

EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE

April 2006
Revised: September 2007

Henry Ford Community College –Associate in Applied Science in Electrical Technology
Eastern Michigan University – Bachelor of Science in Electronic Engineering Technology

Henry Ford Community College Courses:

Transfer to EMU as:

MACRAO Requirements	(34 credits)	(34 credits)
1. English Writing Requirement	(6 credits)	(6 credits)
ENG 131 Composition I.....	3	ENGL 120 English Comp I (university elective)..... 3
ENG 132 Composition II.....	3	ENGL 121 English Composition II..... 3
2. Math/Science Requirement	(10 credits)	(10 credits)
*1 MATH 180 Calculus I (complete at HFCC).....	5	MATH 120 Calculus I (4) +1..... 5
PHYS 231 Engineering Physics.....	5	PHY 223 Mechanics, Sound, and Heat..... 5
3. Social Science Requirement	(9 credits)	(9 credits)
Complete one course:.....	3	One course:..... 3
POLS 131, SOC 131, SSC 131, HIST 151, OR HIST 152		
Complete two courses: <i>See note below</i>	6	Two courses:..... 6
Choose from courses approved by HFCC to satisfy The MACRAO social science requirement.		Courses may transfer as equivalent courses, General Education transfer credit, or general transfer credit.
4. Humanities Requirement	(9 credits)	(9 credits)
Complete three courses: <i>See note below</i>	9	Three courses:..... 9
Choose from courses approved by HFCC to satisfy The MACRAO humanities requirement.		Courses may transfer as equivalent courses, General Education transfer credit, or general transfer credit.
¹ <i>NOTE: In completing the Humanities or Social Science requirements above, choose at least one course from the following to satisfy EMU's Global Awareness/US Diversity requirement: ANTH 131, 152; ART 224; ENG 243, 248; GEOG 132; HIST113, 225, 255, 257; POLS 153; SOC 152, 251; WR 131</i>		
HFCC Program Requirements	(46-50 credits)	(46-50 credits)
* ELEC 115 Digital Circuits I (or ELEC 175).....	3	ELEC 214 Digital Circuit Analysis I..... 3
* ELEC 155 Analog Electronics I (or ELEC 230).....	3	ELEC 300 Analog Circuit Analysis I..... 3
* ELEC 195 AC/DC Circuit Analysis (or ELEC 180).....	3	ELEC 200 Circuit Analysis I..... 3
* ELEC 200 Ladder Diag & Motor Cntrls (or ELEC 210).....	3	ELEC 218 Motors and Controls..... 3
* ELEC 215 Digital Circuits II (or ELEC 240).....	3	ELEC 314 Digital Circuit Analysis II..... 3
* ELEC 245 Program Logic Controllers.....	3	CET 427 Programmable Logic Controllers..... 3
* ELEC 295 Microprocessor Systems (or ELEC 285).....	3	ELEC 320 Microcomputer Circuits..... 3
* DRAF 110 Intro to Industrial Drafting (or EG 31).....	3	CADM 122 Engineering Graphics I..... 3
ELEC 205 Analog Electronics II.....	3	ELEC 000 General Transfer Credit..... 3
ELEC 103 Basic Electricity.....	4	ELEC 000 General Transfer Credit..... 4
ELEC 106 Basic Electronics.....	3	ELEC 000 General Transfer Credit..... 3
ELEC 145 AC/DC Rotating Machines.....	3	ELEC 000 General Transfer Credit..... 3
ELEC 260 Automation Controls & Robotics.....	3	CET 427 Program Logic Controllers/Gen Transfer Credit..... 3
ELEC 255 Instrumentation Systems (or ELEC 230).....	3	ELEC 000 General Transfer Credit..... 3
* Complete one course:.....	3-4	General Transfer Credit..... 3-4
ELEC 120 Basic Hydraulics or (ELEC 170) (3)		Students who complete ELEC 255 or ELEC 230 and one course from (ELEC 120, 170, 185, or MPS 140) with a "C" or better will receive waivers for ET 100 and MET 312.
ELEC 185 Pneumatics (3)		
MPS 140 Introduction to CNC (4)		
Satisfy Computer Literacy Requirement.....	0-3	University Elective..... 0-3
EMU requirements that may be taken at HFCC or EMU	(24 credits)	
* CHEM 141 Principles of General Inorganic Chem.....	5	CHEM 121/122 General Chemistry w/lab (4) +1..... 5
* CIS 170 "C" Programming.....	3	COSC 000 (sub for COSC 246 Programming in C++)..... 3
* MATH 183 Calculus II.....	5	MATH 121 Calculus II (4) +1..... 5
* MATH 283 Linear Algebra.....	3	MATH 122 Elementary Linear Algebra..... 3
* MET 150 SPC in Manufacturing.....	3	QUAL 320 Industrial Quality Control..... 3
* PHYS 232 Engineering Physics Continued.....	5	PHY 224 Electricity and Light..... 5
Credits at HFCC:.....	104-108	Maximum credits that transfer to EMU..... 94

* Required for EMU's Electronic Engineering Technology program.

¹ Meets one of EMU's three requirements in addition to MACRAO. MATH 180 should be completed at HFCC to satisfy EMU's quantitative reasoning requirement. If taken at EMU, MATH 110 may be required.

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**Completion of the Electronic Engineering
Technology Program at EMU**

Major Requirements	(30 Credits)
ELEC 210 Circuit Analysis II	3
ELEC 215 Computer-Aided Electronics	3
ELEC 310 Analog Circuit Analysis II	3
ELEC 326 Transform Circuit Analysis with Calc	3
¹ ELEC 387 Co-op in Electronic Technology (LBC).....	3
ELEC 415 Communication Circuits	3
ELEC 420 Advanced Microprocessors	3
ELEC 450 Senior Design Project	3
ELEC 479 (subs for CET 426)	3
SET 350W Applied Technical Writing	3
Minimum Credits at EMU:	30
Minimum Credits to Graduate:	124

Suggested Sequence for completing the program:

Winter Semester	(12 Credits)
ELEC 210 Circuit Analysis II	3
ELEC 215 Computer-Aided Electronics	3
ELEC 310 Analog Circuit Analysis II	3
ELEC 420 Advanced Microprocessors	3
Fall Semester	(12 Credits)
ELEC 326 Transform Circuit Analysis with Calc	3
ELEC 387 Co-op in Electronic Technology	3
ELEC 415 Communication Circuits	3
SET 350W Applied Technical Writing	3
Winter Semester	(6 Credits)
ELEC 479 (sub for CET 426)	3
ELEC 450 Senior Design Project	3

¹ Meets EMU's Learning beyond the Classroom requirement.

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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. Courses indicated with an * are required for EMU's Electronic Engineering Technology Program.
2. Students whose transcripts are endorsed as "MACRAO Satisfied" will only be required to meet EMU's three general education requirements, noted with a "1" on the articulation 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 180 at HFCC]
 - b) an approved course in Global Awareness or US Diversity: [ANTH 131, 152; ART 224; ENG 243, 248; GEOG 132; HIST113, 225, 255, 257; POLS 153; SOC 152, 251; WR 131 at HFCC]
 - c) an approved Learning beyond the Classroom Experience offered by EMU. [ELEC 387 at EMU]

To use MACRAO, students should request a MACRAO evaluation of their transcript from the community college Student Records or Registrar's Office. Students who do not satisfy MACRAO will have to satisfy EMU's general education requirements as listed in the Undergraduate Catalog.
3. Only courses with a grade of "C" or better (2.0 on a 4.0 scale) will be accepted for transfer to EMU. A course completed with a grade of less than 2.0, even though it is counted toward graduation at the community college and used to satisfy MACRAO, will not transfer and will have to be repeated if it is a requirement of the Electronic Engineering Technology program at 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. HFCC students will receive equal consideration with other students for course registration and financial aid.
6. Students are encouraged to make an appointment with the Electronic Engineering Technology Program Coordinator before applying to EMU. To facilitate the evaluation of transcripts students should enclose a copy of this articulation guide with their EMU admission application and bring a copy to all advising sessions. Copies of the articulation guide are available on EMU's webpage at www.emich.edu/ccr/artguide.htm.

Effective Dates: September 1, 2007 until April 1, 2009. This is an update of an agreement that started on April 1, 2006. If this agreement is not renewed at the end of the effective period, students who have already begun the program will have an additional three years to be admitted to EMU under the terms of the agreement. HFCC students who began the program prior to the effective date have the option of using the articulation guide in place when they started, or changing to this guide.

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