ENGINEERING TECHNOLOGY & MANAGEMENT FOR AGRICULTURAL SYSTEMS, BS

for the degree of Bachelor of Science Major in Engineering Technology & Management for Agricultural Systems

The major in Engineering Technology and Management for Agricultural Systems is designed to prepare students as problem solvers for systems involving the application, management, and/or marketing of engineering technologies. Students are instructed in engineering and business principles in preparation as technically competent business persons for professional careers as entrepreneurs, marketing representatives, or plant managers working with service organizations, manufacturers, corporate farms, retail dealers, power suppliers, contractors, or management companies from production through processing and distribution.

Students pursuing this major select one of four concentrations:

- Agricultural Production & Processing (http://catalog.illinois.edu/undergraduate/eng_aces/engineering-technology-management-agricultural-systems-bs/agricultural-production-processing/)
- Construction Management (http://catalog.illinois.edu/undergraduate/eng_aces/engineering-technology-management-agricultural-systems-bs/construction-management/)
- Digital & Precision Agriculture (http://catalog.illinois.edu/undergraduate/eng_aces/engineering-technology-management-agricultural-systems-bs/digital-precision-agriculture/)
- Energy & the Environment (http://catalog.illinois.edu/undergraduate/eng_aces/engineering-technology-management-agricultural-systems-bs/energy-environment/)

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Prescribed Courses including Campus General Education

Code	Title	Hours
Composition I and Speech		
Select one of the following:		6-7
RHET 105 & CMN 101	Writing and Research and Public Speaking (or equivalent (see college Composition I requirement))	
CMN 111 & CMN 112	Oral & Written Comm I and Oral & Written Comm II	
Advanced Composition		**3-4**
Select from the list below		
AGCM 220	Communicating Agriculture	
BADM 340	Ethical Dilemmas of Business	
BTW 250	Principles Bus Comm	
BTW 261	Principles Tech Comm	
ECE 316	Ethics and Engineering	
ESE 360	Environmental Writing	
ETMA 311	Humanity in the Food Web	
LEAD 230	Leadership Communications	
NRES 419	Env and Plant Ecosystems	
PLPA 200	Plants, Pathogens, and People	
Cultural Studies		**9**
Select one course from Western culture, one from non-Western culture, and one from U.S. minority culture from campus approved lists.		
Foreign Language		
Coursework at or above the third level is required for graduation.		
Quantitative Reasoning I		
MATH 234	Calculus for Business I (or equivalent)	4
Quantitative Reasoning II		**3 or 4**
Select one of the following:		
ACE 262	Applied Statistical Methods and Data Analytics I	
CPSC 241	Intro to Applied Statistics	
ECON 202	Economic Statistics I	
STAT 107	Data Science Discovery	
Natural Sciences and Technology		
CHEM 102 & CHEM 103	General Chemistry I and General Chemistry Lab I	4
PHYS 101	College Physics: Mech & Heat	5
Select one of the following:		4-5
CHEM 104 & CHEM 105	General Chemistry II and General Chemistry Lab II	
OR		
PHYS 102	College Physics: E&M & Modern	
Humanities and the Arts		
Select from campus approved list.		6
Social and Behavioral Sciences		
ACE 100	Introduction to Applied Microeconomics	3-4
or ECON 102	Microeconomic Principles	
Social and behavioral sciences. Select from campus approved list.		3 or 4
ACES Prescribed		
ACES 101	Contemporary Issues in ACES	2
ETMA Required		
CS 105	Intro Computing: Non-Tech	3
ETMA 100	Technical Systems in Agr	3
ETMA 339	Optimization in Engineering Technology and Management	3
ETMA 421	Industrial and Agricultural Safety-Injury Prevention	3
or ETMA 422	Industrial and Agricultural Occupational Illness Prevention	
ETMA 430	Project Management	2
ETMA 439	Capstone Experience	4
Business electives		**6**
A total of 6 hours from the Business Electives list which do not satisfy any other requirements.		
ACCY 200	Fundamentals of Accounting	3
ACCY 201	Accounting and Accountancy I	3
ACCY 202	Accounting and Accountancy II	3
ACCY 211	Understanding Financial Statements	3

ACCY 212	Understanding Accounting for Business Decisions	3
ACE 210	Environmental Economics	3
ACE 240	Personal Financial Planning	3
ACE 310	Natural Resource Economics	3
ACE 345	Finan Decision Indiv Sm Bus	3
ACE 346	Tax Policy and Finan Planning	3
ACE 432	Advanced Farm Management	3 or 4
ACE 435	Global Agribusiness Management	3
AGCM 270	Ag Sales and Persuasive Communication	3
BADM 300	The Legal Environment of Bus	3
BADM 310	Mgmt and Organizational Beh	3
BADM 311	Leading Individuals and Teams	3
BADM 312	Designing and Managing Orgs	3
BADM 313	Strategic Human Resource Management	3
BADM 314	Leading Negotiations	3
BADM 320	Principles of Marketing	3
BADM 322	Marketing Research	3
BADM 323	Marketing Communications	3
BADM 326	Pricing Strategy	3
FIN 221	Corporate Finance	3
FIN 230	Introduction to Insurance	3
LER 290	Introduction to Employment Law	3
LEAD 140	Harnessing Your Interpersonal Intelligence	2
LEAD 260	Foundations of Leadership	3
LEAD 340	Leadership Ethics & Society: Addressing Contemporary Challenges	3
LEAD 380	Leadership in Groups and Teams	3
LEAD 440	Interpersonal Intelligence for Professional Success	2
SE 361	Emotional Intelligence Skills	3
SE 400	Engineering Law	3 or 4
TE 230	Design Thinking/Need-Finding	3
TE 250	From Idea to Enterprise	2
TE 333	Creativity, Innovation, Vision	4
TE 360	Lectures in Engineering Entrepreneurship	1
TE 450	Startups: Incorporation, Funding, Contracts, & Intellectual Property	3
Introductory Related Courses		
Select 2 courses from the list for your concentration.		6-8
ETMA Electives		
A total of 20 hours from the list for your concentration with a minimum of 11 hours at the advanced level.		20
Concentration Electives		
Select 18 hours from the list for your concentration, which do not satisfy any other requirements, with a minimum of 12 hours at the advanced level.		18
Total Hours		**126**

ETMAS majors will need 40 hours of upper-level courses (300- and 400-level) to satisfy the campus minimum requirement of 40 hours of advanced coursework.

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Sample Sequence

This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence.

Students must fulfill their Language Other Than English requirement by successfully completing a third level of a language other than English. For more information, see the corresponding section on the Degree General and Education Requirements page *(*http://catalog.illinois.edu/general-information/degree-general-education-requirements/*).*

First Year

First Semester	Hours	Second Semester	Hours
ETMA 100	3	CHEM 102	3
ACES 101	2	CHEM 103	1
RHET 105 or CMN 101	4	CMN 101 or RHET 105	3
ACE 100 or ECON 102	4	MATH 234	4
Language Other than English (3rd level)	4	ETMA Elective	3
	17		**14**

Second Year

First Semester	Hours	Second Semester	Hours
CHEM 104	3	PHYS 101	5
CHEM 105	1	ETMA Elective	3
CS 105	3	Quantitative Reasoning General Education course	3
Business Elective	3	ETMA Elective	3
ETMA Elective	2	Introductory related course	3
General Education course	3		
	15		**17**

Third Year

First Semester	Hours	Second Semester	Hours
ETMA 422 or 421	3	ETMA 339	3
ETMA Elective	3	Concentration Elective	3
Concentration Elective	3	Business Elective	3
Introductory Related Course	3	General Education course	3
General Education course	3	General Education course	3
	15		**15**

Fourth Year

First Semester	Hours	Second Semester	Hours
ETMA 430	2	ETMA 439	4

ETMA Elective	3	ETMA Elective	3
Concentration Elective	3	Concentration Elective	3
Concentration Elective	3	General Education course	3
Concentration Elective	3	General Education course	3
General Education course	3		
	17		**16**

Total Hours 126

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Students graduating with the B.S. in Engineering Technology & Management for Agricultural Systems should be able to:

1. Obtain subject matter expertise
2. Identify problems and develop problem solving abilities / critical thinking
3. Function effectively on multidisciplinary teams
4. Demonstrate professional and ethical values
5. Communicate effectively in written and oral forms
6. Engage in life-long learning skills
7. Develop leadership and interpersonal skills
8. Analyze and interpret data
9. Understand social and cultural contexts
10. Develop global perspective

for the degree of Bachelor of Science Major in Engineering Technology & Management for Agricultural Systems in the Department of Agricultural & Biological Engineering.

Agricultural & Biological Engineering
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College of Agricultural, Consumer & Environmental Sciences
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Urbana, IL 61801

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Admissions
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University of Illinois Undergrad Admissions (https://www.admissions.illinois.edu/)