Bachelor of Science in Industrial Engineering†

Department of Systems and Industrial Engineering

Mapping of Program Outcomes to ABET Criterion 3 (outcomes a-k) and ABET Criterion 9 (Program Criteria)

Program Outcomes				
	(1) Formulate a problem in technical terms including the relevant aspects from the mathematical, natural, and SIE engineering courses	(2) Determine and implement the appropriate modeling approach for problems solution	(3) Apply feedback to improve system performance and perform sensitivity analysis	(4) Understand all components in the design of large, complex systems from eliciting customer requirements through disposal
ABET Criterion 3				
(a) An ability to apply knowledge of mathematics, science, and engineering	X	X	X	
(b) An ability to design and conduct experiments, as well as to analyze and interpret data	X			X
(c) An ability to design a system, component, or process to meet desired needs				X
(d) An ability to function on multi-disciplinary teams				
(e) An ability to identify, formulate, and solve engineering problems	X	X	X	X

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Program Outcomes				
	(1) Formulate a problem in technical terms including the relevant aspects from the mathematical, natural, and SIE engineering courses	(2) Determine and implement the appropriate modeling approach for problems solution	(3) The ability to account for stochastic behavior and perform sensitivity analysis	(4) Students should understand all components of manufacturing and service operations and their connection through the supply chain
(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context	**X**		**X**	**X**
(i) A recognition of the need for, and an ability to engage in life-long learning				
(j) A knowledge of contemporary issues				
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.				

Program Outcomes				
	(5) Model and analyze systems having conflicting criteria and interacting decision variables	(6) Understand the impact of the solution on society and the environment	(7) Understand roles, advantages, disadvantages and dynamics of teams and have successful experience on team projects	(8) Communicate effectively with team members and clients through both oral and written means
ABET Criterion 3				
(a) An ability to apply knowledge of mathematics, science, and engineering				
(b) An ability to design and conduct experiments, as well as to analyze and interpret data	**X**			
(c) An ability to design a system, component, or process to meet desired needs	**X**	**X**		
(d) An ability to function on multi-disciplinary teams			**X**	**X**
(e) An ability to identify, formulate, and solve engineering problems	**X**	**X**		
(f) An understanding of professional and ethical responsibility				
(g) An ability to communicate effectively				**X**

Program Outcomes				
	(5) Model and analyze systems having conflicting criteria and interacting decision variables	(6) Understand the impact of the solution on society and the environment	(7) Understand roles, advantages, disadvantages and dynamics of teams and have successful experience on team projects	(8) Communicate effectively with team members and clients through both oral and written means
(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context		X		
(i) A recognition of the need for, and an ability to engage in life-long learning				
(j) A knowledge of contemporary issues		X		
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.				X

Program Outcomes					
	(9) Develop customized solution software	(10) Use spreadsheet programs, equation sovlers, CAD Programs and simulation software to analyze engineering problems	(11) Deal with clients (including instructors) in a professional manner covering demeanor, presentation style, and work ethic	(12) Understand different career options within the profession and preparation for lifelong learning	(13) Differentiate between ethical and unethical behavior
ABET Criterion 3					
(a) An ability to apply knowledge of mathematics, science, and engineering					
(b) An ability to design and conduct experiments, as well as to analyze and interpret data		**X**			
(c) An ability to design a system, component, or process to meet desired needs			**X**		
(d) An ability to function on multi-disciplinary teams					
(e) An ability to identify, formulate, and solve engineering problems	**X**	**X**			
(f) An understanding of professional and ethical responsibility			**X**	**X**	**X**
(g) An ability to communicate effectively					

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(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context				X	
(i) A recognition of the need for, and an ability to engage in life-long learning				X	
(j) A knowledge of contemporary issues					X
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	X	X			