

Name: _____

NORTH DAKOTA STATE UNIVERSITY
 College of Engineering and Architecture
Manufacturing Engineering

T = Transfer Credit
 IP = Course is 'In Progress'

Fall 2012

ID: _____

General Education Requirements - 40 Credits Required					Manufacturing Engineering Major				
Course	Number	Course Title	Credits	Grade	Course	Number	Course Title	Credits	Grade
First Year Experience (F) 1 Sem Credit					IME Courses Required - 42 Credits Required				
UNIV	189 ¹	Skills for Academic Success	1		IME	111	Introduction to IME	3	
Communication (C) 12 Sem Credits					IME	311	Work/Station Design	3	
ENGL	110	College Composition I	3		IME	330	Manufacturing Processes	3	
ENGL	120	College Composition II	3		IME	380	CAD/CAM for Manufacturing	3	
COMM	110	Fund of Public Speaking	3		IME	430	Process Engineering	3	
ENGL	321	Writing in the Tech Profession	3		IME	431	Production Engineering	3	
Quantitative Reasoning (R) 3 Sem Credits					IME	432	Composite Materials Manufacturing	3	
MATH	165	Calculus I	4		IME	440	Engineering Economy	3	
Science & Technology (S) 10 Sem Credits					IME	456	Program and Project Management	3	
CHEM	121/121L	General Chemistry I/Lab	3/1		IME	460	Evaluation of Engineering Data	3	
PHYS	252/252L	University Physics II/Lab	4/1		IME	461	Quality Assurance and Control	3	
		(Ok if Chem 122 is taken)	1		IME	480	Production and Inventory Control	3	
Humanities & Fine Arts (A) 6 Sem Credits					IME	482	Automated Manufacturing Systems	3	
			3		IME	489	Manufacturing Engineering Capstone	3	
			3		MATH Courses Required - 11 Credits Required				
Social & Behavioral Sciences (B) 6 Sem Credits					MATH	128	Intro to Linear Algebra	1	
			3		MATH	166	Calculus II	4	
			3		MATH	259	Multivariate Calculus	3	
Wellness (W) 2 Sem Credits					MATH	266	Intro to Differential Equations	3	
			2		ME Courses Required - 16 Credits Required				
Cultural Diversity (D)					ME	212	Fundamentals of Visual Comm	3	
					ME	221	Engineering Mechanics I	3	
Global Perspectives (G)					ME	222	Engineering Mechanics II	3	
					ME	223	Mechanics of Materials	3	
					ME	331	Materials Science & Engineering	4	
<p>¹Students transferring in 24 or more credits do not need to take UNIV 189.</p> <p>*CHEM 122 will complete Science and Technology category of general education, CHEM 240 will not.</p> <p>Grades less than a 'C' will not be accepted for CHEM, MATH, and PHYS.</p>					Other Courses Required - 4 Credits Required				
					ENGR	402	Engineering Ethics & Social Respon	1	
					*CHEM	122 or 240	General Chemistry II OR Survey of Organic Chemistry	3	
					IEM Electives - 18 Credits Required (approved courses on backside)				
					Computer Science Elective - 3 credits				
								3	
					Engineering and Science Requirements - 9 credits				
								3	
								3	
								3	
Technical Electives - 6 credits									
			3						
			3						
Total Credits Required for Graduation:									131

Manufacturing Engineering Approved Electives

NOTES:

*To use a course not listed, submit a "Substitute Course" form, signed and approved by the department chairperson, to the Office of Registration & Records, Ceres 110. Forms are available on the web at www.ndsu.edu/registrar (forms link)

Computer Science Electives (3 credits)			
CSCI	122	Visual BASIC	3
CSCI	126	Beginning FORTRAN	3
CSCI	160	Computer Science I	4
ECE	173	Introduction to Computing	3
Any programming language course must be approved by your advisor.			

Engineering Science Requirement (9 credits)			
Course			Credits
CE	309	Fluid Mechanics	3
ME	350	Thermodynamics/Heat Trans	3
Take 1 of the following 3 courses:			
EE	206	Circuit Analysis I	4
ECE	275	Digital Systems I	3
ECE	301	Electrical Engineering I	3

Technical Electives (6 credits)			
Approved Courses			Credits
IME	335	Welding Technology	3
IME	411	Human Factors Engr	3
IME	427	Electronics Mfg	3
IME	435	Plastics & Injection Molding	3
IME	450	Systems Engr & Mgmt	3
IME	451	Logistics Engr & Mgmt	3
IME	452	Integrated Indl Info Systems	3
IME	462	Total Quality in Indl Mgmt	3
IME	463	Reliability Engineering	3
IME	470	Operations Research 1	3
IME	472	Simulation Bus & Indl Sys	3
IME	485	Indl & Mfg Facility Design	3
IME	494	Individual Study	1-3
Maximum of 1 of the following 4 courses may be counted as technical electives.			
BUSN	340	International Business	3
MGMT	320	Foundations of Mgmt	3
MRKT	320	Foundations Marketing	3
BUSN	431	Business Law I	3

*Other technical elective courses: Students may request approval for other 300-400 level engineering or related courses to be approved as technical electives. To request approval, a student should submit a memo to their academic advisor indicating the course of interest and why the course should be approved as a technical elective. This memo will be reviewed by the academic advisor and the IME Department for approval.

300-400 level BUSN courses require at least Junior standing and a minimum 2.50 cumulative GPA.