



WESTERN MICHIGAN  
UNIVERSITY

## Program Agreement

Western Michigan University

Bachelor of Science, Engineering Design Technology, B.S.

Grand Rapids Community College

Associate of Arts, Pre-Engineering Design Technology, A.A.



I. GRAND RAPIDS COMMUNITY COLLEGE, ASSOCIATE OF ARTS (60 credits)			
GRCC Course	GRCC Course Title	WMU Equiv.	Transfer Credit Hours
CHM 130 & 131	General Chemistry I with lab	CHEM 1100 & 1110	5 HRS
EG 110	Industrial Graphics with CAD	EDMM 1420	3 HRS
EL 144	Basic Electricity and Electronics	EDMM 2001	4 HRS
MA 133	Calculus with Analytic Geometry I	MATH 1220	5 HRS
MA 134	Calculus with Analytic Geometry II	MATH 1230	5 HRS
MN 100 or DR 180	Manufacturing Principles or Introduction to Mechanical Concepts	EDMM 1500	2-3 HRS
MN 119 or MN 199	Introductory Machine Operations or Theory of Machine Operations	EDMM 2540	3-4 HRS
PH 125	College Physics I	PHYS 1130 & 1140	5 HRS
PH 126	College Physics II	PHYS 1150 & 1160	5 HRS
TE 114	Material Science	EDMM 2560	4 HRS
EN 101	English Composition I	ENGL 1050	3 HRS
EN 102, COM 131, OR COM 135	English Composition II, Fundamentals of Public Speaking, Interpersonal Communication	ENGL CR, COM 1040, COM 1700	3 HRS
Social Science- Two courses needed (Choose <b>two</b> different subject areas from the options listed to the right)	Choose <b>two</b> from the list below:		6-8 HRS
	AN 201, 205, 210, 280	ANTH 1500, 2100, 1200, HIST CR	
	EC 251, 252	ECON 2020, 2010	
	GST 200	GWS 2000	
	GE 135, 210, 253, 281	GEOG 1020, 2050, 3800, HIST CR	
	HS 101, 102, 120, 121, 160, 161, 215, 230, 251, 290	HIST 100, 1010, 3020, 3030, 2100, 2110, HIST CR	
	PS 110, 200, 201, 202, 215	PSCI 2000, 2020, 2400, 2500, CR	
	PY 201	PSY 1000	
Humanities - Two courses needed (Choose <b>two</b> different subject areas from the options listed to the right)	Choose <b>two</b> from the list below:		6-8 HRS
	AT 105, 106, 270	ART 2200, 2210, CR	
	EN 118, 233, 235, 242, 247, 248, 251, 252, 261, 262, 270, 271, 272, 278, 284	ENGL 1100, 1100, 2070, 2070, 2660, 2660, 2070, 2520, 3200, 3210, 2220, 2230, 2230, 2070	
	ARA 101, 102	ARAB 1000, 1010	
	CHI 101, 102	CHIN 1000, 1010	
	FR 101, 102, 231, 232	FREN 1000, 1010, 2000, 2010	
	GR 101, 102, 231, 232	GER 1000, 1010, 2000, 2010	
	SP 101, 102, 231, 232	SPAN 1000, 1010, 2000, 2010	
	HS 101, 102, 120, 121, 160, 161, 215, 230, 251, 290	HIST 1000, 1010, 3020, 3030, 2100, 2110, CR	
	HU 204, 205, 210, 212, 219, 220, 245, 273, 274, 281	TGE D1, TGE D1, TGE D2, CLAS 2350, CBDRO, DGE D7, TGE D1, COM 2410, REL 1000	
	MUS 110, 111, 130	TGE D1, MUS 1510, TGE D3	
	PL 201, 202, 205, 207, 209	PHIL 2000, 2250, 2010, 3140, 3140	
TH 248	THEA 1000		
Approved Major Electives	Choose <b>three</b> from this list:	BA 103, 270, 282, 284, MN 102, MN 116, MN 165, MN 200, MN 218, MN 223, MN 234, MN 238, MN 242, MN 244, MA 255, MA 257	6 HRS
<b>TOTAL CREDIT HOURS</b>			<b>65-71 CREDIT HOURS AT GRCC</b>

<b>II. WESTERN MICHIGAN UNIVERSITY, (60 credits)</b>		
<b>WMU Course</b>	<b>WMU Course Title</b>	<b>WMU Credit Hours</b>
CS 1200	Programming in C for Engineers	3 HRS
EDMM 1430	Product Design Fundamentals	3 HRS
EDMM 1440	Descriptive Geometry	3 HRS
EDMM 2460	CAD - Solid Modeling	3 HRS
EDMM 2500	Plastics Properties and Processing	3 HRS
EDMM 2810	Statics and Strength of Materials	4 HRS
EDMM 2830	Thermodynamics	2 HRS
EDMM 3020	Engineering Teams: Theory and Practice	3 HRS
EDMM 3200	Engineering Cost Analysis	3 HRS
EDMM 3440	Product and Machine Design	3 HRS
EDMM 3460	Programming for Computer-Aided Design	3 HRS
EDMM 3480	Designing for Production	3 HRS
EDMM 3540	Metrology	3 HRS
EDMM 3840	Fluid Mechanics and Hydraulics	3 HRS
EDMM 4460	CAD Applications	3 HRS
EDMM 4480	Advanced Computer-Aided Analysis	3 HRS
EDMM 4490	Advanced Product and Systems Design	3 HRS
EDMM 4910	Multidisciplinary Senior Proposal	3 HRS
EDMM 4920	Multidisciplinary Senior Project	2 HRS
EDMM 4930	Multidisciplinary Senior Project Consultation	1 HRS
IEE 2610	Engineering Statistics	3 HRS
Approved Electives	Any approved course to be chosen with your academic advisor.	6 HRS
<b>TOTAL CREDIT HOURS</b>		<b>66 CREDIT HRS AT WMU</b>

<b>TOTAL CREDITS (I –II)</b>
65-71 GRCC Credits
66 WMU Credits
<b>131-137 Total Credits</b>

#### **Advising Notes**

This degree is designed with the intent that students can take classes and be advised at the WMU Grand Rapids- Downtown location via the AMP lab.

#### **Program Agreement**

This agreement shall commence as of Thursday, January 30, 2020. This program agreement shall abide by all language of the Articulation Agreement between Grand Rapids Community College and Western Michigan University.

#### **Signatures**

##### **Grand Rapids Community College**

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Michael Merchant  
Department Head, Mechanical & Architectural Design  
Grand Rapids Community College

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Amy Mansfield, Ph.D.  
Dean, School of Workforce Development  
Grand Rapids Community College

##### **Western Michigan University**

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Timothy Greene, Ph.D.  
Acting Chair Engineering Design, Manufacturing &  
Management Systems  
Western Michigan University

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Steve E. Butt, Ph.D  
Interim Dean, College of Engineering & Applied Sciences  
Western Michigan University

\*Please Note: The signed version of the document is kept on file in the GRCC Instructional Support Office. For more information, please contact the Director of Transfer & Articulation Services at 616-234-3183.