

Name: _____

NORTH DAKOTA STATE UNIVERSITY
COLLEGE OF ENGINEERING AND ARCHITECTURE
 Civil Engineering

T = Transfer Credit
 IP = Course is 'In Progress'
Fall 2012

ID: _____

General Education Requirements - 40 Credits Required					Civil Engineering Major				
Course	Number	Course Title	Credits	Grade	Course	Number	Course Title	Credits	Grade
First Year Experience (F)			1 Sem Credit		Civil Engineering Courses Required - 46 Credits Required				
UNIV	189 ¹	Skills for Academic Success	1		CE	111	Introduction to Civil Engineering	2	
Communication (C)			12 Sem Credits		CE	204	Surveying	4	
ENGL	110	College Composition I	3		CE	212	CE Graphic Communications	3	
ENGL	120	College Composition II	3		CE	303	Civil Engineering Materials	2	
COMM	110	Fund of Public Speaking	3		CE	303L	Civil Engineering Materials Lab	1	
ENGL	321	Writing in the Technical Professions	3		CE	309	Fluid Mechanics	3	
Quantitative Reasoning (R)			3 Sem Credits		CE	310	Fluid Mechanics Lab	1	
MATH	165	Calculus I	4		CE	316	Soil Mechanics	3	
Science & Technology (S)			10 Sem Credits		CE	343	Structural Analysis	4	
CHEM	121	General Chemistry I	3		CE	370	Introduction to Environmental Engr	3	
CHEM	121L	General Chemistry I Lab	1		CE	371	Environmental Engr Lab	1	
CHEM	122	General Chemistry II	3		CE	404	Reinforced Concrete	3	
GEOL	105	Physical Geology	3		CE	408	Water Resources & Supply	3	
Humanities & Fine Arts (A)			6 Sem Credits		CE	418	Transportation Engineering	4	
ENGR	311*	History of Technology in America	3		CE	444	Structural Steel Design	3	
			3		CE	483	Contracts and Specifications	3	
Social & Behavioral Sciences (B)			6 Sem Credits		CE	489	Senior Design	3	
ENGR	312*	Impact of Technology on Society	3		MATH Courses Required - 11 Credits Required				
			3		MATH	128	Introduction to Linear Algebra	1	
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 - 23 Credits Required				
Global Perspectives (G)					CHEM	122L	General Chemistry II Lab	1	
GEOL	105	Physical Geology			ENGR	402	Engineering Ethics & Social Respon	1	
<p>¹Students transferring in 24 or more credits do not need to take UNIV 189.</p> <p>*Transfer students are required to take either ENGR 311 or 312 regardless of General Education completion.</p> <p>No grades less than 'C' accepted in any of the Math courses or in ME 221, 222, 223 for this curriculum.</p> <p>**Technical Elective Requirements: Students must complete courses in a minimum of three technical areas with a minimum of 6 credits in design for a minimum total of 12 technical electives</p>					IME	440	Engineering Economy	2	
					IME	460	Evaluation/Engineering Data	3	
					ME	221	Engineering Mechanics I	3	
					ME	222	Engineering Mechanics II	3	
					ME	223	Mechanics of Materials	3	
					ME	350	Thermodynamics & Heat Transfer	3	
					PHYS	252	University Physics II	4	
					**Technical Electives Required - 12 Credits Required				
					A list of approved courses is provided by the department.				
					AREA	COURSE	DESIGN	CREDITS	GRADE
Total Credits Required for Graduation:			133		Min. of 3		6	12	

**NORTH DAKOTA STATE UNIVERSITY
TECHNICAL ELECTIVES OFFERED BY CIVIL ENGINEERING**

Area	Normally taught in Fall	CR	DS	Normally taught in Spring	CR	DS
Structures	CE 441 Finite Element Analysis	3	1.0	CE 411 Prestressed Concrete	2	1.0
	CE 446 Dynamics of Structures	3	0.5	CE 425 Bridge Evaluation and Rehabilitation	3	1.5
				CE 447 Stability of Structures	3	1.5
				CE 430 Timber Design	3	1.5
				CE 445 Advanced Steel Design	2	1.0
				CME 465 Bridge Engineering & Mgmt (added spr 08)	3	1.5
Water Resources	CE 477 Applied Hydrology	3	1.5	CE 421 Open Channels	3	1.5
				CE 476 Watershed Modeling	3	1.5
Environmental	CE 410 Water & Wastewater Engr	3	1.5	CE 473 Air Pollution	3	1.5
	CE 472 Solid Waste Management	3	1.5	CE 479 Advance Water & Wasterwater	3	1.5
	CE 478 Water Quality Management	3	1.5	CE 471 Environmental Nanotechnology	3	1.5
	CE 499 Groundwater Remediation	3	1.5	CE 471 Environmental Nanotechnology	3	1.5
Transportation	CE 458 Bituminous Materials & Mixes	3	1.5	CE 419 Pavement Design	3	1.5
	CE 454 Geometric Highway Design	3	2.0	CE 499 Infrastructure Sustainability & Recycling NOT IN BULLETIN	2	1.0
	CE 455 Airport Planning & Design	2	1.0			
	CE 456 Railroad Planning & Eng	2	1			
	CE 457 Pavement Management Systems	2	1.0			
Geotechnical	CE 461 Foundation Engineering	2	1.0	CE 417 Slope Stability & Retaining Walls	2	1.0
	CE 464 Advanced Soil Mechancis	2	1.0	CE 462 Designing w/ Geosynthetics	2	1.0
				CE 463 Geotechnical Earthquake Engineering	3	1.5
Advanced Materials				CE 486 Fundamentals of Nanotechnology	3	0.0

NOTES:

DS indicate design credits. Six of the 12 credits of technical must be design credits.

Of the 12 credits in technical electives, at least one course each must be selected from 3 of the six areas shown above.

This list may be revised slightly, depending on student demand and staff availability.

ABOVE SUBJECT TO MINOR CHANGES!!!