Name: _____

ID: _____

NORTH DAKOTA STATE UNIVERSITY

College of Engineering and Architecture

Agricultural Engineering Concentration

T = Transfer Credit

IP = Course is 'In Progress'

Fall 2012

General Education Requirements - 40 Credits Required				
Course	**Number**	**Course Title**	**Credits**	**Grade**
First Year Experience (F)			1 Sem Credit	
ABEN	189[1]	Skills for Academic Success	1	
Communication (C)			12 Sem Credits	
ENGL	110	College Composition I	3	
ENGL	120	College Composition II	3	
COMM	110	Fund of Public Speaking	3	
ENGL*			3	
Quantitative Reasoning (R)			3 Sem Credits	
MATH	165	Calculus I	4	
Science & Technology (S)			10 Sem Credits	
CHEM	121	General Chemistry I	3	
CHEM	122	General Chemistry II	3	
PHYS	252/L	University Physics II/Lab	4/1	
Humanities & Fine Arts (A)			6 Sem Credits	
			3	
			3	
Social & Behavioral Sciences (B)			6 Sem Credits	
			3	
			3	
Wellness (W)			2 Sem Credits	
			2	
Cultural Diversity (D)				
Global Perspectives (G)				

[1]Students transferring in 24 or more credits do not need to take ABEN 189.

*Select from ENGL 321, 324, or 459

Total Credits Required for Graduation:	**133**

Agriculture Concentration - 91 Credits Required				
Course	**Number**	**Course Title**	**Credits**	**Grade**
ABEN Courses - 29 Credits Required				
ABEN	110	Introduction to ABEN	2	
ABEN	255	Computer Aided Analysis/Design	3	
ABEN	263	Biological Materials Processing	3	
ABEN	377	Modeling in ABEN	3	
ABEN	482	Instrumentation and Measurements	3	
ABEN	486	Design Project I	2	
ABEN	487	Design Project II	2	
ABEN	491	Seminar	1	
ABEN	496	Field Experience/Ag Technology Expo	1	
ABEN Electives - 9 Credits Required				
			3	
			3	
			3	
MATH Courses - 11 Credits Required				
MATH	128	Intro to Linear Algebra	1	
MATH	166	Calculus II	4	
MATH	259	Multivariate Calculus	3	
MATH	266	Intro to Differential Equations	3	
ME Courses - 15 Credits Required				
ME	212	Fundamentals of Visual Communication for Eng	3	
ME	221	Engineering Mechanics I	3	
ME	222	Engineering Mechanics II	3	
ME	223	Mechanics of Materials	3	
ME	350	Thermodynamics	3	
Additional Courses - 13 Credits Required				
CE	309	Fluid Mechanics	3	
CE	310	Fluid Mechanics Lab	1	
ECE	301	Electrical Engineering I	3	
ENGR	402	Engineering Ethics & Social Respon	1	
IME	440	Engineering Economy	2	
IME	460	Evaluation of Engineering Data	3	
Program Electives - 23 Credits Required (approved courses on backside)				
Computer Elective - 3 Credits Required				
			3	
Business or Communication Elective - 3 Credits Required				
			3	
CHEM/BIOL Science Electives - 9 Credits Required				
			3	
			3	
			3	
Technical Electives - 8 Credits Required				

AGRICULTURAL ENGINEERING Curriculum Guide Continued

SUGGESTED ELECTIVES (consult your academic advisor)					
Agricultural Systems		**Environmental Systems**		**Biomaterials Systems**	
ABEN 358	3	ABEN 358	3	ABEN 358	3
ABEN 383	3	ABEN 444	3	ABEN 450	3
ABEN 444	3	ABEN 450	3	ABEN 452	3
ABEN 452	3	ABEN 452	3	ABEN 456	3
ABEN 456	3	ABEN 456	3	ABEN 458	3
ABEN 458	3	ABEN 464	4	ABEN 484	3
ABEN 464	4	ABEN 484	3		
ABEN 473	3	ASM 454	3	MICR 350	3
ABEN 478	3			CHEM 240	3
ASM 454	3	MICR 350	3	CHEM 341	3
CE 343	4	CHEM 240	3	CHEM 341L	1
CE 404	3	CHEM 341	3	CHEM 342	3
ECE 303	3	CHEM 341L	1	BIOC 460	3
IME 330	3	RNG 326	3	BIOC 460L	1
IME 335	3	SOIL 210	3	CFS 210	2
IME 380	3	SOIL 410	3	CFS 430	2
IME 430	3	SOIL 480	3	CFS 450	3
IME 431	3			CFS 470	3
IME 450	3	CE 204	4	CFS 471	1
IME 455	2	CE 370	3		
IME 456	3	CE 371	1	ME 331	4
IME 461	3	CE 408	3	ME 423	3
ME 331	4	CE 410	3	ME 442	3
ME 341	3	CE 421	3	ME 454	3
ME 353	3	CE 451	2	IME 450	3
ME 421	3	CE 472	3	IME 460	3
ME 423	3	CE 473	3	IME 461	3
ME 442	3	CE 477	3	ECE 303	3
ME 454	3	CE 478	3		
ME 471	3	CE 479	3		
ME 473	2	CE 483	3		
ME 474	3	ECE 303	3		
ME 475	3	ME 454	3		
ME 479	3				
ME 487	2				

SUGGESTED EMPHASIS AREA (consult with advisor)

Agricultural Systems

Select electives with emphasis on machine, power, structural, and electrical/electronic systems to solve problems involving engineering aspects of food, feed, and fiber production.

Environmental Systems

Select electives with emphasis on areas that contribute to solving problems in environmental engineering, natural resources management, hydrology, irrigation, watershed management, and waste management.

Biomaterial Systems

Select electives with emphasis on combining engineering, biological, and physical sciences in the application of engineering principles to handling and processing of biomaterials for food and non-food products.

Computer Elective (choose 1 course)	
CE 212	Civil Engr Graphic Comm
CSCI 160	Computer Science I
CSCI 122	Visual Basic
ECE 173	Intro to Computing
ME 213	Model Engr Systems
GEOG 455	Intro to GIS
IME 380	CAD/CAM for Manuf.

CHEM/BIOL Sci/Environmental Electives	
ANSC 123	Feeds & Feeding
ANSC 220	Livestock Production
BIOL 111/L	Concepts of Biology/Lab
BIOL 124/L	Environmental Science/Lab
BIOL 150/L	General Biology I/Lab
BIOL 151/L	General Biology II/Lab
CFS 210	Intro to Food Science
CFS 370	Food Processing I
CHEM 121L	General Chemistry I Lab
CHEM 122L	General Chemistry II Lab
CHEM 240	Survey of Organic Chemistry
ENT 210	Insects, Humans, & the Environ
MICR 202/L	Intro to Microbiology/Lab
PLSC 110	World Food Crops
PLSC 225	Principles of Crop Production
PLSC 315	Genetics
PLSC 320	Principles of Forage Production
PLSC 323	Principles of Weed Science
PLSC 335	Seed Technology and Production
RNG 225	Nat Res & Agro-Ecosystems
SOIL 210	Intro to Soil Science
SOIL 217	Intro to Meteorology & Climate
SOIL 410	Soil and Land Use

Business or Communication Electives	
AGEC 242	Intro to Agricultural Mgmt
AGEC 244	Agricultural Marketing
AGEC 246	Intro to Agricultural Finance I
ACCT 102	Fundamentals of Accounting
ACCT 200	Elements of Accounting I
ACCT 201	Elements of Accounting II