Systems (C4) 3	IS 215 Information Systems for Business 3
*CIS 150 Computer Science I 4	COSC 111/112 Introduction to Programming 4
CIS 153 Desktop App Programming 3	COSC 000 General Transfer Credit 3
*CIS 167 Discrete Structures 4	COSC 314 Computational Discrete Structures 4
CIS 183 Mobile App Development 4	IS 000 General Transfer Credit 4
CIS 212 Full Stack Development 3	COSC 000 General Transfer Credit 3
*CIS 250 Computer Science II 4	COSC 211/212 Programming Data Structures 4
CIS 267 Beginning Game Programming 3	COSC 000 General Transfer Credit 3
*CIS 268 Assembly Language/Computer Architecture 4	COSC 221 Computer Organization I (3)+1 4
CIS or CIA Course Elective 6	General Transfer Credit 6

EMU Requirements that may be taken at MCCC or EMU (10-13 credits)

*Additional MATH courses 6-8	Additional MATH/STAT courses 6-8
2 from MATH 172, 251, 271, or 273	2 from MATH 121, 122, 223, 325
*Second course in science sequence 4-5	Second course in science sequence 4-5
BIOL 153, CHEM 152, or PHY 252	BIO 120/121, CHEM 123/124, or PHY 224

Credits at MCCC: 75	**Credits that transfer to EMU 75**

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

Note: Students must complete or successfully transfer WRTG 121 (ENGL 152) and COMM 124 (SPCH 151 or 152) or have the MTA or MACRAO endorsed on their transcript.

ARTICULATION AGREEMENT GUIDE

Monroe County Community College – **AAS in Computer Information Systems: Computer Science**
Eastern Michigan University - **BS in Computer Science Curriculum**

Completion of the BS in Computer Science Curriculum

Major Requirements   (45 credits)

Mathematics Requirements (3 credits)
STAT 360   Statistical Methods 3

Required Computer Science Courses (22 credits)
COSC 231   Internet-based Computing.............................3
COSC 311   Algorithms and Data Structures 4
COSC 321   Computer Organization II...............................4
COSC 341   Programming Languages...............................4
COSC 381   Software Engineering Solutions....................4
[1] 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: **45**
Transfer Credits: **75**
Minimum Credits to Graduate:..................**120**

[1] Fulfills EMU's Writing Intensive requirement.

ARTICULATION AGREEMENT GUIDE

Monroe County Community College – AAS in Computer Information Systems: Computer Science
Eastern Michigan University – BA in Computer Science

Monroe County 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. Courses listed below for the MTA also satisfy program requirements at EMU and/or MCCC. For MCCC approved MTA courses go to MCCC's website. Students without an MTA or MACRAO endorsement must complete EMU's general education program.

1. A Course in English Composition
ENGL 151 English Composition I..............................3   WRTG 120 Composition I...3
2. A Second Course in English Composition or Communication
Choose from the approved MTA list 3   General Transfer Credit...3
3. A Course in Mathematics
*MATH 157 College Algebra 4   MATH 105 College Algebra...3
4. Two Courses in Natural Sciences from different disciplines (one lab required)
Choose from the approved MTA list....................7-8   General Transfer Credit..7-8
5. Two Courses in Humanities from different disciplines
Choose from the approved MTA list 6   General Transfer Credit...6
6. Two Courses in Social Science from different disciplines
Choose from the approved MTA list........................6   General Transfer Credit...6

EMU's Perspectives on a Diverse World requirement: Transfer students are required to complete one course that meets the diversity requirement. The course may also fulfill an MTA requirement at MCCC. The following courses can be used to fulfill MTA requirements above: **Natural Science**: BIOL 156; **Humanities**: ENGL 240, 255, 266; HUMAN 257; **Social Sciences**: ANTHR 152; GEOG 152; GWST 151; HIST 159, 173; POLSC 211, 252; SOC 253.
    These courses apply, but do not satisfy the MTA: BMGT 220; CIA 105

MCCC AAS in Computer Information Systems: Computer Science Requirements (36 credits)

CIS 130	Introduction to Computer Info Systems 3	IS 215	Information Systems for Business 3
*CIS 150	Computer Science I......................................4	COSC 111/112 Introduction to Programming........................4
CIS 153	Desktop App Programming 3	COSC 000 General Transfer Credit.................................3
*CIS 167	Discrete Structures......................................4	COSC 314 Computational Discrete Structures 4
CIS 183	Mobile App Development 4	IS 000	General Transfer Credit...............................4
CIS 212	Full Stack Development 3	COSC 000 General Transfer Credit.................................3
*CIS 250	Computer Science II......................................4	COSC 211/212 Programming Data Structures......................4
CIS 267	Beginning Game Programming 3	COSC 000 General Transfer Credit.................................3
*CIS 268	Assembly Language/Computer Architecture 4	COSC 221 Computer Organization I (3)+1 4
CIS or CIA Course Elective 6	General Transfer Credit....................................6
MATH 171 Calculus I 4	MATH 120 Calculus I......................................4

EMU Requirements and Electives that may be taken at MCCC or EMU (13 credits)

Minor requirement courses/open electives..........................13   Minor requirement courses/university electives..................13

This program requires a minor. 100 level or higher transfer credit may be applied as university elective or as credit toward a minor at EMU. Minors available at EMU can be found in EMU's catalog (catalog.emich.edu). Course equivalencies for MCCC courses transferring to EMU can be found at EMU's transfer equivalency page (app.emich.edu/transfereq)

Credits at MCCC: 79   **Credits that transfer to EMU.........................79**

Required for EMU's BA in Computer Science. If not transferred, must be completed at EMU.
Note: Students must complete or successfully transfer WRTG 121 (ENGL 152) and COMM 124 (SPCH 151 or 152) or have the MTA or MACRAO endorsed on their transcript.

ARTICULATION AGREEMENT GUIDE

Monroe County Community College – **AAS in Computer Information Systems: Computer Science**
Eastern Michigan University – **BA in Computer Science**

Completion of the BA in Computer Science at EMU

Major Requirements   (30 credits)
Required Computer Science Courses: 18 credits

COSC 231	Internet-based Computing	3
COSC 311	Algorithms and Data Structures	4
COSC 341	Programming Languages	4
COSC 381	Software Engineering Solutions	4
[1]COSC 481W	Software Engineering and Senior Project	3

Restricted Elective Courses: 12 credits
Choose one course from the following:

List A
COSC 374	Applied Cryptography (4)
COSC 421	Systems Programming (4)
COSC 423	Computer Operating Systems (4)
COSC 426	Software Dvlpment for Mobile Devices (4)
COSC 436	Web Programming (4)
COSC 439	Computing Network Principles (4)
COSC 445	Compiler Construction (4)
COSC 456	Computer Graphics (4)
COSC 457	Computer Game Programming (4)
COSC 461	Introduction to Artificial Intelligence (4)
COSC 471	Database Principles (4)

Choose two courses from the list below or above, not already taken:

List B
COSC 315	Symbolic Computing (4)
COSC 321	Computer Organization II (4)
COSC 405	Switching Theory (4)
COSC 411	Algorithm Design and Analysis (4)
COSC 422	Introduction to Microprocessors (4)
COSC 444	Foundations of Automata &Languages (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)

[1] *Fulfills EMU's Writing Intensive Requirement.*

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

Minor Requirements/Electives: (11 credits)
Students must complete a minor for this program with at least six credits at the 300/400 level at EMU. Some courses for the minor may be transferred to EMU. Students must complete a minimum of 41 credits at EMU under this agreement.

Credits at EMU:	**41**
Transfer Credits	**79**
Credits to Graduate:	**120**

ARTICULATION AGREEMENT GUIDE
Monroe County Community College – **AAS in Computer Information Systems**
Eastern Michigan University – **BA in Computer Science, BS in Computer Science Applied, or BS in Computer Science Curriculum**

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. MCCC courses indicated with an * are required for EMU's BA in Computer Science, BS in Computer Science Applied, or BS in Computer Science Curriculum. 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 41 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. 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. MCCC students will receive equal consideration with other students for course registration and financial aid.

6. Students are encouraged to contact EMU's Undergraduate Admissions Office 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, 2024 until August 31, 2027.
This agreement is consistent with the 2023-2024 catalog. Students have until summer 2032 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:

Monroe County Community College	**Eastern Michigan University**
Admissions and Guidance Office	Undergraduate Admissions
S-101	Student Center Suite 220
734.384.4104	734.487.6453
admissions@monroeccc.edu	transfer_admissions@emich.edu
	Schedule an appointment