

**AGRICULTURAL SYSTEMS TECHNOLOGY CURRICULUM**  
**Department of Agricultural and Biosystems Engineering, Iowa State University**  
**Machine Systems option - 120 credits required for graduation (2022-2023 Catalog)**

**Interpersonal and Public Communication Skills (13 credits)**

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, <b>or</b>
		ENGL 309 (F.S.)	Report and Proposal Writing, <b>or</b>
		ENGL 314 (F.S.SS.)	Technical Communication, <b>or</b>
		AGEDS 327 (F.S.)	Advanced Communication for Agriculture and Life Sciences
3	{	SP CM 212 (F.S.SS.)	Fundamentals of Public Speaking, <b>or</b>
		AGEDS 311 (F.S.)	Presentation and Sales Strategies for Agricultural Audiences, <b>or</b>
		COMST 214 (F.S.)	Professional Communications
1	LIB 160 (F.S.SS.)	Introduction to College Level Research	

**Mathematical, Physical, and Life Sciences (25 credits)**

3	MATH 145 (F.S.)	Applied Trigonometry	
3	MATH 151 (F.S.SS.)	Calculus for Business and Social Sciences	
4	PHYS 131 (F.S.SS.)	General Physics I	
1	PHYS 131L (F.S.SS.)	General Physics I Laboratory	
3	STAT 104 (F.S.SS.)	Introduction to Statistics	
4	CHEM 163 (F.S.SS.)	College Chemistry	
1	CHEM 163L (F.S.SS.)	Laboratory in College Chemistry	
3	{	BIOL 101 (F.S.SS.)	Introductory Biology <b>or</b>
		BIOL 211 (F.S.)	Principles of Biology I <b>or</b>
		BIOL 212 (F.S.)	Principles of Biology II <b>or</b>
		BIOL 251 (S.)	Biological Processes in the Environment
3	Life Sciences Course	(College of Agriculture and Life Sciences list) <a href="http://www.cals.iastate.edu/student-services/life-science">http://www.cals.iastate.edu/student-services/life-science</a>	

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

3	ACCT 284 (F.S.SS.)	Financial Accounting
3	ECON 101 (F.S.SS.)	Principles of Microeconomics
3	TSM 370 (F.S.)	Occupational Safety (meets Ethics requirement)
3	Humanities	(College of Agriculture and Life Science list) <a href="http://www.cals.iastate.edu/student-services/humanities">http://www.cals.iastate.edu/student-services/humanities</a>
3	International Perspectives	<b>(From approved lists:</b> University list) <a href="http://www.registrar.iastate.edu/students/div-ip-guide/IntlPerspectives-current">http://www.registrar.iastate.edu/students/div-ip-guide/IntlPerspectives-current</a>
3	U.S. Diversity	<b>(From approved lists:</b> University list) <a href="http://www.registrar.iastate.edu/students/div-ip-guide/usdiversity-courses">http://www.registrar.iastate.edu/students/div-ip-guide/usdiversity-courses</a>

**Technical Core (30 credits)**

1	TSM 110 (F.)	Introduction to Technology
1	TSM 111 (F.S.)	Experiencing Technology
3	TSM 115 (F.S.)	Solving Technology 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
1	TSM 214 (F.S.)	Managing Technology Projects
3	TSM 270 (F.S.)	Principles of Injury Prevention
3	TSM 310 (F.S.)	Total Quality Improvement
4	TSM 363 (F.S.)	Electrical Power and Control Systems for Agriculture and Industry
R	TSM 397 (F.S.SS.)	Internship in Technology
2	TSM 399 (F.S.SS.)	Work Experience in Technology
2	TSM 415 (F.S.)	Applied Project Management in Technology
3	TSM 416 (F.S.)	Technology Capstone

**Option Core (25 credits)**

2	TSM 216 (F.S.)	Advanced Technical Graphics, Interpretation, and CAD	
1	{	ABE 271 (F.S.)	Engineering Applications of Parametric Solid Modeling <b>or</b>
		ABE 272 (F.S.)	Parametric Solid Models, Drawings, and Assemblies Using Creo Parametric <b>or</b>
		ABE 273 (F.S.)	CAD for Process Facilities and Land Use Planning
3	TSM 240 (F.S.)	Introduction to Advanced Manufacturing and Metals Processing	

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3	TSM 330 (S.)	Agricultural Machinery and Power Management
4	TSM 335 (F.)	Tractor Power
3	TSM 337 (F.S.)	Fluid Power Systems Technology
3	TSM 433 (F.)	Precision Agriculture
3	TSM 443 (F.S.)	Statics and Strength of Materials for Technology
3	TSM 465 (F.S.)	Automation Systems

**Electives (9 credits)**                      Electives to strengthen degree