



Department of Agriculture
College of Science, Technology, Engineering, and Math (2025-26)

Agriculture Engineering Technology Concentration (Agriculture B.S. Degree)

Agriculture at EKU

The Agriculture Engineering Technology curriculum provides hands-on, rigorous career training to prepare you for a rewarding and successful career. A wide array of jobs are available to graduates in the Agriculture Engineering Technology field, bridging the gap between the engineer and the technician. In conjunction with EKU's Department of Applied Engineering Management, our program stresses the latest technical information in the classroom with hands-on application through laboratories. Hands-on-training is reinforced through practicums at the university farms and industry cooperative education. Our small class size promotes interaction between students and faculty. We are small enough to care for you as an individual but large enough to provide every career opportunity.

Career Opportunities

The practical instruction and hands-on application enable you to be an immediate asset to employers. You will join the ranks of successful EKU graduates in areas such as agriculture sales, farm management, production, product testing, quality assurance management, environmental engineering, project engineering, biomedical engineering, design technology, environmental consulting, network engineering, and pursuing advanced degrees. The United States Department of Agriculture predicts a shortfall of graduates in these areas.

Philosophy

The Department of Agriculture blends scientific theory with practical application and hands-on experiences. Current concepts and theories are presented in the classroom and then applied in the laboratory with the faculty member as the laboratory supervisor using a hands-on approach. Practicum classes at the university enterprises and through cooperative education are further utilized to reinforce the practical application of scientific theory. Professors are experienced, enthusiastic, and passionate about providing students the skills necessary to succeed with the ever-changing technology and environment.

Department Facilities & Student Organizations

The Agriculture Program at EKU is supported by excellent classroom laboratories and facilities at the A.B. Carter Building, including a modern computer laboratory, ag mechanics shop, animal and plant science biotechnology laboratories equipped for research and cell cloning are also available. There are also garden displays, turf plots, and 5 greenhouses. Students will have the unique opportunity to work directly with and observe practical applications of agricultural technology at EKU's 1,100-acre Meadowbrook Farm located only eight miles from campus with an on-site classroom. The farm gives students an opportunity to experience all aspects of modern production in beef, dairy, sheep, swine, and crop enterprises. Students have the opportunity to develop their extracurricular leadership skills through the Agriculture/Collegiate Farm Bureau Club, Block & Bridle Club, Delta Tau Alpha Agriculture Honor Society, Horticulture Club, Pre-Vet Club, and Sigma Alpha Sorority.

For More Information

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Suggested Curriculum Guide for Agriculture Engineering Technology Concentration

Freshman (1st semester) 16 hrs

GSD 101	Foundations of Learning	3
AEM 201	Metallic Material Processes	3
AGR 130/131	Plant Science with Lab -OR-	4
OHO 131/132	Principles of Horticulture with Lab	
AGR 115	Operation of Agricultural Equipment	3
Gen. Ed. 1A (ENG 101)		3

Sophomore (1st semester) 16 hrs

AEM 330	Materials Testing and Metrology	3
AGR 213	Principles of Ag Mechanics and Energy Sys	3
^G CHE 101	Introduction to Chemistry	3
CHE 101L	Introduction to Chemistry Lab	1
^G ECO 120	Economic Reasoning and Issues	3
INF 104	Computer Lit and Software Appl -OR-	3
TEC 161	Computer Applications in Technology	

Junior (1st semester) 15 hrs

AEM 308	Methods of Lean Operations	3
AGR 304	Pest Management	4
AGR 305	Professional Skills Seminar	1
AGR 310	Principles of Agribusiness Management	3
AGR 340	Conservation of Agricultural Resources	3
AGR 301	Directed Work Experience -OR-	1
AGR 349	Applied Learning in Agriculture	

Senior (1st semester) 12 hrs

AEM 407	Fundamentals of Project Management	3
AEM 362	Hydraulic Systems	2
AGR 301	Directed Work Experience -OR-	1
AGR 349	Applied Learning in Agriculture	
Gen. Ed. 5A (History)		3
Gen. Ed. 3B Course 2		3

Freshman (2nd semester) 16 hrs

AEM 195	Computer Aided Drafting	3
AGR 125	Principles of Animal Science	3
^G BIO 111/111L	Cell and Molecular Biology -OR-	4
^G BIO 112/112L	Ecology and Evolution	
Gen. Ed. 1B (ENG 102)		3
Gen. Ed. 2 (Math)		3

Sophomore (2nd semester) 16 hrs

AEM 301	Non-Metallic Material Processing	3
AGR 215	Principles of Soils	3
AGR 216	Principles of Soils Laboratory	1
AGR 308	Agricultural Economics	3
STA 215	Introduction to Statistical Reasoning	3
Gen. Ed. 1C (Oral Communications)		3

Junior (2nd semester) 15 hrs

AEM 202	Introduction to Quality	3
AEM 352	Robotics and Automated Systems	3
AGR 319	Renewable & Sustainable Energy Sys	3
Gen. Ed. 3A (Arts)		3
Gen. Ed. 3B (Humanities) Course 1		3

Senior (2nd semester) 14 hrs

AEM 310	Technical Communication	3
AGR 411	Senior Seminar	1
AGR 301	Directed Work Experience -OR-	1
AGR 349	Applied Learning in Agriculture	
AGR 499	Ag Advocacy and Issues Capstone -OR-	3
AGR 509	Ag Research Methods and Interpretation	
Gen. Ed. 5B Course 2		3
Free Elective		3

^G Denotes that 3 credit hours from the course are/can be applied to fulfill Gen Ed. Requirements.

UNIVERSITY GRADUATION REQUIREMENTS

General Education	39 hours
Foundations in Learning (GSD 101; waived for transfers with 30+ hrs)	36 hours
Upper division courses (42 hrs. distributed throughout Major/Supporting/Gen Ed/Free Electives categories)	3 hours

MAJOR REQUIREMENTS

Core Courses.

AGR 125, AGR 130 and 131(1) or OHO 131 and 132(1), AGR 115, AGR 213, AGR 215, AGR 216(1), AGR 301 or AGR 349, AGR 304(4), AGR 305(1), AGR 308, AGR 310, AGR 319, AGR 340, AGR 411(1), AGR 499 or AGR 509, INF 104 or TEC 161.

Agriculture Engineering Technology Concentration Requirements.

AEM 195, AEM 201, AEM 202, AEM 301, AEM 308, AEM 310, AEM 330, AEM 352, AEM 407, AGR 362(2).

Supporting Course Requirements.

^GBIO 111 and 111L or ^GBIO 112 and 112L, ^GCHE 101 and CHE 101L, ^GECO 120, ^GMAT 112A/B, STA 215.

Free Electives.....3 hours

Total Curriculum Requirements

120 hours