Department of Agriculture
College of Science, Technology, Engineering, and Math (2024-25)

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 ever 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) 15 hrs			**Freshman (2nd semester) 16 hrs**		
§GSD 101	Foundations of Learning	3	AEM 195	Computer Aided Drafting	3
AEM 201	Metallic Material Processes	3	INF 104	Computer Lit and Software Appl -OR-	3
AGR 130/131	Plant Science with Lab -OR-	4	TEC 161	Computer Applications in Technology	
OHO 131/132	Principles of Horticulture with Lab		BIO 111	Cell and Molecular Biology -OR-	4
AGR 115	Operation of Agricultural Equipment	2	BIO 112	Ecology and Evolution	
Gen. Ed. 1A (ENG 101)		3	Gen. Ed. 1B (ENG 102)		3
			Gen. Ed. 2 (Math)		3
Sophomore (1st semester) 16 hrs			**Sophomore (2nd semester) 16 hrs**		
AEM 330	Materials Testing and Metrology	3	AEM 301	Non-Metalic Material Processing	3
AGR 213	Principles of Ag Mechanics and Energy Sys	3	AGR 215	Principles of Soils	3
AGR 170	Appl of Unmanned Ariel Systems in Ag	3	AGR 216	Principles of Soils Laboratory	1
CHE 101	Introduction to Chemistry	3	AGR 308	Agricultural Economics	3
CHE 101L	Introduction to Chemistry Lab	1	STA 215	Introduction to Statistical Reasoning	3
ECO 120	Economic Reasoning and Issues	3	Gen. Ed. 1C (Oral Communications)		3
Junior (1st semester) 15 hrs			**Junior (2nd semester) 15 hrs**		
AEM 308	Methods of Lean Operations	3	AEM 202	Introduction to Quality	3
AGR 304	Pest Management	4	AEM 352	Robotics and Automated Systems	3
AGR 305	Professional Skills Seminar	1	AGR 319	Renewable & Sustainable Energy Sys	3
AGR 310	Principles of Agribusiness Management	3	Gen. Ed. 3A (Arts)		3
AGR 340	Conservation of Agricultural Resources	3	Gen. Ed. 3B (Humanities)		3
AGR/OHO Experiential Learning		1			
Senior (1st semester) 15 hrs			**Senior (2nd semester) 14 hrs**		
AEM 407	Fundamentals of Project Management	3	AEM 310	Technical Communication	3
AEM 362	Hydraulic Systems	2	AGR 411	Senior Seminar	1
AGR 383	Diesel Power Systems	3	AGR/OHO Capstone		3
AGR 570	Advanced Technical Agriculture	3	AGR/OHO Experiential Learning		1
AGR/OHO Experiential Learning		1	Gen. Ed. 5A (History)		3
Gen. Ed. 6 (Diversity)		3	Gen. Ed. 6 (Diversity)		3

§ Course must be taken in the semester indicated

UNIVERSITY GRADUATION REQUIREMENTS.....39 hours

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

MAJOR REQUIREMENTS

Core Courses.....40 hours

AGR 130 and 131(1) or OHO 131 and 132(1); AGR 115(2), AGR 170, AGR 213, AGR 215, AGR 216(1), AGR 304(4), AGR 305(1), AGR 308, AGR 310, AGR 319, AGR 340, AGR 411(1); Plus three hours from (AGR experiential learning): AGR/OHO 301(1-6), AGR 302, AGR/OHO 349(1-6); Plus one course from (AGR/OHO capstone): AGR/OHO 499, AGR 509, OHO 498.

Agriculture Engineering Technology Concentration Requirements.....35 hours

AEM 195, AEM 201, AEM 202, AEM 301, AEM 308, AEM 310, AEM 330, AEM 352, AEM 407, AGR 362(2), AGR 383, AGR 570.

Supporting Course Requirements.....8 hours

BIO 111(4) or BIO 112(4); CHE 101, CHE 101L(1); ECO 120, MAT 112A/B, STA 215; INF 104 or TEC 161.

Total Curriculum Requirements **122 hours**