

AGRICULTURAL SYSTEMS & INDUSTRIAL TECHNOLOGY CURRICULUM
Agriculture and Biosystems Management
(2007-2009 Catalog)
128.5 credits required for graduation

Interpersonal and Public Communication Skills (12.5 credits)

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|-----|-------------------|--|
| 6 | Engl 150 (F.S.SS) | Critical Thinking and Communications and |
| | 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 |
| 3 | SpCm 212 (F.S.SS) | Fundamentals of Public Speaking, or |
| | AgEdS 311 (F.S) | Presentation and Sales Strategies for Agricultural Audiences |
| 0.5 | Lib 160 (F.S.SS) | Library Instruction |

Mathematical, Physical, and Life Sciences (29 credits)

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|---|----------------------|--------------------------------------|
| 3 | Math 142 (F.S.SS) | Trigonometry and Analytic and |
| 4 | Math 160 (F.S) | Survey of Calculus; or |
| 4 | Math 165 (F.S.SS) | Calculus I |
| 4 | Physics 111 (F.S.SS) | General Physics and |
| 4 | Physics 112 (F.S.SS) | General Physics |
| 3 | Stat 104 (F.S.SS) | Introduction to Statistics |
| 4 | Chem 163 (F.S.SS) | General Chemistry and |
| 1 | Chem 163L (F.S.SS) | Laboratory in General Chemistry |
| 6 | Life Sciences | See Departmental List |

Departmental List for Life Science

Biology

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|---|-------------------|-------------------------|
| 3 | BIOL 101 (F.S.SS) | Introductory Biology |
| | or | |
| 3 | BIOL 211 (F.S) | Principles of Biology I |
| 3 | BIOL 155 (F.S) | Human Biology |
| 3 | BIOL 173 (F.S) | Environmental Biology |

Natural Resources Ecology and Management

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|---|----------------|-------------------------------------|
| 3 | NREM 120 (F.S) | Introduction to Renewable Resources |
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Biochemistry, Biophysics, and Molecular Biology

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|---|--------------|--|
| 3 | BBMB 221 (F) | Structure and Reactions in Biochemical Processes |
|---|--------------|--|

Humanities, Ethics and Social Sciences (15 credits)

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| 3 | Econ 101 (F.S.SS) | Principles of Microeconomics |
| | From approved lists: | |
| 3 | Humanities | (College of Agriculture list)
www.agstudent.iastate.edu/agriculturestudentservices/humanities.htm |
| 3 | Ethics Course | (College of Agriculture list)
http://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 (30 credits)

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|---|----------------|---|
| 1 | TSM 110 (F) | Introduction to Technology |
| 1 | TSM 111 (S) | Experiencing Technology |
| 1 | TSM 201 (S) | Entrepreneurship and Internship Seminar |
| 1 | TSM 301 (S) | Ethics and Leadership Seminar |
| 1 | TSM 401 (F) | Senior Seminar |
| 3 | TSM 115 (F.S.) | Solving Technological Problems |
| 3 | TSM 210 (F) | Fundamentals of Technology |
| 3 | TSM 116 (F.S) | Introduction to Design in Technology |
| 4 | TSM 363 (F) | Electric Power and Electronics for Agriculture and Industry |

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3	TSM 270 (F)	Principles of Injury Prevention
3	TSM 310 (S)	Total Quality Improvement
2	TSM 399 (F.S.SS)	Work Experience in Technology
R	TSM 397 (F.S.SS)	Internship in Technology
2	TSM 415 (F.S.)	Technology Capstone I
2	TSM 416 (F.S.)	Technology Capstone II

Business Core (6 credits)

3	ACCT 284 (F.S.SS)	Financial Accounting
3	ECON 330 (F.S)	Farm Business Management or
3	ECON 336 (F)	Agricultural Selling or
3	ECON 355 (F.S)	International Trade and Finance or
3	MGMT 370 (F.S.SS)	Management and Organization or
3	MGMT 414 (F)	International Management

Option Core (33 credits)

3	TSM 322 (S)	Preservation of Grain Quality
3	TSM 324 (S)	Soil and Water Conservation Management
3	TSM 327 (F)	Animal Production Systems
3	TSM 330 (F.S)	Agricultural Machinery and Power Management
3	TSM 333 (F)	Precision Farming Systems
3	TSM 424 (F)	Impacts of Agriculture on Water Quality
3	TSM 426 (F)	Technology Applications in Bioprocessing
12	Technical Electives	See Departmental List

Technical Elective List for Ag & Bio Systems Management Option (AST)

Accounting

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

Agronomy

3	AGRON 114	Principles of Agronomy
3	AGRON 154	Fundamentals of Soil Science
3	AGRON 206	Introduction to Meteorology
4	AGRON 212	Crop Growth, Productivity and Management
1	AGRON 306	Use of Weather Data in Agriculture
3	AGRON 312	Crop Management Decision Making
3	AGRON 317	Principles of Weed Science
2	AGRON 334	Forage Crop Management
3	AGRON 338	Seed Science and Technology
3	AGRON 354	Soils and Plant Growth (Note: also cross-listed as HORT 354)
4	AGRON 356	Soil, Fertilizer, & Water Management
3	AGRON 360	Environmental Soil Science
3	AGRON 485	Soil Microbial Ecology (Note: also cross-listed as ENSCI 485 and MICRO 485)

Animal Science

2	ANS 114	Survey of the Animal Industry
3	ANS 216	Equine Science
3	ANS 223	Poultry Science
3	ANS 224	Companion Animal Science
3	ANS 225	Swine Science
3	ANS 226	Beef Cattle Science
3	ANS 229	Sheep Science
3	ANS 235	Dairy Cattle Science
3	ANS 250	Food Animal Science

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3	ANS 270	Foods of Animal Origin
3	ANS 319	Animal Nutrition
3	ANS 311	Animal Reproduction
2	ANS 336	Domestic Animal Behavior and Well-Being
3	ANS 360	Fresh Meats
3	ANS 423	Poultry Systems Management
3	ANS 424	Companion Animal Systems Management
3	ANS 425	Swine Systems Management
3	ANS 426	Beef Cattle Systems Management
3	ANS 429	Sheep Systems Management
3	ANS 434	Dairy Systems Management
3	ANS 460	Processed Meats
Biology		
3	BIOL 212	Principles of Biology II
4	BIOL 312	Ecology (Note: also cross-listed as A ECL 312 and ENSCI 312)
4	BIOL 381	Environmental Systems
3	BIOL 487	Aquatic and Wetland Microbial Ecology (Note: also cross-listed as ENSCI 487 and MICRO 487)
Community and Regional Planning		
3	CRP 451	Introduction to Agricultural Markets
Economics		
3	ECON 235	Introduction to Agricultural Markets
4	ECON 301	Intermediate Microeconomics
3	ECON 302	Intermediate Macroeconomics
3	ECON 320	Labor Economics
3	ECON 326	Law and Economics
3	ECON 330	Farm Business Management
3	ECON 331	Entrepreneurship in Agriculture
3	ECON 332	Cooperatives
3	ECON 336	Agriculture Selling
3	ECON 353	Money, Banking & Financial Institutions
3	ECON 376	Rural, Urban and Regional Economics
4	ECON 430	Advanced Farm Business Management
4	ECON 451	Agricultural Law
Entomology		
2	ENT 211	Insects and Society
3	ENT 370	Insect Biology
3	ENT 374	Insects and Our Health (Note: also cross-listed as MICRO 374)
3	ENT 376	Fundamentals of Entomology and Pest management
Environmental Science		
4	ENSCI 402	Watershed Hydrology and Surficial Processes
3	ENSCI 404	Global Change
4	ENSCI 483	Environmental Biogeochemical
3	ENSCI 486	Aquatic Ecology
1	ENSCI 486L	Aquatic Ecology Laboratory
Environmental Studies		
2	ENV S 201	Introduction to Environmental Issues
3	ENV S 293	Environmental Planning
3	ENV S 304	Biodiversity
2	ENV S 324	Energy and the Environment
2	ENV S 380	Environmental and Resource Economics
3	ENV S 382	Environmental Sociology
3	ENV S 450	Issues in Sustainable Agriculture
3	ENV S 482	Environmental Politics and Policies

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3 ENV S 491	Environmental Law
Food Science and Human Nutrition	
3 FSHN 101	Food and the Consumer
3 FSHN 272	Basic Principles of Food Processing
3 FSHN 351	Unit Operations in Food Processing
2 FSHN 403	Food Laws, Reg. & Regulatory Process
3 FSHN 471	Food Processing
2 FSHN 472	Food Processing Lab
History	
3 HIST 484	Science, Technology, Medicine, and Public Policy
3 HIST 488	History of American Technology
3 HIST 489	History of American Science
Horticulture	
3 HORT 221	Principles of Horticulture
4 HORT 332	Greenhouse Operation and Management
4 HORT 422	Postharvest Technology
Logistics and Supply Chain Management	
3 LSCM 360	Business Logistics
3 LSCM 460	Advanced Logistics Management
Management	
3 MGMT 310	Entrepreneurship and Innovation
3 MGMT 311	Feasibility Analysis and Business Planning
3 MGMT 370	Management of Organizations (Note: do not double count if used in business core requirements.)
3 MGMT 371	Organizational Behavior
Management Information Systems	
3 MIS 330	Management Information Systems
3 MIS 331	File Structures and Programming
3 MIS 423	Information Systems for Managerial Decision Making
3 MIS 433	Database Management Systems
3 MIS 437	Project Management
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	Fundamentals of Consumer Behavior
3 MKT 448	Fundamentals of Int'l Marketing
3 MKT 451	Marketing Channels
Microbiology	
2 MICRO 201	Introduction to Microbiology
3 MICRO 302	Biology of Microorganisms
3 MICRO 419	Foodborne Hazards (Note: also cross-listed as FS HN 419 and TOX 419)
3 MICRO 420	Food Microbiology
Natural Resources and Ecology Management	
3 NREM 345	Natural Resource Photogrammetry and Geographic Information Systems
3 NREM 407	Watershed Management (Note: also cross-listed as ENSCI 407 and ENV S 407)
3 NREM 446	Integrating GPS and GIS for Natural Resource Management (Note: also cross-listed as ENSCI 446)
Plant and Health Protection	
2 PI P 391	Practical Plant Health
3 PI P 408	Principles of Plant Pathology.
Technology	

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

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