

ALERT!

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>.

September 2011

**Macomb Community College – AAS in IT-Networking Specialist-Network Security Professional
Eastern Michigan University – Bachelor of Science in Information Assurance**

Macomb Community College

Eastern Michigan University

MACRAO Requirements	(30-32 credits)	(30-32 credits)
1. English Writing Requirement (minimum of 6 credits)	Complete a two-course sequence:..... 6-8 ENGL 1180 & 1190 Communication I & II (8) ENGL 1210 & 1220 Composition I & II (6)	Two courses:6-8 ENGL 120 & 121 Composition I & II (6) +2 ENGL 120 & 121 Composition I & II (6)
2. Math/Science Requirement (8 credits)	*1 MATH 1340 Statistics 4 Complete one lab science course from a discipline below:..... 4 Biology, Chemistry, Environmental Science, Geology, Natural Science, Physical Science, Physics	MATH 170 Elementary Statistics (3)+1 4 One course: 4 Courses may transfer as equivalent courses, General Education credit, or general transfer credit
3. Humanities Requirement (see note below) (8 credits)	(Must choose from at least two disciplines except when foreign language is chosen.) Complete a minimum of 8 credits from the disciplines below:..... 8 Art, Creative Writing, Foreign Language, Humanities, Literature, Music, Philosophy, Theater Arts, INTL 2000, 2300	Two courses: 8 Courses may transfer as equivalent courses, General Education credit, or general transfer credit.
4. Social Science Requirement: (see note below) (8 credits)	Complete a minimum of 8 credits (choose from two disciplines) . 8 Anthropology, Economics, Geography, History, Pol Sci, Psychology, Sociology, Social Sci, INTL 2010, 2500, 2700	Two or three courses:..... 8 Courses may transfer as equivalent courses, General Education credit, or general transfer credit.
NOTE: In completing the requirements for MACRAO choose one course from the following to satisfy EMU's Perspectives on a Diverse World requirement: Humanities: ENGL 2800, 2810; HUMN 1270; INTL 2000, 2300; Social Sciences: ANTH 1000; GEOG 2000; HIST 1260, 1270, 1700, 2420, 2520; POLS 1600; SOSC 2010; INTL 2500, 2700		
MCC Degree Requirements	(53 credits)	(53 credits)
*BCOM 2050 Business Communications 4	MGMT 202 Business Communication (3)+1 4	
*ITCS 2335 Foun. of Business Information Technology 4	IS 215 End-user Computing (sub for COSC 105) (3)+1 4	
*ITIA 1200 Intro to Information Systems Security..... 3	IA 103 Information Security Overview 3	
² ITIA 1300 Information Security Safeguards 3	IA 000 General Transfer Credit (IA Elective)..... 3	
*ITNT 1500 Principles of Networking 4	IA 210 Concepts of Network & Business Tech (3)+1 4	
*ITIA 1400 Building an Information Protection Program..... 3	IA 329 Policy Development in Information Assurance 3	
*ITIA 2300 Information Systems Threat Assessment..... 3	IA 202 Risk-Vulnerability Analysis (3)+1 3	
ITOS 1400 Managing a MS Windows Server Environmt 3	BMMT 000 General Transfer Credit (University Elec) 3	
*ITOS 1710 Introduction to Linux 3	IA 212 Open Systems Platform/Network Admin 3	
ITWP 1000 Introduction to Web Programming..... 3	CMT 436 Electronic Publishing Technology (University Elec).... 3	
ITIA 2600 Principles of Cryptography 3	IA 000 General Transfer Credit (University Elec) 3	
² ITNT 1600 Intro to Wireless Networks..... 3	IA 000 General Transfer Credit (IA Elective)..... 3	
² ITNT 1700 Wireless Network Integration..... 3	IA 000 General Transfer Credit (IA Elective)..... 3	
³ ITNT 2130 Network Design I 3	IA 422 Networks: Planning & Design (IA Management)..... 3	
² ITWP 1600 Web Security 3	IA 000 General Transfer Credit (IA Elective)..... 3	
² ITIA 2700 Computer Forensics 3	IA 000 General Transfer Credit (IA Elective)..... 3	
PHED 2000 or above (except 2080)..... 2	PEGN 210 Lifetime Wellness & Fitness (Univ Elective)..... 2	
EMU Requirements that May be Taken at MCC or EMU (7 credits)		
*ITCS-2590 Java 1 4	COSC 111 Intro to Programming (3)+1 4	
* Complete one course: SPCH 1100 or SPCH 2110 at MCC..... 3	One course: CTAC 224, 225, 227, or 350 at EMU 3	
Credits at MCC:90-92	Credits that transfer to EMU..... 90-92	

* Required for EMU's Information Assurance program.

¹ If completed at MCC, MATH 1340 satisfies EMU's Quantitative Reasoning requirement. If completed at EMU, MATH 110 is the QR requirement and MATH 170 is required for the major. If Intermediate Algebra has been completed with a "C" or better MATH 170 will satisfy both requirements at EMU.

² May be applied toward the required restricted electives for any of the IA concentrations.

³ Required for EMU's IA Management Concentration.

Note: Courses that transfer as general transfer credit or university electives are not required for EMU's program, and may be substituted.

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ARTICULATION GUIDE**

September 2011

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Eastern Michigan University – Bachelor of Science in Information Assurance**

Completion of EMU’s Information Assurance Program

Major Requirements (45-51 credits)

Foundation Courses: (12 credits)

COSC 146	Applied Programming	3
IA 215	System Support & Troubleshooting	3
LEGL 413	Cyber Space Law.....	3
STS 300W	Research & Writing: Tech Perspective	3

Students must complete one “Learning beyond the Classroom” course or experience. See program advisor for options.

Concentration Requirements: (33-39 credits)

Complete one of the concentrations below:

Information Assurance Management: (33 credits)

IA 344	Admin of Computer Systems.....	3
IA 427	Digital Forensics I	3
IA 428	Digital Forensics II.....	3
IA 440	Intelligence Analyst I.....	3
IA 445	Ethical Hacking & Offensive Security	3
IA 495	Networks: Implementation & Evaluation.....	3
IS 350	Enterprise Resource Planning.....	3
MGMT 386	Organizational Behavior and Theory	3
MGMT 403	Managerial Communication: Theory & Appl.....	3
MGMT 480W	Management Responsibility and Ethics	3
¹ Internship in MGMT or STS		3

OR

Applied Information Assurance: (33 credits)

COSC 374	Applied Cryptography.....	3
IA 344	Admin of Computer Systems.....	3
IA 412	Linux Security Admin.....	3
IA 415	Intro to Research in Information Assurance	3
IA 416	Applied Research Project.....	3
IA 425	Cyber Crime Investigation	3
IA 427	Digital Forensics I.....	3
IA 428	Digital Forensics II.....	3
IA 445	Ethical Hacking & Offensive Security.....	3
IS 413	Information Tech Infrastructure & Security.....	3
Complete one course:		3

- BMMT 496 Database Security (3)
- IS 380 Introduction to Databases (3)

OR

Information Assurance Encryption (39 credits)

COSC 314	Computational Discrete Structures.....	3
IA 415	Intro to Research in Information Assurance	3
IA 416	Applied Research Project.....	3
IA 427	Digital Forensics I.....	3
IA 440	Intelligence Analyst I	3
IS 413	Information Tech Infrastructure & Security.....	3
² MATH 120	Calculus I	4
² MATH 121	Calculus II	4
MATH 205	Math Structures for Computer Science	4
MATH 319	Mathematical Modeling	3
MATH 409	Cryptography.....	3
IA Elective from list below:		3

OR

Information Assurance Network Admin/Security:(33 credits)

BMMT 496	Database Security.....	3
IA 344	Admin of Computer Systems	3
IA 350	Network Connectivity	3
IA 354	Multi-Level Networking.....	3
¹ IA 387	Co-op	3
IA 412	Linux Security Administration	3
IA 427	Digital Forensics I.....	3
IA 445	Ethical Hacking & Offensive Security	3
IA 455	Network Security Hardening.....	3
IA 495	Networks: Implementation & Evaluation	3
IA Elective from list below:		3

Information Assurance Electives

- CMT 305W Communication Transmission Systems (3)
- IA 213 Privacy and Technology (3)
- IA 379/479 Special Topics (3)
- IA 415 Intro to Research in Information Assurance (3)
- IA 416 Applied Research Project (3)
- IA 425 Cyber Crime Investigation I (3)
- IA 426 Cyber Crime Investigation II (3)
- IA 429 Enterprise Digital Analysis (3)
- IA 440 Intelligence Analyst I (3)

Credits at EMU:45-51

***Credits to Graduate:..... 135 -141**

¹ Satisfies EMU’s Learning beyond the Classroom General Education requirement.

² May be completed at MCC.

* A minimum of 124 credits is required to graduate.

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Additional Information:

1. In completing the coordinated program of study for this articulation agreement, course substitutions may be made with the guidance of the advisors (indicated below) at both institutions to assure that all requirements are satisfied. Macomb courses indicated with an * are required for EMU's Information Assurance Program. Each institution will determine the satisfaction of requirements for their own institution.
2. Students whose transcripts are endorsed as "MACRAO Satisfied" by the community college will only be required to satisfy three of EMU's general education requirements, noted on this guide and listed below. These requirements may be completed at the most appropriate time for the student whether before or after admission to EMU:
 - a) an approved course in Quantitative Reasoning: [MATH 1340, 1360, 1370, 1410, 1460, or 1760 at MCC] or [MATH 110 at EMU; or if MATH 104 Intermediate Algebra is completed with a "C" or better students may choose MATH 118, 119, 120, 170, PHIL 181, PLSC 210, SOCL 250, or STS 224.]
 - b) an approved course in Global Awareness or US Diversity: [**Humanities:** ENGL 2800, 2810; HUMN 1700, 1270, 2000; INTL 2000, 2300; **Social Sciences:** ANTH 1000; GEOG 2000; HIST 1260, 1270, 1700, 2420, 2520, 2650; INTL 2000, 2010, 2500, 2700; POLS 1600; SOSC 2010. **Lab Science:** NATS 1310 at MCC]
 - c) an approved Learning Beyond the Classroom course or experience offered by EMU: [TM 387 or see EMU Program Coordinator for other options.]

To use MACRAO, students must request 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 general education.

3. Only courses with a grade of "C" or better (2.0 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 30 credit hours must be completed in courses offered by EMU, 15 hours of which must be in program requirements 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 124 credit hours, completed in-residence or accepted in transfer, is required for graduation.
5. Students must meet all admission requirements at the time of application for admission to EMU, including submitting transcripts from all previously attended colleges. MCC students will receive equal consideration with other students for course registration and financial aid.
6. Students are encouraged to contact the Information Assurance Program Coordinator early, before applying to EMU. To facilitate the evaluation of transcripts, students should indicate they are using an articulation agreement on their application and bring a copy of this guide to all advising sessions. Copies of the articulation guide are available on EMU's webpage at www.emich.edu/ccr/artguide.php.

Effective Dates: September 1, 2011 until August 31, 2014.

If this agreement is not renewed at the end of the effective period, students who have already begun the program at Macomb Community College will have an additional three years to be admitted to EMU under the terms of this agreement. Students who began MCC's program prior to the effective date may use this agreement.

Contacts:

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