PRE-AGRICULTURAL ENGINEERING

Agricultural engineering (AGEN) is one of two engineering degree programs offered in the Department of Biological Systems Engineering at UNL. AGEN students emphasize coursework in one of three engineering areas: machine design, test, or soil and water resources. Thus, some agricultural engineers are involved in the analysis and design of field machinery systems and machine components through study of the principles of mechanical design, joining techniques, hydraulics, controls, ergonomics, and safety. Others are evaluating machine or mechanical system functional performance based on study of test procedure standards, measurements, data acquisition, electronic communication and statistics, and practical experience gained at the Nebraska Tractor Test Laboratory. Still others are analyzing and designing soil and water management-related infrastructure as aided through study of irrigation, drainage, erosion and runoff control techniques, crop tillage and cultivation practices, and natural resources management. Job opportunities for graduates are available in industry, public agencies, consulting, and private practice.

Students choosing the pre-agricultural engineering program on the Scott Campus in Omaha should be aware that there are five courses in the first two years (AGEN 100, AGEN 112, AGEN 225, AGEN 260, and MSYM 232); 12 total credit hours) for which there are no equivalents on the Scott Campus. AGEN 100 will be waived for students in the pre-agricultural engineering program who transfer to Lincoln to complete their degree program. This waiver doesn't reduce the minimum number of required credits to earn the degree.

Requirements

Course	Title	Credits
First Year		
First Semester		
MATH 1950	CALCULUS I	5
CHEM 1180	GENERAL CHEMISTRY I	3
CHEM 1184	GENERAL CHEMISTRY I LABORATORY	1
ENGR 100	INTERPERSONAL SKILLS FOR ENGINEERING LEADERS	3
ENGR 10	FRESHMAN ENGINEERING SEMINAR	0
CSCI 2240	INTRODUCTION TO C PROGRAMMING	3
	Credits	**15**
Second Semester		
MATH 1960	CALCULUS II	4
CHEM 1190	GENERAL CHEMISTRY II	3
CHEM 1194	GENERAL CHEMISTRY II LABORATORY	1
PHYS 2110	GENERAL PHYSICS I - CALCULUS LEVEL	4
ACE Elective [1]		3
	Credits	**15**
Second Year		
First Semester		
MATH 1970	CALCULUS III	4
PHYS 2120	GENERAL PHYSICS-CALCULUS LEVEL	4
MECH 223	ENGINEERING STATICS	3
CONE 206	ENGINEERING ECONOMICS	3
ECEN 211	ELEMENTS OF ELECTRICAL ENGINEERING	3
ENGR 20	SOPHOMORE ENGINEERING SEMINAR	0
	Credits	**17**
Second Semester		
MATH 2350	DIFFERENTIAL EQUATIONS	3
MECH 373	ENGINEERING DYNAMICS	3
ACE Elective [1]		3
MECH 200	ENGINEERING THERMODYNAMICS	3
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (ACE Elective) [1]	3
ACE Elective [1]		3
	Credits	**18**
	Total Credits	**65**

Other courses available:

Code	Title	Credits
BIOL 1020	PRINCIPLES OF BIOLOGY	4
CIVE 310	FLUID MECHANICS	3
STAT 3800	APPLIED ENGINEERING PROBABILITY AND STATISTICS	3
ACE Elective [1]		3

1 Ace elective: Selected from ACE elective (SLO 5, 6, 7, or 9) list.

2 ENGL 3980: EPPE sophomore level placement or successful completion of ENGL 1160/ENGL 1164 required.