

Program:	Agricultural Systems Management
Degree:	BS
Department:	Biological and Agricultural Engineering
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Outcome	Master the depth of knowledge required for a degree
Marketable Skills	<ul style="list-style-type: none"> <li>• Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.</li> <li>• Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.</li> <li>• Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.</li> <li>• Knowledge of techniques and equipment for planting, growing, and harvesting food products (both plant and animal) for consumption, including storage/handling techniques.</li> <li>• Knowledge of machines and tools, including their designs, uses, repair, and maintenance.</li> <li>• Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.</li> <li>• Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.</li> <li>• The ability to choose the right mathematical methods or formulas to solve a problem.</li> <li>• Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.</li> <li>• Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.</li> </ul>

Outcome	Demonstrate critical thinking
Marketable Skills	<ul style="list-style-type: none"> <li>• Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.</li> <li>• Considering the relative costs and benefits of potential actions to choose the most appropriate one.</li> <li>• Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.</li> <li>• The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).</li> </ul>

	<ul style="list-style-type: none"> <li>• Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.</li> <li>• Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.</li> <li>• Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.</li> </ul>
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<b>Outcome</b>	<b>Communicate effectively</b>
Marketable Skills	<ul style="list-style-type: none"> <li>• Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.</li> <li>• Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.</li> <li>• Talking to others to convey information effectively.</li> <li>• Persuading others to change their minds or behavior.</li> <li>• Communicating effectively in writing as appropriate for the needs of the audience</li> </ul>

<b>Outcome</b>	<b>Practice personal and social responsibility</b>
Marketable Skills	<ul style="list-style-type: none"> <li>• Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.</li> <li>• Managing one's own time and the time of others.</li> </ul>

<b>Outcome</b>	<b>Demonstrate social, cultural, and global competencies</b>
Marketable Skills	<ul style="list-style-type: none"> <li>• Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.</li> <li>• Being aware of others' reactions and understanding why they react as they do.</li> </ul>

<b>Outcome</b>	<b>Prepare to engage in life-long learning</b>
Marketable Skills	<ul style="list-style-type: none"> <li>• Understanding the implications of new information for both current and future problem-solving and decision-making.</li> <li>• Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.</li> </ul>

<b>Outcome</b>	<b>Work collaboratively</b>
Marketable Skills	<ul style="list-style-type: none"> <li>• Motivating, developing, and directing people as they work, identifying the best people for the job.</li> <li>• Bringing others together and trying to reconcile differences.</li> </ul>

Notes:

- All marketable skills listed for this example program were drawn from the Knowledge, Skills, and Abilities identified by the US Department of Labor and Statistics for “agricultural systems management” as published on O\*Net Online ([onetonline.org](http://onetonline.org))
- Alternate sources for degree-specific marketable skills include learning outcomes and associated metrics used for programmatic assessment
- Learning outcomes or skills required for programmatic accreditation