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| Program:       | Biological and Agricultural Engineering |
| Degree:        | BS                                      |
| Department:    | Biological and Agricultural Engineering |
| Contact Name:  | Ashlea Schroeder                        |
| Contact Phone: | 979 845-0609                            |

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| <b>Outcome</b>    | <b>Master the depth of knowledge required for a degree</b>  |
| Marketable Skills | <ul style="list-style-type: none"> <li>• Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.</li> <li>• Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.</li> <li>• Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub- atomic structures and processes.</li> <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>• Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.</li> </ul> |

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| <b>Outcome</b>    | <b>Demonstrate critical thinking</b>   |
| Marketable Skills | <ul style="list-style-type: none"> <li>• Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.</li> <li>• Considering the relative costs and benefits of potential actions to choose the most appropriate one.</li> <li>• Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.</li> <li>• Observing, receiving, and otherwise obtaining information from all relevant sources.</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> <li>• Analyzing information and evaluating results to choose the best solution and solve problems.</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>• Understanding written sentences and paragraphs in work related documents.</li> </ul> |

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| <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> |

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| <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> |

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| <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> |

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| <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 engineers” as published on O\*Net Online (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