EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE

January 2012

Macomb Community College – Associate of General Studies
Eastern Michigan University – Bachelor of Science in Computer Engineering Technology

Macomb College			Eastern Michigan University	
MACRAO Requirements		**(30-32 credits)**		**(30-32 credits)**
1. English Writing Requirement		(6-8 credits)		(6-8 credits)
Complete a two-course sequence:		6-8	Two courses:	6-8
ENGL-1180 & 1190 Communication I & II (8)			ENGL 120 & 121 Composition I & II (6) +2	
ENGL-1210 & 1220 Composition I & II (6)			ENGL 120 & 121 Composition I & II (6)	
2. Math/Science Requirement		(8 credits)		(8 credits)
[1] MATH 1410	College Algebra (complete at MCC)	4	MATH 105 College Algebra	4
* PHYS 1180	College Physics 1	4	PHY 221 Mechanics, Sound and Heat	4
3. Humanities Requirement *(see note below)*		(8 credits)		(8 credits)
Complete a minimum of 8 credits from two disciplines below		8	A minimum of 8 credits	8
Arts, Creative Writing, Foreign Language, Humanities, Literature, Music, Philosophy, Theatre Arts, INTL 2000, or 2300			Courses may transfer as equivalent courses, General Education credit, or general transfer credit.	
4. Social Science Requirement *(see note below)*		(8 credits)		(8 credits)
Complete at least 2 courses from different disciplines:		8	Two courses	8
Anthropology, Economics, Geography, History, INTL 2010, 2500, or 2700, Political Science, Psychology, Sociology, or Soc Sci			Courses will transfer as equivalent courses or General Education transfer credit or general transfer credit	
[2] *NOTE: In completing <u>one</u> MACRAO area above, choose a course from the following to satisfy EMU's Perspectives on a Diverse World requirement:* ***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*				
Macomb CC Courses		**(31 credits)**		**(31 credits)**
* CORE 1060	Industrial Computer Technology	4	<u>ET 100</u> Intro to ET and <u>ET 101</u> Intro to ET Computing	4
* ELEC 1161	Electronic Technology 1(3) and			
* TMTH 1150	RCL Analysis (4)	7	ELEC 200 Circuit Analysis I	7
* ELEC 1182	Semiconductor Theory & Devices	3	ELEC 300 Analog Circuit Analysis I	3
* ELEC 1192	Semiconductor Devices & Circuits	3	ELEC 218 Motors & Controls	3
* ELEC 1211	Digital Electronics Basics	3	ELEC 214 Digital Circuit Analysis I	3
* ELEC 2005	Discrete Amplifiers & Intro to Op-amps (was 1191)	3	ELEC 215 Comp-Aided Electronics	3
* ELEC 2270	Microcontroller Programming	3	ELEC 320 Microcomputer Circuits	3
* MECT 2640	Programmable Logic Cont or (MECT 2110 & 2112)	3	CET 427 Programmable Logic Controller	3
PHED 2000 or above (except 2080)		2	University Elective	2
EMU Requirements that may be Taken at MCC or EMU				**(30-31 credits)**
[4] ITCS 1010 or ITCS 2335		4	IS 215 End-User Computing (3)+1	4
#*ITCS 1140	Intro to Program Design & Development (3) and			
* ITCS 1170	Data Design & Implement with SQL & XML(4)	7	IS 380 Introduction to Databases	7
* PRDE 1000	Fundamentals of Design	4	PDD 122 Engineering Graphics	4
* PHYS 1190	College Physics 2	4	PHY 222 Electricity and Light	4
* Complete one CET Restricted Elective:		3-4	CET Restricted Elective	3-4
ATMT 1300 & ATMT 1310 (4)			PDD 111 Materials (3)+1	
PRDE 1300 Industrial and Materials Processing (4)			PDD 123 Manufacturing Processes (4)	
MATH 2000 Intro to Linear Algebra (3)			MATH 122 Elementary Linear Algebra	
			Or at EMU: CET 426, COSC 221, 321, ELEC 314,420. IS 315, MATH 325, MET 223, PHY 230	
*[1] Complete one math sequence from:		8	Two courses	8
MATH 1760 (4) and 1770 (4) Anal Geom & Calc 1 and 2			MATH 120 (4) and 121 (4) Calculus I and II	
(*First Calculus course must be completed before starting the EET sequence at EMU.)*			*OR at EMU students may choose:* MATH 140 (4) and 141 (3) Applied Trig & Calc for Tech I&II	
Credits at Macomb: 91			**Credits to transfer to EMU 91**	

** Required for EMU's Computer Engineering Technology program.*
[1] If completed at Macomb with a "C" or better, MATH 1410 will satisfy EMU's Quantitative Reasoning Requirement.
[2] Satisfies EMU's "Perspectives on a Diverse World" requirement
[3] Satisfies the requirement for a Computer Engineering Technology restricted elective
[4] Prerequisite for ITCS 1170 (IS 380).
#ITCS 1140 is replacing ITCS 1130 because of discontinuation of the course at Macomb Community College (July 2012).
Note: Substitutions may be made for courses that transfer as university electives or general transfer credit.

EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE

January 2012

Macomb Community College – Associate of General Studies
Eastern Michigan University – Bachelor of Science in Computer Engineering Technology

Completion of the Computer Engineering Technology Program at EMU

Major Requirements (33 credits)

Required Courses (33 Credits)

CET 151	Intro to Computing in Engineering Technology	3
CET 353	Web Develop for Engineering Applications	3
[2] CET 387	Co-op Educ in Computer Engin Tech (LBC)	3
CET 451	Engineering Database Development	3
CET 453	Engineering Programming	3
CET 491	Senior Design Capstone	3
COSC 211	Programming Data Structures	3
COSC 246	Programming in C++	3
COSC 311	Algorithms and Data Structures	3
OM 374	Intro to Operations Management	3
[3] SET 350W	Applied Technical Writing	3

Minimum Credits at EMU: 33

***Credits to Graduate: 124**

[1] Satisfies the Quantitative Reasoning requirement.
[2] Satisfies the Learning beyond the Classroom requirement.
[3] Consult program advisor for other writing intensive courses.
** A minimum of 124 credits is required to graduate. If less than 91 credits are transferred from MCC, additional credits must be completed at EMU.*

Any Semester (9 credits)

CET 387	Co-op Educ in Computer Engin Tech (LBC)	3
SET 350W	Applied Technical Writing	3

First Semester (13 credits)

MATH 140	Applied Trigonometry & Calculus I for Tech	4
COSC 211	Programming Data Structures	3
CET 151	Intro to Computing in Engineering Technology	3
OM 374	Intro to Operations Management	3

Second Semester (12 credits)

MATH 141	Applied Trigonometry & Calculus II for Tech	3
CET 353	Web Develop for Engineering Applications	3
CET 451	Engineering Database Development	3
COSC 246	Programming in C++	3

Third Semester (9 credits)

CET 453	Engineering Programming	3
CET 491	Senior Design Capstone	3
COSC 311	Algorithms and Data Structures	3

EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE

January 2012

Macomb Community College – Associate of General Studies
Eastern Michigan University – Bachelor of Science in Computer Engineering Technology

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. MCC courses indicated with an * are required for EMU's Computer Engineering Technology 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]
   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: [CET 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 at 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. Macomb students will receive equal consideration with other students for course registration and financial aid.
6. Students are encouraged to contact the Computer Engineering Technology Program Coordinator early, before applying to EMU. To facilitate the evaluation of transcripts, students should indicate they are using this articulation agreement on their EMU 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.htm.

Effective Dates: January 1, 2012 until January 1, 2015.

If this agreement is not renewed at the end of the effective period, students who have already begun the program at MCC 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:

Eastern Michigan University

Community College Relations

734.487.6577

ccr_office@emich.edu