ENGINEERING TECHNOLOGY & MANAGEMENT FOR AGRICULTURAL SYSTEMS: AGRICULTURAL PRODUCTION & PROCESSING, BS

for the degree of Bachelor of Science Major in Engineering Technology & Management for Agricultural Systems: Agricultural Production & Processing concentration

department website: https://abe.illinois.edu/undergraduate/
department faculty: https://abe.illinois.edu directory/faculty (https://abe.illinois.edu directory/faculty/)

overview of college admissions & requirements: Agricultural, Consumer & Environmental Sciences (http://catalog.illinois.edu/schools/aces/academic-units/#text)
college website: https://aces.illinois.edu/

Students in the Agricultural Production & Processing concentration learn the technology, machinery, and management of the agricultural production system. Students will gain knowledge and skills in topics including: 1) the agricultural industry from an operational and management perspective; 2) agricultural machinery, grain storage systems, and bioprocessing systems; 3) numerical and scientific processes to drive management decisions; and 4) the science and management of the complete food production system. Graduates of the Agricultural Production & Processing concentration are prepared for careers in industry with both small and large companies, agricultural retailers and service providers, production farming operations, government and environmental agencies, or for entrance into graduate or professional school.

for the degree of Bachelor of Science Major in Engineering Technology & Management for Agricultural Systems, Agricultural Production & Processing concentration

Prescribed Courses including Campus General Education

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHET 105 &amp; CMN 101</td>
<td>Writing and Research and Public Speaking (or equivalent (see college Composition I requirement))</td>
<td>6-7</td>
</tr>
<tr>
<td>CMN 111 &amp; CMN 112</td>
<td>Oral &amp; Written Comm I and Oral &amp; Written Comm II</td>
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</tbody>
</table>

Advanced Composition 3-4

Select from the below list

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
LEAD 230 Leadership Communications
NRES 419 Env and Plant Ecosystems
PLPA 200 Plants, Pathogens, and People
TSM 311 Humanity in the Food Web

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 General Chemistry I 4
& CHEM 103 and General Chemistry Lab I
PHYS 101 College Physics: Mech & Heat 5
Select one of the following: 4-5

CHEM 104 General Chemistry II
& CHEM 105 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
Select from campus approved list. 3 or 4

ACES Prescribed
ACES 101 Contemporary Issues in ACES 2

TSM Required
CS 105 Intro Computing: Non-Tech 3
TSM 100 Technical Systems in Agr 3
TSM 339 Optimization in Engineering Technology and Management 3
TSM 421 Ag Safety-Injury Prevention 3
or TSM 422 Ag Health-Illnesses Prevention
TSM 430 Project Management 2
TSM 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

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2 Engineering Technology & Management for Agricultural Systems: Agricultural Production & Processing, BS

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

Concentration Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td></td>
<td><strong>Introductory Related Courses</strong></td>
<td></td>
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<tr>
<td></td>
<td>Select 2 courses from the list for your concentration.</td>
<td>6-8</td>
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<tr>
<td></td>
<td><strong>TSM Electives</strong></td>
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<tr>
<td></td>
<td>A total of 20 hours from the list for your concentration with a</td>
<td>20</td>
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<tr>
<td></td>
<td>minimum of 11 hours at the advanced level.</td>
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<td></td>
<td><strong>Concentration Electives</strong></td>
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<tr>
<td></td>
<td>Select 18 hours from the list for your concentration, which</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>do not satisfy any other requirements, with a minimum of 12</td>
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<tr>
<td></td>
<td>hours at the advanced level.</td>
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<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td>126</td>
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<td></td>
<td>ETMAS majors will need 40 hours of upper-level courses (300-</td>
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<td></td>
<td>and 400-level) to satisfy the campus minimum requirement of</td>
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<tr>
<td></td>
<td>40 hours of advanced coursework.</td>
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Pick four classes from no more than two of these categories:

### Animal Production & Processing
- ANSC 219 Meat Technology
- ANSC 223 Animal Nutrition
- ANSC 301 Food Animal Production, Management, and Evaluation
- ANSC 310 Meat Selection and Grading
- ANSC 322 Livestock Feeds and Feeding
- ANSC 400 Dairy Herd Management
- ANSC 401 Beef Production
- ANSC 402 Sheep and Goat Production
- ANSC 403 Pork Production
- ANSC 404 Poultry Science
- ANSC 424 Pet Food & Feed Manufacturing

### Food Production & Processing
- FSHN 232 Science of Food Preparation
- FSHN 260 Raw Materials for Processing
- FSHN 345 Strategic Operations Management
- FSHN 460 Food Processing Engineering
- FSHN 465 Principles of Food Technology
- FSHN 469 Package Engineering
- FSHN 471 Food & Industrial Microbiology
- FSHN 472 Applied Food Microbiology

### Horticultural Production & Processing
- HORT 205 Local Food Systems
- HORT 341 Greenhouse Mgmt and Production
- HORT 360 Vegetable Crop Production
- HORT 361 Small Fruit Production
- HORT 363 Postharvest Handling Hort Crop
- HORT 435 Urban Food Production
- PLPA 405 Plant Disease Diagnosis & Mgmt

### Crop Production & Processing
- CPSC 212 Introduction to Plant Protection
- CPSC 270 Applied Entomology
- CPSC 408 Integrated Pest Management
- CPSC 412 Principles of Crop Production
- CPSC 414 Forage Crops & Pasture Ecology
- CPSC 415 Bioenergy Crops
- CPSC 418 Crop Growth and Management
- CPSC 426 Weed Mgt in Agronomic Crops
- CPSC 473 Mgmt of Field Crop Insects
- NRES 474 Soil and Water Conservation
- NRES 488 Soil Fertility and Fertilizers
- PLPA 405 Plant Disease Diagnosis & Mgmt

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