

Department of Agricultural and Biosystems Engineering - North Dakota State University
AGRICULTURAL ENGINEERING CONCENTRATION
FALL 2009

STUDENT _____

STUDENT ID # _____

ADVISOR _____

	FALL				SPRING			
	Course	Crs	Grade	Gen Ed	Course	Crs	Grade	Gen Ed
Freshman (<27 crs)	ABEN 110 <i>Intro to ABEN</i>	2			ME 212 <i>Fund of Visual Comm.</i>	3		
	ABEN 189* <i>Skills/Academic Success</i>	1		F	ME 221 <i>Engineering Mechanics I</i>	3		
	CHEM 121 <i>General Chemistry I</i>	3		S	CHEM 122 <i>General Chemistry II</i>	3		S
	ENGL 110** <i>College Composition I</i>	3		C	ENGL 120 <i>College Composition II</i>	3		C
	MATH 165 <i>Calculus I</i>	4		R	MATH 166 <i>Calculus II</i>	4		
	CHEM/BIO Elective (see side bar and back)	3			ABEN 496 <i>Ag Technology Expo</i>	1		
	Total	16			Total	17		
Sophomore (27-59 crs)	ABEN 255 <i>Comp. Aided Analysis/Design</i>	3			ABEN 263 <i>Biomaterials Processing</i>	3		
	COMM 110 <i>Fund Public Speaking</i>	3			CE 309 <i>Fluid Mechanics</i>	3		
	ME 222 <i>Engineering Mechanics II</i>	3			PHYS 252 <i>Univ Physics II</i>	4		S
	ME 223 <i>Mechanics of Materials</i>	3			PHYS 252L <i>Univ Physics Lab II</i>	1		L
	MATH 259 <i>Multivariate Calculus</i>	3			MATH 266 <i>Intro Diff Equations</i>	3		
	MATH 128 <i>Intro to Linear Algebra</i>	1			Computer Elective (see back)	3		
	Gen Ed Elective (see side bar)	2		W				
Total	18			Total	17			
Junior (60 - 89 crs)	CE 310 <i>Fluid Mechanics Lab</i>	1			ABEN 377 <i>Modeling in ABEN</i>	3		
	IME 460 <i>Eval Engr Data (or STAT 330)</i>	3			ECE 301 <i>Electrical Engineering I</i>	3		
	ME 350 <i>Thermodynamics</i>	3			ENGR 402 <i>Engr Ethics & Social Resp</i>	1		
	ABEN Elective (see side bar and back)	3			ABEN Elective (see side bar and back)	3		
	CHEM/BIO Elective (see side bar and back)	3			Tech Elective (see side bar and back)	3		
	ENGL 321 <i>or other Intensive Writing Course</i>	3			Gen Ed Elective (see side bar)	3		A or B
	Total	16			Total	16		
Senior (90 + crs)	ABEN 486 <i>Design Project I</i>	2			ABEN 487 <i>Design Project II</i>	2		
	ABEN 491 <i>Seminar</i>	1			ABEN 482 <i>Inst. & Measurements</i>	3		
	IME 440 <i>Engineering Economy</i>	2			CHEM/BIO Elective (see side bar and back)	3		
	ABEN Elective (see side bar and back)	3			Gen Ed Elective (see side bar)	3		A or B
	Tech Elective (see side bar and back)	5			Gen Ed Elective (see side bar)	3		A or B
	Gen Ed Elective (see side bar and back)	3		A or B	Business or Communication elective	3		
	Total	16			Total	17		

General Education Electives			
Gen Ed	Course	Crs	Grade
A		3	
A		3	
B		3	
B		3	
D ■	(double-count with A or B above)	3	
G ●	(double-count with A or B above)	3	
W		2	

General Education Categories:

A - Humanities/Fine Arts
 B - Social/Behavioral Sciences
 C - Communication
 D - Cultural Diversity ■
 F - First-Year Experience

G - Global Perspectives ●
 L - Co-requisite Lab
 R - Quantitative Reasoning
 S - Science & Technology
 W - Wellness

Program Electives		
Select courses in consultation with your advisor.		
Course	Crs	Grade
ABEN Electives - 9 credits required		
CHEM/Biol Sci./Envir. - 9 credits required		
Tech Electives - 8 credits required		

Transfer Students:

"T" indicates requirement satisfied with a transfer course.
 "IP" indicates a course currently in progress.

Total Credits 133

* ABEN 189 is required for students that transfer in fewer than 24 earned transfer credits

** First year students with a composite ACT score \geq 21 should register for ENGL 120 (unless transfer credit for ENGL 120 is received). If ENGL 120 is completed with a grade of "C" or better, three credits will be awarded for ENGL 110 with a passing grade (P). For more details on NDSU's English Placement process, go to www.ndsu.edu/cfwriters

AGRICULTURAL ENGINEERING Curriculum Guide Continued

SEMESTER	ABEN REQUIRED	ABEN ELECTIVES	ABEN GRADUATE
2009-2010			
FALL	110-2	358-3	652-3
	189-1	452-3	679-3
	255-3	473-3	
	486-2	479-3	
491-1			
SPRING	263-3	456-3	656-3
	377-3	478-3	678-3
	482-3		682-3
	487-2		
2010-2011			
FALL	110-2	458-3	658-3
	189-1	473-3	673-3
	255-3	479-3	679-3
	486-2		790-1
	491-1		791-3
SPRING	263-3	444-3	644-3
	377-3	464-4	664-4
	482-3		682-3
	487-2		758-3

SUGGESTED EMPHASIS AREAS (consult your academic 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 Eng Graphic Comm	3 cr
CSCI 122 - Visual BASIC	3 cr
ME 213 - Modeling of Engineering Systems	3 cr
GEOG 455 - Intro to GIS	3 cr

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

CHEM/Biol Sci/Environmental Electives

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