

AGRICULTURAL SYSTEMS TECHNOLOGY CURRICULUM

Department of Agricultural and Biosystems Engineering, Iowa State University

Agricultural and Biosystems Management option - 120 credits required for graduation (2025-2026 Catalog)

Interpersonal and Public Communication Skills (13 credits)

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|---|----------------------|---|
| 3 | ENGL 1500 (F.S.SS.) | Critical Thinking and Communications |
| 3 | ENGL 2500 (F.S.SS.) | Written, Oral, Visual, and Electronic Composition |
| 3 | ENGL 3020 (F.S.SS.) | Business Communication, or |
| | ENGL 3090 (F.S.) | Report and Proposal Writing, or |
| | ENGL 3140 (F.S.SS.) | Technical Communication, or |
| | AGEDS 3270 (F.S.) | Advanced Communication for Agriculture and Life Sciences |
| 3 | SP CM 2120 (F.S.SS.) | Fundamentals of Public Speaking, or |
| | AGEDS 3110 (F.S.) | Presentation and Sales Strategies for Agricultural Audiences, or |
| | COMST 2140 (F.S.) | Professional Communications |
| 1 | LIB 1600 (F.S.SS.) | Introduction to College Level Research |

Mathematical, Physical, and Life Sciences (25 credits)

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| 3 | MATH 1450 (F.S.) | Applied Trigonometry |
| 3 | MATH 1510 (F.S.SS.) | Calculus for Business and Social Sciences |
| 4 | PHYS 1310 (F.S. SS) | General Physics I |
| 1 | PHYS 1310L (F.S. SS) | General Physics I Laboratory |
| 3 | STAT 1040 (F.S.SS.) | Introduction to Statistics |
| 4 | CHEM 1630 (F.S.SS.) | College Chemistry |
| 1 | CHEM 1630L (F.S.SS.) | Laboratory in General Chemistry |
| 3 | BIOL 1010 (F.S.SS.) | Introductory Biology or |
| | BIOL 2110 (F.S.) | Principles of Biology I or |
| | BIOL 2120 (F.S.) | Principles of Biology II or |
| | BIOL 2510 (S.) | Biological Processes in the Environment |
| 3 | Life Sciences | (College of Agriculture and Life Sciences list)
http://www.cals.iastate.edu/student-services/life-science |

Business, Humanities, Ethics and Social Sciences (18 credits). Certain courses in this section may fulfill more than one academic requirement.

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| 3 | ACCT 2840 (F.S.SS.) | Financial Accounting |
| | ACCT 2150 (F.S.SS.) | Legal Environment of Business |
| 3 | ECON 1010 (F.S.SS.) | Principles of Microeconomics |
| 3 | TSM 3700 (F.S.) | Occupational Safety (meets Ethics requirement) |
| 3 | Humanities | (From approved lists: College of Agriculture and Life Science list)
http://www.cals.iastate.edu/student-services/humanities |
| 3 | International Perspectives | (From approved lists: University list)
http://www.registrar.iastate.edu/students/div-ip-guide/IntlPerspectives-current |
| 3 | U.S. Cultures and Communities | (From approved lists: University list)
https://www.registrar.iastate.edu/students/div-ip-guide/uscultures-courses |

Technology Core (30 credits)

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| 1 | TSM 1100 (F.) | Introduction to Technology |
| 1 | TSM 1110 (F.S.) | Experiencing Technology |
| 3 | TSM 1150 (F.S.) | Solving Technology Problems |
| 3 | TSM 1160 (F.S.) | Introduction to Design in Technology |
| 1 | TSM 2010 (F.S.) | Preparing for Workplace Seminar |
| 3 | TSM 2100 (F.S.) | Fundamentals of Technology |
| 1 | TSM 2140 (F.S.) | Managing Technology Projects |
| 3 | TSM 2700 (F.S.) | Principles of Injury Prevention |
| 3 | TSM 3100 (F.S.) | Total Quality Improvement |
| 4 | TSM 3630 (F.S.) | Electrical Power and Control Systems for Agriculture and Industry |
| R | TSM 3970 / 3990 (F.S.SS.) | Internship in Technology |
| 2 | TSM 4150 (F.S.) | Applied Project Management in Technology |
| 3 | TSM 4160 (F.S.) | Technology Capstone |

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Option Core (25 credits listed)

(Choose 6 Credits Only)

3	TSM 4330 (F)	Precision Farming Systems
3	ECON 2300 (F.S.)	Farm Business Management
3	ECON 2350	Intro to Ag Markets
3	ECON 332	Cooperatives
3	ECON 3370	Ag Marketing
3	MGMT 3700	Managing Organizations
3	MGMT 3710	Organization Behavior

ABM Emphasis Courses

(Choose 18 to 20 Credits Only)

1. Facility Systems Management Emphasis

2	TSM 2160	Advanced Technical Graphics, Interpretation, CAD
3	TSM 3220	Preservation of Grain Quality
1	TSM 3220L	Preservation of Grain Quality Lab
3	TSM 2270	Livestock and Poultry Production: Facilities, Technology, and Management
3	TSM 4440	Facility Planning
3	TSM 4430	Statics and Strength of Materials for Technology
2	TSM 3710	Occupational Safety Management
2	TSM 3720	Legal Aspects of Occupational Safety and Health

Select One 3 Credits Course Below:

AN S 2160, AN S 2230, AN S 2250, AN S2260, AN S 2290, AN S 2350

2. Water Systems Management Emphasis

3	TSM 3240	Soil and Water Conservation Management
3	AGRON 1820	Introduction to Soil Science
3	AGRON 2820	Soil Conservation and Land Use
3	ENSCI 2510	Biological Processes in the Environment
3	ENSCI 2700	Geospatial Technologies
3	ENSCI 3600	Environmental Hydrology
3	ENSCI 4020	Watershed Hydrology
4	ENSCI 4070	Watershed Management

Grain and Feed Systems Management

3	AGRON 1810	Introduction to Crop Science
2	AGRON 2830	Pesticide Application Certification
3	GEN 3200	Genetics, Agriculture, and Biotechnology
3	TSM 3220	Preservation of Grain Quality
1	TSM 3220L	Preservation of Grain Quality Lab
3	TSM 3250	Biorenewable Systems
3	AGRON 3380	Seed Science and Technology
3	TSM 4550	Feed Processing and Technology
3	TSM 4570	Feed Safety, Ingredient Quality and Analytics
3	HORT 4840	Organic Agricultural Theory and Practice

Electives (7 to 9 credits)

Electives to strengthen degree