ENGINEERING TECHNOLOGY AND MANAGEMENT FOR AGRICULTURAL SYSTEMS, PH.D.

for the Doctor of Philosophy in Engineering Technology and Management for Agricultural Systems

The degree of Doctor of Philosophy is primarily a research degree requiring from three to four years of graduate study beyond the master's degree or five to six years for students admitted directly with a bachelor's degree. The major area of specialization integrates courses and research that are closely related in content, though courses may be drawn from multiple departments. Students work with their advisor and research committee to create a focused plan of study in their primary area, complemented by approved electives. To graduate, candidates must demonstrate their capacity for independent research by completing an original dissertation on a topic within the major field of study and successfully pass both preliminary and final examinations.

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ETMAS Ph.D. Curriculum with approved MS degree

Code	Title	Hours
ABE 501	Graduate Seminar: Foundations of Success	1
ABE 502	Graduate Seminar: Advanced Career Skills	1
ABE 503	Graduate Seminar: Integrity, Teaching and Research	1
ABE 501, 502 and 503 are not required if taken for the ETMAS MS		

Code	Title	Hours
Choose one course in statistics or data analytics:		
ABE 445	Statistical Methods	4
CPSC 541	Regression Analysis	4
CPSC 543	Appl. Multivariate Statistics	4
PSYC 581	Applied Regression Analysis	4
PSYC 587	Hierarchical Linear Models	4
EPSY 480	Educational Statistics	4
STAT 420	Methods of Applied Statistics	4
One course in research methods including experimental design		
CPSC 540	Applied Statistical Methods II	4
EPSY 403	Research Methods in Learning Sciences	4
Required course subtotal:		11
Elective courses - chosen in consultation with advisor; one of the courses must be 500-level (subject to Other Requirements and Conditions below)		10
Subtotal for course credit hours:		At least 21
ETMA 599	Thesis Research	Up to 43
Total Hours		**64**

Other Requirements

Code	Title	Hours
Other Requirements and Conditions may overlap		
One 500-level course (at least 3 credit hours) must be formal coursework, not seminar courses, special topics or independent study		
A maximum of 4 hours of ETMA 597 (or other independent study) may be applied toward the elective course work requirement		
Teaching experience determined in consultation with advisor with department guidelines		
The minimum program GPA is 3.0		
Ph.D. exam and dissertation requirements:		
Preliminary Exam		
Final Exam or Dissertation Defense		
Dissertation Deposit		

Direct PhD in ETMAS - with approved BS degree

Code	Title	Hours
ABE 501	Graduate Seminar: Foundations of Success	1
ABE 502	Graduate Seminar: Advanced Career Skills	1
ABE 503	Graduate Seminar: Integrity, Teaching and Research	1
ABE 501, 502 and 503 are not required if taken for the ETMAS MS		
Choose one course in statistics or data analysis:		4
ABE 445	Statistical Methods	4
CPSC 541	Regression Analysis	4
CPSC 543	Appl. Multivariate Statistics	4
PSYC 581	Applied Regression Analysis	4
PSYC 587	Hierarchical Linear Models	4
EPSY 480	Educational Statistics	4
STAT 420	Methods of Applied Statistics	4
Choose one course in research methods including experimental design:		4
CPSC 540	Applied Statistical Methods II	4
EPSY 403	Research Methods in Learning Sciences	4
In addition to above 2 courses in stats and research methods, the student is required to take one more course from any of the three areas (stats, data analysis or research methods) above		4
Required course subtotal:		15

Elective courses - chosen in consultation with advisor, at least two courses are 500-level (subject to Other Requirements and Conditions below)		27
Subtotal for course credit hours:		At least 42
ETMA 599	Thesis Research	Up to 54
Total Hours		**96**

Other Requirements

Code	Title	Hours
Other Requirements and Conditions may overlap		
Two 500-level courses (at least 3 credit hours each) must be formal coursework, not seminar courses, special topics or independent study		
A maximum of 8 hours of ETMA 597 (or other independent study) may be applied toward the elective course work requirement		
Teaching experience determined in consultation with advisor with departmental guidelines		
The minimum program GPA is 3.0		
Ph.D. exam and dissertation requirements:		
Qualifying requirements review in the 2nd year. It is required to complete all courses in stats, data analysis and research methods by the 3rd semester with a 3.25 or higher GPA		
Preliminary Exam		
Final Exam or Dissertation Defense		
Dissertation Deposit		

for the Doctor of Philosophy in Engineering Technology and Management for Agricultural Systems

The PhD program in Engineering Technology and Management for Agricultural Systems (ETMAS) prepares graduates to make significant contributions to the field through research, innovation, and leadership. Students completing the program will demonstrate mastery of advanced concepts in engineering technology as applied to agricultural systems, while conducting independent research that generates new knowledge in the field. Through their doctoral studies, they will develop the ability to design and implement rigorous research methodologies, create innovative solutions to complex agricultural challenges, and effectively communicate their findings to diverse stakeholders.

Specifically, upon completing the program, students will demonstrate:

1. Advanced knowledge and research capabilities in engineering technology and management for agricultural systems.
2. Proficiency in research design and execution, applying appropriate methodologies and advanced data analysis to agricultural technology and management challenges.
3. An ability to develop and validate innovative solutions that integrate engineering technology, systems approaches, and management principles for agricultural systems.
4. Effective communication of research findings through scholarly writing and presentations to agricultural technology and management stakeholders.
5. Responsible conduct in research while considering technological, managerial, economic, and societal implications.
6. Commitment to professional growth and adaptation to emerging technologies and management practices in agricultural systems.

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Department of Agricultural & Biological Engineering

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College of Agricultural, Consumer & Environmental Sciences (ACES)

College of Agricultural, Consumer & Environmental Sciences website (http://catalog.illinois.edu/schools/aces/)

Admissions

Graduate College Admissions & Requirements (https://grad.illinois.edu/admissions/apply/)