

ARCHIVED GUIDE, EXPIRED JANUARY 2015. FOR REFERENCE ONLY.

**EASTERN MICHIGAN UNIVERSITY
ARTICULATION GUIDE**

January 2012

**Macomb Community College – AAS in Manufacturing Engineering Technology
Eastern Michigan University – BS in Mechanical Engineering Technology**

Macomb College

Eastern Michigan University

| MACRAO Requirements | (30-33 credits) | (30-33 credits) |
|--|------------------------|--|
| 1. English Writing Requirement | (6-8 credits) | (6-8 credits) |
| Complete a two-course sequence: | 6-8 | Two courses: |
| 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 |
| * ¹ PHYS 1180 College Physics 1 | 4 | PHY 221 Mechanics, Sound and Heat |
| 3. Humanities Requirement (see note below) | (8 credits) | (8 credits) |
| <i>A minimum of 8 credits must be completed from two disciplines.</i> | | |
| PHIL 2010 Intro to Phil or PHIL 2100 Intro to Ethics | 3 | University Elective |
| Complete one course from a discipline below: (see note below) | 5 | One course |
| ARTT, Creative Writing, Foreign Language, Humanities, Literature, MUSC, PHIL, Theatre Arts, INTL 2000, 2300 | | Courses may transfer as equivalent courses, General Education credit, or general transfer credit. |
| 4. Social Science Requirement | (8-9 credits) | (8-9 credits) |
| <i>A minimum of 8 credits must be completed from two disciplines.</i> | | |
| ECON 1160 Principles of Economics 1 | 3 | ECON 201 Principles of Macroeconomics |
| Complete additional credit from disciplines below: | 5-6 | Five Credits |
| (see note below) ANTH, ECON, GEOG, HIST, INTL 2010, 2500, 2700, POLS, PSYC, SOCY, SOCL | | 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; SOSOC 2010 | | |
| Macomb CC Program Requirements (45 credits) | | (45 credits) |
| * ATMT 1300 Metallurgy-Char of Ferrous Metals (2) and | | |
| * ATMT 1310 Metallurgy-Char of Non-Ferrous Metals (2) | 4 | PDD 111 Materials (3)+1 |
| * CHEM 1170 General Chemistry 1 (sub for CHEM 1050) | 4 | CHEM 121/122 General Chemistry I/with lab |
| * ENGR 1000 Introduction to Engineering | 3 | ET 100 Intro to ET and ET 101 Intro to ET Computing |
| ³ ELEC 1161 Electronic Technology 1 | 3 | (with TMTH 1150 below is equivalent to ELEC 200) |
| ELEC 1171 Electronic Technology 2 | 3 | University Elective |
| PRDE 1250 Basic Blueprint Reading | 2 | University Elective |
| * PRDE 1300 Industrial and Materials Processing | 4 | PDD 123 Manufacturing Processes |
| * PRDE 1450 AutoCAD: Detailing & Assemblies | 3 | PDD 122 Engineering Graphics (4)-1 |
| PRDE 2200 Jig & Fixture Detailing & Design | 3 | University Elective |
| * PHYS 1190 College Physics 2 | 4 | PHY 222 Electricity and Light |
| QUAL 1011 Quality Fundamentals | 3 | University Elective |
| SPCH 1060 Speech Communication | 3 | University Elective |
| PHED 2000 or above (except 2080) | 2 | University Elective |
| EMU Requirements that May be Taken at Macomb or EMU | | (10-11 credits) |
| * MATH 1430 College Trigonometry | 3 | MATH 107 Plane Trigonometry (2) +1 |
| ³ TMTH 1150 RCL Analysis and (ELEC 1161 above) | 4 | ELEC 200 Circuit Analysis I (3)+1 |
| * Complete one math sequence from below: | 8 | Two courses |
| MATH 1760 (4) and 1770 (4) Anal Geom & Calc 1 and 2 | | MATH 120 (4) and 121 (4) Calculus I and II OR at EMU students may choose: MATH 140 (4) and 141 (3) Applied Trig & Calc for Tech I&II |
| Credits at Macomb: | 85-89 | Credits that transfer to EMU program |
| | | 85-89 |

* Required for EMU's Mechanical Engineering Technology program.

¹ If completed at Macomb with a "C" or better, MATH 1410 will satisfy EMU's Quantitative Reasoning Requirement.

² EMU's Perspectives on a Diverse World requirement.

³ If student completes both ELEC 1161 and TMTH 1150, they will receive credit for ELEC 200. See EMU Advisor to request credit on transcript.

Note: Substitutions may be made at MCC for courses that transfer as university electives or general transfer credit.

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| <u>Completion of the Mechanical Engineering Technology Program at EMU</u> | |
|---|---|
| <p>Major Requirements (44 credits)</p> <p>ELEC 218 Motors & Controls..... 3</p> <p>MET 211 Statics..... 3</p> <p>MET 312 Applied Dynamics Principles 3</p> <p>MET 313 Applied Mechanics of Materials..... 3</p> <p>MET 314 Applied Thermodynamics & Heat Transfer..... 3</p> <p>MET 316 Design for Manufacturing & Tooling 3</p> <p>MET 319 Fluid Mechanics..... 3</p> <p>¹ MET 387 Co-op in Mechanical Engineering Technology . 3</p> <p>MET 411 Mechanical Machine Design..... 3</p> <p>MET 437 Kinematics of Machines..... 3</p> <p>MET 470 Mechanical Vibrations 2</p> <p>MET 492 Senior Design Projects I 3</p> <p>MET 493 Senior Design Projects II 3</p> <p>PDD 434 Finite Element Analysis 3</p> <p>² SET 350W Applied Technical Writing 3</p> <p>Credits at EMU: 44</p> <p>*Credits to Graduate:..... 129-133</p> <p><small>¹ Satisfies the Learning beyond the Classroom requirement.</small></p> <p><small>² Students may consult the program advisor for other writing intensive courses.</small></p> <p><small>* A minimum of 124 credits is required to graduate</small></p> | <p>Suggested Sequence for completing the program: <i>MATH 120 or MATH 140 must be completed before registering for MET courses.</i></p> <p>Any Semester (7 credits)</p> <p>MET 387 Co-op in MET.....3</p> <p>SET 350W Applied Technical Writing3</p> <p>Fall Semester (9 credits)</p> <p>MET 211 Statics.....3</p> <p>MET 314 Applied Thermodynamics & Heat Transfer3</p> <p>MET 316 Design for Manufacturing & Tooling.....3</p> <p>Winter Semester (12 credits)</p> <p>ELEC 218 Motors & Controls3</p> <p>MET 312 Applied Dynamics Principles.....3</p> <p>MET 313 Applied Mechanics of Materials3</p> <p>MET 319 Fluid Mechanics.....3</p> <p>Fall Semester (8 credits)</p> <p>MET 470 Mechanical Vibrations.....2</p> <p>MET 437 Kinematics of Machines.....3</p> <p>MET 492 Senior Design Projects I3</p> <p>Winter Semester (9 credits)</p> <p>MET 411 Mechanical Machine Design.....3</p> <p>MET 493 Senior Design Projects II3</p> <p>PDD 434 Finite Element Analysis3</p> |

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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 at both institutions (indicated below) to assure that all requirements are satisfied. Courses indicated with an * are required for EMU's Mechanical Engineering Technology Program.
2. Students whose transcripts are endorsed as "MACRAO Satisfied" will only be required to meet 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 admission to EMU.
 - a) an approved course in Quantitative Reasoning: [MATH 1410 or 1760 at Macomb] or [MATH 140 or 120 at EMU]
 - b) an approved course in Global Awareness or US Diversity: [Humanities: ENGL 2800, 2810; HUMN 1270; Social Science: ANTH 1000; GEOG 2000; HIST 1260, 1270, 1700, 2420, 2520; INTL 2000, 2010, 2300, 2500, 2700; POLS 1600; SOSC 2010 at Macomb]
 - c) an approved Learning Beyond the Classroom course or experience offered by EMU: [MET 387 at EMU]

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 the articulation guide lists 45 credit hours at EMU, it may be possible to transfer additional equivalent 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 Mechanical Engineering Technology Coordinator 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 online 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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