



**COURSE ARTICULATION PLAN
IVY TECH COMMUNITY COLLEGE
ADVANCED MANUFACTURING (A.A.S.)**

**Program Articulation with
FERRIS STATE UNIVERSITY
MANUFACTURING ENGINEERING TECHNOLOGY (B.S.)**

IVY TECH COURSE	CREDITS	FERRIS STATE COURSES	CREDITS
COMM 101 Fundamentals of Public Speaking	3	COMM 121 Fundamentals of Public Speaking	3
ENGL 111 English Composition	3	ENGL 150 English I	3
MATH 136 College Algebra	3	MATH 130 Advanced Algebra-Analytical Trig	4
MATH 137 Trig w/ Analytical Geometry	3		
PHYS 101 Physics I	4	PHYS 211 Introductory Physics I	4
Humanity Elective	3	Cultural Elective	3
IVY 1XX Intro to College	1		
ADMF 101 Key Princ. Of Advance Mfg.	3	MFGT 1XX Manufacturing General Credit	3
ADMF 102 Technology in Advance Mfg.	3	MFGT 1XX Manufacturing General Credit	3
ADMF 103 Graphic Comm for Mfg.	3	MFGT 1XX Manufacturing General Credit	3
ADMF 113 Electrical & Electronics for Mfg.	3	MFGT 1XX Manufacturing General Credit	3
ADMF 115 Materials & Process for Mfg.	3	MFGT 150 Manufacturing Processes MFGT 1XX Manufacturing General Credit	2 1
ADMF 116 Automation & Robotics in Mfg. I	3	MFGT 1XX Manufacturing General Credit	3
ADMF 201 Lean Manufacturing	3	MFGT 2XX Manufacturing General Credit	3
ADMF 206 Automation & Robotics in Mfg II	3	MFGT 2XX Manufacturing General Credit	3
ADMF 211 Quality Systems in Mfg.	3	MFGT 2XX Manufacturing General Credit	3
ADMF 216 Projects in Advanced Mfg.	3	MFGT 2XX Manufacturing General Credit	3
ADMF 280 Manufacturing Co-Op/Internship	2	MFGT 2XX Manufacturing General Credit	2
ADMF REGIONALLY DETERMINED			
ENGL 112 Exposition & Persuasion, or ENGL 211 Technical Writing	3	ENGL 250 English II, or ENGL 211 Technical Writing	3
TECH 104 Computer Fundamentals, or CINS 101 Intro to Microcomputers	3	ISYS 105 Intro Micro Systems-Software	3
Science Elective (Chemistry Preferred)	3	Science Elective	3
XXXX Social Science Elective	3	Social Science Elective	3
Total hours in Advanced Manufacturing at Ivy Tech Community College	64	Total hours articulated to the BS degree in Manufacturing Engineering Technology at Ferris State University.	61

Courses a student will take at Ferris State University-Manufacturing Engineering Technology once they complete the above list of courses at Ivy Tech.

THIRD YEAR – FALL SEMESTER

MFGE 311	Industrial Engineering (MATH 116 or MATH 120)	4 _____	
MFGE 312	CNC & CAM (MFGT 110 & MFGT 114 or equivalent)	4 _____	
MFGE 341	Quality Science Statistics (MATH 116 or 120 or 126 or MATH-ACT 24 or SAT 500)	3 _____	
MATL 240	Intro. Material Science	4 _____	
PDET 122	Parametric Modeling	2 _____	
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THIRD YEAR – SPRING SEMESTER

MFGE 321	Metrology (MATH 116 or MATH 120 or MATH-ACT 24 or SAT 500)	3 _____	
MFGE 322	Production Processes	3 _____	
MFGE 324	Principles of Process Planning I (MFGE 311, 312) (MFGE 321, 326 co-req.)	3 _____	
MFGE 326	Process Tolerance Design & Analysis (Math 116 or MATH 120)	2 _____	
MFGE 342	Statistical Process Engineering (MFGE 341)	3 _____	
	Social Awareness Elective 100 level or above	3 _____	
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THIRD YEAR – SUMMER SEMESTER

MFGE 393	Internship (Department Approval)	4 _____	
	Cultural Enrichment Elective 100 level or above	3 _____	
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FOURTH YEAR – FALL SEMESTER

MFGE 411	Principles of Process Planning II (MFGE 322, MFGE 324, MFGE 342)	2 _____	
MFGE 442	Design of Experiments I (MFGE 321, MFGE 341)	3 _____	
MECH 340	Statics and Strength of Materials (MATH 126 or MATH 130, PHYS 211)	4 _____	
MATH 220	Analytical Geom. And Calculus I (MATH 126 or MATH 130)	5 _____	
WELD 416	Production Welding Processes (may be taken in alternative sequence)	2 _____	
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FOURTH YEAR – SPRING SEMESTER

MFGE 421	Automation and Systems Design (MFGE 411)	4 _____	
MFGE 422	Manufacturing Facilities Planning (MFGE 411)	3 _____	
MFGE 423	Engineering Economics (MATH 116 or 120 or 126 or MATH-ACT 24 or SAT 500)	2 _____	
PLTS 325	Plastics Processes	2 _____	
	Social Awareness Elective 200 level or above	3 _____	
	Cultural Enrichment Elective 200 level or above	3 _____	
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Total Credit as FSU

74 credits