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EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE

January 2012

Macomb Community College – AAS in Electronic Engineering Technology
Eastern Michigan University – BS in Electronic 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 a minimum of 8 credits from two disciplines below: 8	A minimum of 8 credits....8
Anthropology, Economics, Geography, History, INTL 2010, 2500, or 2700, Political Science, Psychology, Sociology, or Soc Science	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 Program Requirements (49 credits)	**(49 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 & 1171 Electronic Technology 1 & 2 and (6)	
* TMTH 1150 RCL Analysis (4)....10	<u>ELEC 200</u> and <u>ELEC 210</u> (6) Circuit Analysis I & II +4....10
* 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 1221 Microcontrollers with Robotic Applications....3	University Elective....3
* ELEC 2005 Discrete Amplifiers & Intro to Op-amps (was 1191) 3	ELEC 215 Comp-Aided Electronics....3
ELEC 2010 Instrumentation 1 & Transducer Theory....3	University Elective....3
ELEC 2150 LabView Basics 1....3	University Elective....3
ELEC 2160 LabView Basics 2....3	University Elective....3
* ELEC 2270 Microcontroller Programming....3	ELEC 320 Microcomputer Circuits....3
* ELEC 2400 Microprocessor Interfacing....3	subs for <u>COSC 246 Programming in C++</u>....3
ELEC 2490 Instrumentation 2 Adv Op Amps & Linear Int Cir 3	University Elective....3
PHED 2000 or above (except 2080)....2	University Elective....2
EMU Requirements that May be Taken at Macomb or EMU	**(27 Credits)**
*PRDE 1000 Fundamentals of Design 4	PDD 122 Engineering Graphics....4
*QUAL 1030 Statistical Quality Control....4	QUAL 320 Industrial Quality Control (3)+1....4
* PHYS 1190 College Physics 2....4	PHY 222 Electricity and Light 4
*MECT 2640 Programmable Logic Cont or (MECT 2110 & 2112) ...3	CET 427 Programmable Logic Controller 3
*CHEM 1170 General Chemistry 1 4	CHEM 121/122 General Chemistry I/with lab....4
*[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: 106-108	**Credits to transfer to EMU 106-108**

** Required for EMU's Electronic Engineering Technology program.*
[1] If completed at Macomb with a "C" or better, MATH 1410 or 1760 will satisfy EMU's Quantitative Reasoning Requirement.
[2]Satisfies EMU's "Perspectives on a Diverse World" requirement
Note: Substitutions may be made at MCC for courses that transfer as university electives or general transfer credit.

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Completion of the Electronic Engineering Technology Program at EMU

Major Requirements (33 Credits)

MATH 122	Elementary Linear Algebra	3
CET 426	Engineering Product Information	3
ELEC 310	Analog Circuit Analysis II	3
ELEC 314	Digital Circuit Analysis II	3
ELEC 326	Transform Circuit Analysis with Calc	3
[2] ELEC 387	Co-op in Electronic Technology (LBC)	3
ELEC 415	Communication Circuits	3
ELEC 420	Adv. Microprocessors	3
ELEC 450	Senior Design Project	3
MET 312	Applied Dynamics Principles	3
[3] SET 350W	Applied Technical Writing	3

Credits at EMU: 33

***Credits to Graduate: 138**

[2] Satisfies the Learning beyond the Classroom requirement.
[3] Students may consult the program advisor for other writing intensive courses.
** A minimum of 124 credits is required to graduate.*

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Suggested Sequence for completing the program:
Students should consult with the EET Advisor to plan a program of study.

MATH 121 or MATH 141 must be completed before registering for ELEC 310

Any Semester		**(6 credits)**
MATH 122	Elementary Linear Algebra	3
Winter Semester		**(9 credits)**
ELEC 310	Analog Circuit Analysis II	3
ELEC 314	Digital Circuit Analysis II	3
ELEC 387	Co-op in EET	3
SET 350W	Applied Technical Writing	3
Fall Semester		**(9 credits)**
ELEC 326	Transform Circuit Analysis with Calc	3
ELEC 415	Communication Circuits	3
MET 312	Applied Dynamics Principles	3
Winter Semester		**(9 credits)**
CET 426	Engineering Product Information (ELEC 479)	3
ELEC 420	Adv. Microprocessors	3
ELEC 450	Senior Design Project	3

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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. MCC courses indicated with an * are required for EMU's Electronic 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] or MATH 140 or 120 at EMU]
   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: [ELEC 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. Although 40 hours at EMU is listed on the articulation guide, it may be possible to transfer additional courses from a community college. 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 Electronic 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.php.

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:

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