

Name: _____

NORTH DAKOTA STATE UNIVERSITY

College of Engineering and Architecture

Mechanical Engineering

T = Transfer Credit

IP = Course is 'In Progress'

Fall 2012

ID: _____

NO GRADES LESS THAN A 'C' WILL BE ACCEPTED TO FULFILL A COURSE REQUIREMENT

General Education Requirements - 40 Credits Required

Mechanical Engineering Major

Course	Number	Course Title	Credits	Grade	Course	Number	Course Title	Credits	Grade			
First Year Experience (F)				1 Sem Credit		ME Courses Required - 50 Credits Required						
ME/UNIV	189 ¹	Skills for Academic Success	1		ME	212	Fundamentals of Visual Comm	3				
Communication (C)				12 Sem Credits		ME	213	Modeling of Engineering Systems	3			
ENGL	110	College Composition I	3		ME	221	Engineering Mechanics I	3				
ENGL	120	College Composition II	3		ME	222	Engineering Mechanics II	3				
COMM	110	Fund of Public Speaking	3		ME	223	Mechanics of Materials	3				
ENGL	321	Writing in the Tech Professions	3		ME	331	Materials Science & Engineering	4				
Quantitative Reasoning (R)				3 Sem Credits		ME	351	Thermodynamics I	3			
MATH	165	Calculus I	4		ME	352	Fluid Dynamics	3				
Science & Technology (S)				10 Sem Credits		ME	361	Intro to Mechanical Engr Profession	1			
CHEM	121	General Chemistry I	3		ME	412	Engineering Measurements	3				
CHEM	122	General Chemistry II	3		ME	421	Theory of Vibrations	3				
PHYS	252	University Physics II	4		ME	442	Machine Design I	3				
PHYS	252L	University Physics II Lab	1		ME	443	Machine Design II	3				
Humanities & Fine Arts (A)				6 Sem Credits		ME	454	Heat & Mass Transfer	3			
			3		ME	457	Thermal Systems Laboratory	3				
			3		ME	461	Design Project I	3				
Social & Behavioral Sciences (B)				6 Sem Credits		ME	462	Design Project II	3			
			3		MATH Courses Required - 12 Credits Required							
			3		MATH	129	Basic Linear Algebra	2				
Wellness (W)				2 Sem Credits		MATH	166	Calculus II	4			
			2		MATH	259	Multivariate Calculus	3				
Cultural Diversity (D)						MATH	266	Intro to Differential Equations	3			
					Other Courses Required - 11 Credits Required							
Global Perspectives (G)						ECE	301	Electrical Engineering I	3			
					ECE	303	Electrical Engineering II	3				
					ECE	306	Electrical Engineering Lab I	1				
					ENGR	402	Engineering Ethics & Social Respon	1				
					IME	330	Manufacturing Processes	3				
¹ Students transferring in 24 or more credits do not need to take ME 189. *No more than six credits of approved technical electives may be taken outside the ME department.				*Technical Electives - 15 Credits Required								
				Courses used to fulfill the technical electives are on the back of this guide.								
GPA Requirements:				Total Credits Required for Graduation:				130				
GPA for basic program entry:		2.8										
GPA for professional program entry:		2.8										
GPA for graduation:		2.5										

TECHNICAL ELECTIVES

Fall 2012

Only TWO technical elective courses may be taken from outside the Mechanical Engineering Dept. Cross-listed courses must be taken with an ME prefix in order to count as in-department. If there is not an ME prefix available and the course is being offered by another department, contact the ME office for assistance.

Course		Title	Credits
ME	332	Engineering Materials II	3
ME	341	Mechanics of Machinery	3
ME	353	Thermodynamics II	3
ME	415	Emerging Technologies in ME	3
ME	423	Intermediate Mechanics of Materials	3
ME	433	Composite Materials Science & Engineering	3
ME	435	Plastics & Interjection Molding Manufacturing	3
ME	468	Introduction to Biomechanics	3
ME	470	Renewable Energy Technology	3
ME	471	Stress Analysis	3
ME	472	Fatigue & Fracture of Metals	3
ME	473	Enginnering with Polymeric Materials	3
ME	474	Mechanics of Composite Materials	3
ME	475	Automatic Controls	3
ME	476	Mechatronics	3
ME	477	ME Finite Element Analysis	3
ME	479	Fluid Power Systems Design	3
ME	480	Advanced Fluid Dynamics	3
ME	481	Fundamentals of Energy Conversion	3
ME	482	Fuel Cell Science and Engineering	3
ME	483	Introduction to Computational Fluid Dynamics	3
ME	484	Gas Turbines	3
ME	485	Heating, Ventilation and Air Conditioning	3
ME	486	Nanotechnology & Nanomaterials	3
ME	487	Intenal Combustion Engines	3
ME	488	Introduction to Aerodynamics	3
ME	489	Vehicle Dynamics	3
Approved technical elective from other departments - No More Than 2			
ABEN	456	Biobased Energy	3
ECE	487	Cardiovascular Engineering	3
CPM	473	Polymer Synthesis	3
CPM	474	Coatings I	3
CPM	475	Coatings II	3
CPM	486	Corrosion and Materials	3
IME	440	Engineering Economy	2-4
IME	460	Evaluation of Engineering Data	3
PHYS	350	Modern Physics	3
PHYS	361	Electromagnetic Theory	3
PHYS	485	Quantum Mechanics I	3
Courses cross-listed with other departments			
ME	435/635	Plastics & Interjection Molding Manuf (IME)	3
ME	486/686	Nanotechnology & Nanomaterials (CE)	3