

AGRICULTURAL SYSTEMS TECHNOLOGY CURRICULUM
Machine Systems 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/agricultureservices/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/agricultureservices/humanities.htm |
| 3 | Ethics Course | Required course TSM 370 will meet this requirement |
| 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 |
| 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)

3	TSM 216 (F. S.)	Advanced Technical Graphics, Interpretation, and CAD
3	TSM 240 (F.S.)	Introduction to Manufacturing Processes
3	TSM 330 (S.)	Agricultural Machinery and Power Management
3	TSM 333 (F.)	Precision Farming Systems
4	TSM 335 (F.)	Tractor Power
3	TSM 337 (S.)	Fluid Power Systems Technology
3	TSM 370 (S.)	Occupational Safety
3	TSM 443 (S.)	Statics and Strength of Materials for Technology
3	TSM 465 (S.)	Automation Systems
5	Technical Electives	See Departmental List

Departmental Technical Elective List for Machine Systems Option (MS):

Aerospace Engineering

3	AER E 381	Introduction to Wind Energy
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Agronomy

3	AGRON 114	Principles of Agronomy
3	AGRON 154	Fundamentals of Soil Science

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

Economics

3	ECON 230	Farm Business Management
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Engineering Mechanics

3	E M 324	Mechanics of Materials
1	E M 327	Mechanics of Materials Laboratory
3	E M 345	Dynamics
3	E M 378	Mechanics of Fluids

Entomology

3	ENT 283	Pesticide Application Certification
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Forestry

3	FOR 485	Conversion of Lignocellulosic Materials
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Material Engineering

3	MAT E 273	Principles of Materials Science and Engineering
3	MAT E 362	Principles of Nondestructive Testing
1	MAT E 362L	Nondestructive Testing Laboratory

Mathematics

4	MATH 166	Calculus II
3	MATH 266	Elementary Differential Equations

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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
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

Statistics

4 STAT 401 Statistical Methods for Research Workers

Technology

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