

AGRICULTURAL SYSTEMS TECHNOLOGY CURRICULUM
Agricultural and Biosystems Management option
(2012-2013 Catalog)
129 credits required for graduation

Interpersonal and Public Communication Skills (13 credits)

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|---|---------------------|---|
| 3 | ENGL 150 (F.S.SS.) | Critical Thinking and Communications |
| 3 | ENGL 250 (F.S.SS.) | Written, Oral, Visual, and Electronic Composition |
| 3 | ENGL 302 (F.S.SS.) | Business Communication, or |
| | ENGL 309 (F.S.) | Report and Proposal Writing, or |
| | ENGL 314 (F.S.SS.) | Technical Communication, or |
| | AGEDS 327 (F.S.) | Advanced Communication for Agriculture and Life Sciences |
| 3 | SP CM 212 (F.S.SS.) | Fundamentals of Public Speaking, or |
| | AGEDS 311 (F.S.) | Presentation and Sales Strategies for Agricultural Audiences, or |
| | COMST 214 (F.S.) | Professional Communications |
| 1 | LIB 160 (F.S.SS.) | Information Literacy |

Mathematical, Physical, and Life Sciences (26-29 credits)

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|---|---------------------|--|
| 3 | MATH 142 (F.S.SS.) | Trigonometry and Analytic Geometry and |
| 4 | MATH 160 (F.S.) | Survey of Calculus; or |
| 4 | MATH 165 (F.S.SS.) | Calculus I |
| 4 | PHYS 111 (F.S.SS.) | General Physics |
| 4 | PHYS 112 (F.S.SS.) | General Physics |
| 3 | STAT 104 (F.S.SS.) | Introduction to Statistics |
| 4 | CHEM 163 (F.S.SS.) | General Chemistry |
| 1 | CHEM 163L (F.S.SS.) | Laboratory in General Chemistry |
| 3 | BIOL 101 (F.S.SS.) | Introductory Biology or |
| | BIOL 211 (F.S.) | Principles of Biology I |
| 3 | Life Sciences | (College of Agriculture and Life Science list)
www.agstudent.iastate.edu/agriculturestudentservices/life_science.htm |

Humanities, Ethics and Social Sciences (15 credits) Certain courses in this section may be double counted to fulfill more than one academic requirement. Check with your advisor and this link for more details:

<http://www.abe.iastate.edu/undergraduate-students/advising-for-ast-i-tech/>

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|---|-----------------------------|--|
| 3 | ECON 101 (F.S.SS.) | Principles of Microeconomics |
| | From approved lists: | |
| 3 | Humanities | (College of Agriculture and Life Science list)
www.agstudent.iastate.edu/agriculturestudentservices/humanities.htm |
| 3 | Ethics Course | (College of Agriculture and Life Science list)
www.agstudent.iastate.edu/agriculturestudentservices/ethicslist.html |
| 3 | International Perspectives | (University list)
www.iastate.edu/%7eregistrar/courses/ip-list.html |
| 3 | U.S. Diversity | (University list)
www.iastate.edu/~registrar/courses/diversity-list.html |

Technology Core (28 credits)

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|---|-------------------|---|
| 1 | TSM 110 (F.) | Introduction to Technology |
| 1 | TSM 111 (S.) | Experiencing Technology |
| 3 | TSM 115 (F.S.) | Solving Technological Problems |
| 3 | TSM 116 (F.S.) | Introduction to Design in Technology |
| 1 | TSM 201 (F.S.) | Preparing for Workplace Seminar |
| 3 | TSM 210 (F.S.) | Fundamentals of Technology |
| 3 | TSM 270 (F.) | Principles of Injury Prevention |
| 3 | TSM 310 (S.) | Total Quality Improvement |
| 4 | TSM 363 (S.) | Electric Power and Electronics for Agriculture and Industry |
| R | TSM 397 (F.S.SS.) | Internship in Technology |
| 2 | TSM 399 (F.S.SS.) | Work Experience in Technology |
| 3 | TSM 415 (F.S.) | Technology Capstone I |
| 3 | TSM 416 (F.S.) | Technology Capstone II |

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Business Core (6 credits)

3	ACCT 284 (F.S.SS.)	Financial Accounting
3	ECON 230 (F.S.)	Farm Business Management or
	ECON 334 (F.S.)	Entrepreneurship in Agriculture or
	ECON 336 (F.)	Agricultural Selling or
	ECON 355 (F.S.)	International Trade and Finance or
	MGMT 370 (F.)	Management and Organization or
	MGMT 414 (F.)	International Management or
	SCM 301	Supply Chain Management or
	SCM 437	Project Management or
	TSM 408 (odd F. even S.)	Interdisciplinary Problem Solving or
	TSM 409 (odd F. even SS.)	Interdisciplinary Systems Effectiveness

Option Core (33 credits)

2	TSM 322 (S.)	Preservation of Grain Quality
1	TSM 322L (S.)	Preservation of Grain Quality
3	TSM 324 (S.)	Soil and Water Conservation Management
3	TSM 325 (F.)	Biorenewable Systems
3	TSM 327 (F.)	Animal Production Systems
3	TSM 330 (S.)	Agricultural Machinery and Power Management
3	TSM 333 (F.)	Precision Farming Systems
15	Technical Electives	See Departmental List

Departmental Technical Elective List for Agricultural and Biosystems Management Option (ABM):

Accounting

3	ACCT 215	Legal Environment of Business
3	ACCT 285	Managerial Accounting
3	ACCT 316	Business Law

Aerospace Engineering

3	AER E 381	Introduction to Wind Energy
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Agricultural Engineering

1	A E 271	Engineering Applications of Parametric Solid Modeling
1	A E 272	Parametric Solid Models, Drawings, and Assemblies Using Pro/ENGINEER

Agronomy

3	AGRON 114	Principles of Agronomy
3	AGRON 154	Fundamentals of Soil Science
3	AGRON 206	Introduction to Weather and Climate
4	AGRON 212	Crop Growth, Productivity and Management
3	AGRON 317	Principles of Weed Science
3	AGRON 334	Forage Crop Management
3	AGRON 338	Seed Science and Technology
3	AGRON 354	Soils and Plant Growth
4	AGRON 356	Site-Specific Crop and Soil Management
3	AGRON 360	Environmental Soil Science
3	AGRON 450	Issues in Sustainable Agriculture
3	AGRON 485	Soil Microbial Ecology

Animal Science

2	AN S 114	Survey of the Animal Industry
3	AN S 216	Equine Science
3	AN S 223	Poultry Science
3	AN S 224	Companion Animal Science
3	AN S 225	Swine Science
3	AN S 226	Beef Cattle Science

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3	AN S 229	Sheep Science
3	AN S 235	Dairy Cattle Science
3	AN S 270	Foods of Animal Origin
1	AN S 270L	Foods of Animal Origin Laboratory
3	AN S 319	Animal Nutrition
3	AN S 331	Domestic Animal Reproduction
1	AN S 332	Laboratory Methods in Animal Reproduction
3	AN S 336	Domestic Animal Behavior and Well-Being
3	AN S 360	Fresh Meats
3	AN S 424	Companion Animal Systems Management
3	AN S 425	Swine Systems Management
3	AN S 426	Beef Cattle Systems Management
3	AN S 429	Sheep Systems Management
3	AN S 434	Dairy Systems Management
3	AN S 460	Processed Meats
Biology		
3	BIOL 212	Principles of Biology II
4	BIOL 312	Ecology
3	BIOL 381	Environmental Systems I: Introduction to Environmental Systems
3	BIOL 487	Microbial Ecology
Community & Regional Planning		
3	C R P 451	Introduction to Geographic Information Systems
Economics		
3	ECON 230	Farm Business Management
3	ECON 235	Introduction to Agricultural Markets
3	ECON 301	Intermediate Microeconomics
3	ECON 302	Intermediate Macroeconomics
3	ECON 320	Labor Economics
3	ECON 332	Cooperatives
3	ECON 333	Advanced Farm Business Management
3	ECON 334	Entrepreneurship in Agriculture
3	ECON 336	Agriculture Selling
3	ECON 353	Money, Banking and Financial Institutions
3	ECON 376	Rural, Urban and Regional Economics
Entomology		
2	ENT 211	Insects and Society
3	ENT 283	Pesticide Application Certification
3	ENT 370	Insect Biology
3	ENT 374	Insects and Our Health
3	ENT 376	Fundamentals of Entomology and Pest management
Environmental Science		
4	ENSCI 402	Watershed Hydrology
3	ENSCI 404	Global Change
3	ENSCI 486	Aquatic Ecology
1	ENSCI 486L	Aquatic Ecology Laboratory
Environmental Studies		
2	ENV S 201	Introduction to Environmental Issues
2	ENV S 204	Biodiversity
3	ENV S 293	Environmental Planning
3	ENV S 324	Energy and the Environment
3	ENV S 380	Environmental and Resource Economics
3	ENV S 382	Environmental Sociology
3	ENV S 383	Environmental Politics and Policies
3	ENV S 450	Issues in Sustainable Agriculture

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3	ENV S 491	Environmental Law and Planning
Food Science and Human Nutrition		
3	FS HN 101	Food and the Consumer
3	FS HN 351	Introduction to Food Engineering Concepts
2	FS HN 403	Food Laws, Regulation and Regulatory Process
3	FS HN 471	Food Processing I
2	FS HN 472	Food Processing II
Forestry		
3	FOR 485	Conversion for Lignocellulosic Materials
Horticulture		
3	HORT 221	Principles of Horticulture Science
4	HORT 332	Greenhouse Operation, Management, and Crop Production
4	HORT 422	Postharvest Technology
Management Information Systems		
3	MIS 330	Management Information Systems
3	MIS 331	Intermediate Business Programming
3	MIS 432	Information Systems Analysis
3	MIS 433	Database Management Systems
3	MIS 437	Project Management
Management		
3	MGMT 310	Entrepreneurship and Innovation
3	MGMT 370	Management of Organizations (Note: not if used in business core requirements.)
3	MGMT 371	Organizational Behavior
Marketing		
3	MKT 340	Principles of Marketing
3	MKT 343	Personal Sales
3	MKT 410	Promotional Strategy
3	MKT 442	Sales Management
3	MKT 446	Retailing
3	MKT 447	Consumer Behavior
3	MKT 448	Global Marketing
3	MKT 451	Marketing Channels
Microbiology		
2	MICRO 201	Introduction to Microbiology
3	MICRO 302	Biology of Microorganisms
3	MICRO 419	Foodborne Hazards
3	MICRO 420	Food Microbiology
Natural Resources and Ecology Management		
3	NREM 345	Natural Resource Photogrammetry and Geographic Information Systems
4	NREM 407	Watershed Management
3	NREM 446	Integrating GPS and GIS for Natural Resource Management
Plant Pathology		
2	PL P 391	Practical Plant Health
3	PL P 408	Principles of Plant Pathology
Psych		
3	PSYCH 250	Psychology of the Workplace
Supply Chain Management		
3	SCM 301	Supply Chain Management
3	SCM 422	Manufacturing Planning and Control
3	SCM 424	Process Management, Analysis, and Improvement
3	SCM 428	Special Topics in Operations Management
3	SCM 437	Project Management
3	SCM 440	Supply Chain Information Systems
3	SCM 460	Decision Tools for Logistics and Operations Management

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3	SCM 461	Principles of Transportation
3	SCM 462	Transportation Carrier Management
3	SCM 466	International Transportation and Logistics
3	SCM 485	Demand Planning and Management
3	SCM 486	Principles of Purchasing and Supply Management
3	SCM 487	Strategic Supply Chain Management

Technology

Any 300 level or higher TSM and AE course not required in the technology or option cores.