

AGRICULTURAL SYSTEMS & INDUSTRIAL TECHNOLOGY CURRICULUM

Machine Systems (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 |
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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 |

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3	TSM 116 (F.S)	Introduction to Design in Technology
4	TSM 363 (F)	Electric Power and Electronics for Agriculture and Industry
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 216 (F.S)	Advanced Technical Graphics, Interpretation, and CAD
3	TSM 240 (F)	Introduction to Manufacturing Processes
3	TSM 330 (F.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 (F)	Statics and Strength of Materials for Technology
3	TSM 465 (F)	Automation Systems
5	Technical Electives	See Departmental List

Technical Elective List for Machine Systems Option (AST)

Agronomy

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

Engineering Mechanics

3	EM 274	Statics of Engineering
3	EM 324	Mechanics of Materials
1	EM 327	Mechanics of Materials Lab
3	EM 345	Dynamics
3	EM 378	Mechanics of Fluids

Material Engineering

2	MAT E 272	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.

Statistics

4	STAT 401	Statistical Methods for Research Workers
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Technology

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

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