



Academic Learning Compact

Degree Program: **Biological Systems Engineering (BS) (CIP Code 14.0301)**

Intended Program Student Learning Outcomes	Academic Learning Compact(s)	Direct and Indirect Measures	
		Direct Method of Assessment	Indirect Method of Assessment
An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	Communication, Critical Thinking, Discipline Specific Knowledge	Direct - Reports Analysis Direct - Senior Thesis or Major Capstone Project	
An ability to communicate effectively with a range of audiences	Communication, Discipline Specific Knowledge	Direct - Rubric Scoring Direct - Senior Thesis or Major Capstone Project	
An ability to develop and conduct appropriate experimentation, analyze and	Communication, Critical Thinking, Discipline Specific Knowledge	Direct - Grading with Criteria or Rubric	

interpret data, and use engineering judgment to draw conclusions		Direct - Research Paper/Proposal	
An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	Communication, Critical Thinking, Discipline Specific Knowledge	Direct - Comprehensive Exam Direct - Exam (Item Analysis) Direct - Pre and Post-Tests Direct - Rubric Scoring Direct - Senior Thesis or Major Capstone Project	
An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	Communication, Critical Thinking, Discipline Specific Knowledge	Direct – Other Direct - Research Paper/Proposal Direct - Rubric Scoring Direct - Senior Thesis or Major Capstone Project	
An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global,	Critical Thinking, Yes - Discipline Specific Knowledge	Direct - Rubric Scoring Direct - Senior Thesis or Major Capstone Project	

economic, environmental, and societal contexts			
An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	Critical Thinking, Yes - Discipline Specific Knowledge	Direct - Comprehensive Exam Direct - Exam (Item Analysis) Direct - Rubric Scoring Direct - Senior Thesis or Major Capstone Project Direct - Pre and Post-Tests	