

PRODUCT DESIGN & DEVELOPMENT ARTICULATION AGREEMENT GUIDE

Macomb Community College–AAS in Product Development
Eastern Michigan University – BS in Product Design and Development

Macomb Community College Courses:	Transfers to Eastern Michigan University as:
Michigan Transfer Agreement Requirements (30-36 credits)	
Students with the MTA endorsement on their community college transcript have satisfied EMU's General Education Core Requirements and will be required to complete only the EMU General Education Application Requirements of one Perspectives on a Diverse World course, one Learning Beyond the Classroom experience, and one writing intensive course in the major. <u>Courses listed below for the MTA will also satisfy major requirements at MCC and/or EMU.</u> Students who started before Fall 2014 may continue to follow the MACRAO Agreement until the end of summer 2019. MACRAO versions of articulation guides are posted online at www.emich.edu/ccr . For courses approved for the MTA go to http://www.macomb.edu/resources/transfer-articulation/attachments/mta-macrao-course-list.pdf	
1. A Course in English Composition	
ENGL 1180 or ENGL 1210:	3-4 University Elective..... 3-4
2. A Course In English Composition or Communication	
Choose from the approved MTA list	3-4 University Elective..... 3-4
3. A Course in Mathematics	
* MATH 1410 College Algebra	4 MATH 105 College Algebra..... 4
4. Two Natural Science Courses from different disciplines	
* PHYS 1180 College Physics I	4 PHY 221 Mechanics, Sound and Heat..... 4
* CHEM 1050 Intro to General Chemistry.....	4 CHEM 117/118 Fundamentals of Chemistry 4
5. Two Humanities Courses from different disciplines	
Choose from the approved MTA list	6-8 University Electives 6-8
6. Two Social Science Courses from different disciplines	
Choose from the approved MTA list	6-8 University Electives 6-8
7. If needed, complete additional courses in any of the categories above to satisfy the 30 credit minimum for the MTA.	
EMU's Perspectives on a Diverse World requirement: Complete <u>one</u> course from the following list: (or any approved EMU course). Courses on the following list will satisfy an MTA area above: Communication: SPCH 2300; Humanities: ENGL 2800, 2810; INTL 2000, 2300, 2800; Social Sciences: ANTH 1000; ECON 2110; GEOG 2000; HIST 1260,1700, 2375, 2420, 2520, 2650; INTL 2500, 2700; POLS 1600; SOCY 2550; SOSC 2010;	
Macomb Product Development Major Requirements (49 credits)	
* ATMT 1150 Machine Theory –Machine Tool Lab 1	3 PDD 123 Manufacturing Processes..... 3
ATAP 1050 CNC Essentials.....	3 University Elective 3
* PRDE 1010 Design Principles	4 PDD 122 Engineering Graphics I..... 4
* PRDE 1200 Theory of Sheet Metal Fabrication.....	3 PDD 310 Formed Product Design 3
* PRDE 1300 Industrial & Materials Processes	4 PDD 111 Materials (3)+1 4
* PRDE 1400 Intro to Solidworks & 3D Parametric Solid Mod.....	3 PDD 224 3-DSolid Modeling..... 3
* PRDE 1520 NX Fundamentals	4 PDD 432 3-D Modeling & Surfacing Techniques (3)+1 4
* PRDE 1620 CATIA Essentials.....	4 PDD 433 Advanced Tool Development (3)+1..... 4
* PRDE 2000 Product Development Process	3 PDD 157 Intro to Product Design 3
* PRDE 2100 Design Intent & Analysis.....	3 PDD 350 Prototyping 3
PRDE 2200 Jig & Fixture Detailing & Design	3 University Elective..... 3
* PRDE 2400 Plastics Design & Manufacturing	3 PDD 212 Molding Materials and Processes 3
* PRDE 2430 Students Capstone Project.....	4 PDD 316 Concept Development Studio (3)+1 4
Elective: Any PRDE, ATAP, ELEC, MECT, ATWD, RNEW, ROBO	3 University elective 3
Any PHED Wellness course 2000 or above.....	2 University Elective 2
EMU Requirements that May be Taken at MCC or EMU (7 credits)	
* MATH 1430 College Trigonometry	3 MATH 107 Plane Trigonometry (2)+1 3
* PHYS 1190 College Physics 2	4 PHY 222 Electricity and Light..... 4
Credits at MCC:	86 Credits that transfer to EMU
	86

* Required for EMU's Product Design and Development major. If not completed at MCC, will have to complete at EMU.

Note: A university elective is any transferable college-level course.

Sign up with us: If you let us know you are using this articulation agreement we can stay in touch with you and provide information and advising to you while you are still at your community college. Sign up at: www.emich.edu/ccr/trackingsystem/Enter.php

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<u>Completion of EMU's Product Design and Development Program</u>	
Major Requirements	(40 credits)
ARTS 122 Three-Dimensional Design.....	3
PDD 156 Teamwork in Product Design & Devlpmt.....	3
PDD 220 Geometric Dimensioning and Tolerancing	3
PDD 309 Molded Product Design.....	3
PDD 325 Applied Statics and Strength of Materials	4
PDD 331 Product Design Data Management	3
PDD 380 Engineering Cost Estimating.....	3
¹ PDD 387L4 Coop. Education in Prod Des. & Devel.	3
PDD 435 Finite Element Analysis.....	3
PDD 491 Computer-Aided Design Studio.....	3
PDD 492 Product Realization Studio.....	3
QUAL 320 Industrial Quality Control.....	3
² SET 350W Applied Technical Writing.....	3
Credits at EMU:	40
Credits from MCC	86
*Credits to Graduate:	126
Suggested Sequence for completing the program:	
<i>See the program advisor to make a plan of study for completing this program.</i>	
First Semester winter	(13 credits)
PDD 156	3
PDD 220 (pre-reqs: PDD 122, 123).....	3
PDD 325 (pre-req: PHY 221)	4
QUAL 320 (pre-req: MATH 105).....	3
Second Semester fall	(12 credits)
PDD 309 (pre-reqs: PDD 156,157, 212, 220, & 224)	3
PDD 331 (pre-reqs: PDD 224).....	3
PDD 380 (pre-reqs: PDD 309, 310, & QUAL 320)	3
PDD 435 (pre-req: PDD 325)	3
Third Semester winter	(12 credits)
ARTS 122	3
¹ PDD 387L4 (pre-req dept permission)	3
PDD 491 (pre-reqs: PDD 432, 433, & 435).....	3
SET 350W (pre-req: ENGL 121)	3
Fourth Semester fall	(3 credits)
PDD 492 (pre-req: PDD 380)	3

¹ Satisfies EMU's Learning beyond the Classroom requirement

² Satisfies EMU's Writing Intensive requirement

*A minimum of 124 credit hours is required to graduate.

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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. Each institution will determine the satisfaction of their individual program and degree requirements. MCC courses indicated with an * are required for EMU's Product Design and Development Program.
2. Students with the MTA endorsement on their community college transcript have satisfied EMU's General Education Core Requirements and will be required to complete only the General Education Application Requirements of one Perspectives on a Diverse World course, one Learning beyond the Classroom experience, and a Writing Intensive course in their major. The Perspectives on a Diverse World requirement may be transferred from the community college.

To use the Michigan Transfer Agreement (MTA), students must have an official community college transcript, with the "MTA Satisfied" endorsement sent to EMU's Admissions Office. Students without the "MTA Satisfied" endorsement will be required to satisfy EMU's general education requirements as listed in the Undergraduate Catalog. The MTA may be completed after admission to EMU, however, students should inform advisors or they may be advised to complete additional courses for the general education program. Students who enrolled at the community college prior to September 2014 will have until the end of August 2019 to complete the MACRAO agreement.

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. Some of EMU's required courses are not available at MCC, but may be transferred from other colleges. 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. Courses listed in this guide may be completed at the best time for students, whether before or after admission to EMU, as long as appropriate pre-requisites are satisfied.
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 Product Design and Development Program Coordinator before applying to EMU. To facilitate advising and the evaluation of transcripts, sign up for this articulation agreement using this link: www.emich.edu/ccr/trackingssystem/Enter.php and bring a copy of this guide to all advising sessions.

Effective Dates September 1, 2014 until August 31, 2017.

This is a renewal of an agreement made in September 2011. If this agreement is not renewed at the end of the effective period, students will have an additional three years to be admitted to EMU under the terms of the agreement. Students who began the program prior to the effective period may use this agreement to the extent that courses completed are consistent with the agreement. In the event a student does not complete degree requirements within seven years of the date of starting this program, the student may be required to have his/her credits re-evaluated in keeping with a more recent version of this agreement.

Contacts:

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