

Students who begin college in September 2014 must follow the Michigan Transfer Agreement (MTA) requirements rather than the MACRAO requirements listed here. New MTA articulation guides will be posted to the EMU Community College Relations website soon. In the meantime, please see a community college counselor for more information about the MTA or look for more information at <http://www.macrao.org/mcm.asp?floor=4>.

**Monroe Community College – AAS in Computer Information Systems: Information Assurance & Security
Eastern Michigan University – Bachelor of Science in Information Assurance**

Monroe County Community College Courses:	Transfer to Eastern Michigan University as:
MACRAO Requirements (32 credits)	(32 credits)
1. English Writing Requirement (6 credits)	(6 credits)
ENGL 151 English Composition I..... 3	ENGL 120 Composition I (University Elective).....3
ENGL 152 English Composition II..... 3	ENGL 121 Composition II: Researching Pub Exp.....3
2. Math/Science Requirement (8 credits)	(8 credits)
MATH 151 Intermediate Algebra 4	MATH 104 Intermediate Algebra4
Complete one lab science course: 4	One course:.....4
Choose from courses on the MACRAO approved list.	Courses may transfer as general electives
3. Social Science Requirement (9 credits)	(9 credits)
POLSC 151 Introduction to Political Science 3	PLSC 112 American Government (University Elec)3
Complete two courses: (see NOTE below) 6	Two courses:.....6
Choose from courses on the MACRAO approved list.	Courses may transfer as general electives
4. Humanities Requirement (9 credits)	(9 credits)
SPCH 151 Communication Fundamentals..... 3	CTAC 124 Foundations of Speech Communication3
*Choose one course from:..... 3	One course:.....3
SPCH 152 Public Speaking (3)	CTAC 224 Public Speaking (3)
SPCH 155 Interpersonal Communication (3)	CTAC 227 Interpersonal Communication (3)
Complete one course from a different discipline: 3	One course:.....3
Choose from courses on the MACRAO approved list.	Courses may transfer as general electives
² NOTE: In completing the MACRAO requirements, choose one course from the following list to satisfy EMU's Perspectives on a Diverse World requirement: Humanities: ENGL 240, 255, 266; Social Science: ANTHR 152; GEOG 152; HIST 158, 159, 255, 256; POLSC 211, 252; SOC 153; Science: BIOL 154.	
Courses approved by MCCC for MACRAO http://it.emich.edu/service/online/tranequiv/index.cfm?fuseaction=guides&college=1514	
MCCC Information Assurance Requirements (37 credits)	(37 credits)
Required Core Courses (21 credits)	(21 credits)
CIS 130 Intro to Computer Information Systems 3	University Elective (IS 215)3
CIS 132 Computer Programming Concepts (3) and	
*CIS 150 Computer Science I (3)..... 6	(sub for COSC 146 Applied Programming)6
*CIS 208 PC Operating Systems 3	University Elective3
*CIS 209 Network Concepts 3	University Elective (CMT 305).....3
*CIS 228 Linux Administration 3	IA 212 Open Systems Platform & Network Admin3
*IAS 103 Information Security Principles 3	IA 103 Information Security Overview3
Additional IAS Electives (9 credits)	(9 credits)
*IAS 202 Risk Vulnerability Analysis 3	IA 202 Risk-Vulnerability Analysis.....3
*IAS 210 Advanced Networking Practices 3	IA 210 Concepts of Network & Business Technology3
*IAS 213 Privacy and Technology 3	IA 213 Privacy and Technology3
Additional CIS Electives (7 credits)	(7 credits)
*CIS 220 Hardware Maintenance 4	IA 215 System Support and Troubleshooting (3)+14
*CIS 250 Computer Science II 3	sub for COSC 211 or COSC 2063
EMU Requirements that may be taken at MCCC or EMU (3 credits)	(3 credits)
* ¹ MATH 162 Intro to Statistics (Complete at MCCC)..... 3	MATH 170 Elementary Statistics.....3
If needed, complete one additional credit at MCCC or EMU to bring the total for graduation to 124 credits.	
EMU IA Encryption Concentration Requirement that may be taken at MCCC or EMU (4 credits)	(4 credits)
³ MATH 171 Calculus I 4	MATH 120 Calculus I (IAE concentration only) 4
Maximum Credits at MCCC:72-76	Credits that transfer to EMU 72-76

* Required for EMU's Information Assurance program (all concentrations).

¹ If completed at MCCC, MATH 162 satisfies EMU's quantitative reasoning requirement. If MATH 170 is completed at EMU, MATH 110 is also required to satisfy the QR requirement, unless intermediate algebra has been completed with a "C" or better, in which case MATH 170 at EMU will satisfy both QR and major requirements. Students may return to MCCC to complete MATH 162 for the QR requirement after admission to EMU.

² Satisfies EMU's "Perspectives on a Diverse World" requirement.

³ Applies to EMU's IA Encryption Concentration only

EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE

January 2013

Monroe Community College – AAS in Computer Information Systems: Information Assurance & Security
Eastern Michigan University – Bachelor of Science in Information Assurance

Completion of the Information Assurance Program at EMU

All students will take a placement examination prior to enrolling in IA 300-level courses. This exam is offered on-line.

Major Requirements (50-54 credits)

Foundation Courses: (12 credits)

IA 240 Intelligence Analysis I	3
IA 329 Policy Development in Info Assurance	3
LEGL 320 Cyber Law and Compliance	3
STS 300W Research & Writing: Tech Perspective.....	3

Concentration Requirements: (38-42 credits)

Complete one of the following concentrations:

Information Assurance Management: (IAM) (42 credits)

IA 343 Intelligence Analysis II	3
IA 344 Administration of Computer Systems	3
IA 400 Malware Analysis & Reverse Engineering.....	3
IA 415 Intro to Research in Information Assurance	3
IA 422 Networks: Planning & Design	3
IA 425 Cyber Crime Investigation I	3
IA 427 Digital Forensics I	3
IA 430 Network Forensics	3
IA 445 Ethical Hacking and Offensive Security.....	3
IA 480 SQL Database Security	3
MGMT 386 Organizational Behavior and Theory.....	3
MGMT 403 Managerial Communication: Theory & Appl.....	3
MGMT 480W Management Responsibility and Ethics.....	3
¹ Choose one:	3

- IA 387 Cooperative Education (3)
- IA 416 Applied Research Project (3)

Applied Information Assurance: (AIA) (42 credits)

COSC 374 Applied Cryptography	3
IA 343 Intelligence Analysis II	3
IA 344 Administration of Computer Systems	3
IA 400 Malware Analysis & Reverse Engineering.....	3
IA 412 Linux Security Admin.....	3
IA 415 Intro to Research in Information Assurance	3
IA 425 Cyber Crime Investigation I	3
IA 427 Digital Forensics I	3
IA 428 Digital Forensics II	3
IA 430 Network Forensics.....	3
IA 445 Ethical Hacking and Offensive Security.....	3
IA 455 Incident Response	3
IA 480 SQL Database Security	3
¹ Choose one:	3

- IA 387 Cooperative Education (3)
- IA 416 Applied Research Project (3)

Information Assurance Encryption (IAE) (38 credits)

COSC 314 Computational Discrete Structures.....	3
COSC 374 Applied Cryptography.....	3
IA 400 Malware Analysis & Reverse Engineering	3
IA 415 Intro to Research in Information Assurance	3
IA 427 Digital Forensics I.....	3
IA 430 Network Forensics.....	3
IA 480 SQL Database Security.....	3
MATH 121 Calculus II.....	4
MATH 205 Math Structures for Computer Science	4
MATH 319 Mathematical Modeling	3
MATH 409 Cryptology	3
¹ Choose one:	3

- IA 387 Cooperative Education (3)
- IA 416 Applied Research Project (3)

IA Network Security/Administration (IANSA) (42 credits)

IA 344 Administration of Computer Systems	3
IA 350 Network Connectivity	3
IA 354 Multi-Level Networking.....	3
IA 364 Adv Windows Security	3
IA 400 Malware Analysis & Reverse Engineering	3
IA 412 Linux Security Administration.....	3
IA 422 Networks: Planning & Design.....	3
IA 427 Digital Forensics I.....	3
IA 430 Network Forensics.....	3
IA 445 Ethical Hacking & Offensive Security.....	3
IA 455 Incident Response	3
IA 480 SQL Database Security.....	3
IA 495 Networks: Implementation & Evaluation	3
¹ Choose one:	3

- IA 387 Cooperative Education (3)
- IA 416 Applied Research Project (3)

Total Credits at EMU/university level..... 50-54

*** Credits to Graduate 126**

**A minimum of 124 credits is required to graduate.*

¹Satisfies EMU's Learning beyond the Classroom requirement

ARTICULATION GUIDE

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Additional Information:

1. In completing the coordinated program of study for this articulation agreement, course substitutions should be made with the guidance of the advisors (indicated below) at both institutions to assure that all requirements are satisfied. Each institution will determine the satisfaction of their individual program and degree requirements. MCCC courses indicated with an * are required for EMU's Information Assurance Program.
2. Students whose transcripts are endorsed as "MACRAO Satisfied" will only be required to satisfy three of EMU's general education requirements, noted on the articulation guide and listed below. These requirements may be completed at the most appropriate time for the student, whether before or after enrollment at EMU:
 - a) An approved course in Quantitative Reasoning: [at MCCC: MATH 152, 154, 157, 162, 164, or 171] or [at EMU: MATH 110; or if Intermediate Algebra is completed with a 2.0 or better, COSC 106; MATH 105, 118, 119, 120, 140, 170; PHIL 181; PLSC 210; SOCL 250 or STS 224 can be chosen.]
 - b) An approved course in US Diversity or Global Awareness: [at MCCC: **Humanities**: ENGL 240, 255, 266; **Social Sciences**: ANTHR 152; GEOG 152; HIST 159, 255, 256; POLSC 211, 252; SOC 153; **Science**: BIOL 154; **Other Courses**: BMGT 220] or [at EMU: see the catalog for approved classes: <http://www.emich.edu/gened/students/approved.php>]
 - c) An approved Learning beyond the Classroom course or experience offered by EMU.

To use MACRAO, students must request that an official community college transcript, with the "MACRAO Satisfied" stamp, be sent to EMU's Admissions Office. Students, who do not have "MACRAO Satisfied" on their community college transcript, will be required to satisfy EMU's general education requirements as listed in the undergraduate catalog. The MACRAO stamp may be completed after admission to EMU, however, students should inform advisors at EMU that they intend to complete MACRAO, or they may be advised to complete additional courses for the general education program.

3. Only courses with a grade of 2.0 or better (on a 4.0 scale) will be accepted for transfer to EMU.
4. Under this agreement, EMU will waive the 60-hour rule and require that a minimum of 50 credit hours must be completed at the university/four-year college level, of which at least 30 credits must be in EMU courses. Of the last 30 hours completed before graduation, a minimum of 10 hours must be in courses offered by EMU. A minimum of 124 credit hours, in EMU courses or accepted in transfer, is required for graduation.
5. Students must meet all admission requirements at the time of admission to EMU, including submitting transcripts from all previously attended colleges. All students will take a placement examination prior to enrolling in IA 300-level courses at EMU.
6. Students are encouraged to meet with the EMU Information Assurance advisor early, before completing an admission application to EMU. A copy of the articulation guide should be included with the application to EMU and brought to all advising sessions. Copies of this agreement are available at www.emich.edu/ccr/artguide.php.

Effective Dates: January 1, 2013 until January 1, 2016.

Students who began this program prior to the effective date may use this agreement. If this agreement is not renewed at the end of the effective period, students already enrolled at Monroe County Community College will be given three additional years to be admitted to EMU under the terms of this agreement.

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