

Bachelor of Science in Systems Engineering[†]

Department of Systems and Industrial Engineering

Mapping of Program Outcomes to Program Educational Objectives

Program Outcomes						
	The ability to formulate a problem in technical terms including the relevant aspects from the mathematical, business, natural, social, and SIE engineering sciences.	The ability to determine and implement the appropriate modeling approach for problem solution.	The ability to apply feedback to improve system performance and perform sensitivity analyses.	Students should understand all components in the design of large, complex systems from eliciting customer requirements through retirement, replacement and disposal	The ability to model and analyze systems having conflicting criteria and interacting decision variables.	Understand the impact of the solution on society and the environment
Program Educational Objectives						
Students should have the ability to model and solve problems using the techniques of mathematics, physics, engineering science, operations research, applied probability and statistics, and computer simulation.	X	X	X			
Students should know and should have the ability to consider the entire system as a whole when solving problems, and not simply look at components and subsystems individually.				X	X	X
Students should be effective team members. This includes teamwork skills as well as communication skills.						
Students should be proficient at using modern computer tools to solve problems.						
Students should understand and appreciate professional behavior in engineering.						

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[†] Accredited by the Engineering Accreditation Commission of ABET,
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Program Outcomes							
	The students should understand roles, advantages, disadvantages, and dynamics of teams and have successful experience on team projects.	Students should be able to communicate effectively with team members and clients through both oral and written means.	Students will be able to developed customized solution software.	Students will know how to use high-level modeling and computation tools such as spreadsheet programs, equation solvers, UML and simulation software to analyze engineering problems.	The students should be able to deal with clients (including instructors) in a professional manner covering demeanor, presentation style and work ethic.	The students should be able to understand different career options within the profession and preparation for lifelong learning.	The students should be able to differentiate between ethical and unethical behavior.
Program Educational Objectives							
Students should have the ability to model and solve problems using the techniques of mathematics, physics, engineering science, operations research, applied probability and statistics, and computer simulation.							
Students should know and should have the ability to consider the entire system as a whole when solving problems, and not simply look at components and subsystems individually.							
Students should be effective team members. This includes teamwork skills as well as communication skills.	X	X					
Students should be proficient at using modern computer tools to solve problems.			X	X			
Students should understand and appreciate professional behavior in engineering.					X	X	X