

# Engineering Program

## ISLOs, PSLOs, CSLOs, Mapping, and Assessment Plan

		Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
		F 2013	S 2014	F 2014	S 2015	F 2015	S 2016	F 2016	S 2017	F 2017	S 2018	F 2018	S 2019
<b>INSTITUTIONAL STUDENT LEARNING OUTCOMES - ISLOs</b>													
<b>ISLO 1</b>	<b>COMMUNICATION: ENGR45 and ENGR17L</b>												
1A	Read			X						X			
1B	Listen			X						X			
1C	Write			X						X			
1D	Dialogue			X						X			
<b>ISLO 2</b>	<b>TECHNOLOGY AND INFORMATION COMPETENCY: ENGR22B, ENGR22A, ENGR10</b>												
2A	Demonstrate Technical Literacy				X						X		
2B	Apply Technology				X						X		
2C	Access Information				X						X		
2D	Evaluate and Examine Information				X						X		
<b>ISLO 3</b>	<b>CRITICAL AND CREATIVE THINKING: ENGR35 and ENGR017</b>												
3A	Inquire					X						X	
3B	Analyze					X						X	
3C	Problem Solve					X						X	
3D	Express					X						X	
<b>ISLO 4</b>	<b>CITIZENSHIP: ENGR95 and ENGR150</b>												
4A	Ethics		X						X				X
4B	Diversity		X						X				X
4C	Sustainability/Global Awareness		X						X				X
4D	Personal Responsibility		X						X				X
<b>ENGINEERING PROGRAM OUTCOMES - PSLOs</b>				<b>Related ISLOs</b>		Enter "X" in boxes as appropriate		3 year complete					
			X						X				X
					X						X		
						X						X	
				X						X			



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<b>ENGR 0022A Engineering Drawing and CAD</b>													
CSLO 1	Read, analyze, and create orthographic drawings both by hand and with a computer.	B	C					X					
CSLO 2	Read, analyze, and create drawings which include auxiliary and sectional views.	B	C					X					
CSLO 3	Read, explain, and create drawings that include dimensions and tolerances that are produced to an industry standard.	B,C	X					C					
CSLO 4	Create various geometric constructions, using mathematical techniques, both by hand and with a computer.	B,C	X					C					
<b>ENGR 0022B Descriptive Geometry and Solid Modeling</b>													
CSLO 1	Create 3D digital solid models, including all standard views and dimensions.	B,C			C						X		
CSLO 2	Construct and analyze assembly models for component properties.	B,C			X						C		
CSLO 3	Construct and analyze assembly models for mating (including tolerance).	B,C			C						X		
CSLO 4	Read, analyze, and create solutions to descriptive geometry problems.	B,C			X						C		
<b>ENGR 0035 Statics</b>													
CSLO 1	Write and relate the concepts of engineering mechanics to model, analyze, and solve force and body systems that are in equilibrium.	C				C						X	
CSLO 2	Create and mathematically analyze free body diagrams.	B,C				C						X	
CSLO 3	Analyze and solve geometric bodies for their centroid by the methods of calculus and the methods of composite bodies.	B,C				X						C	
CSLO 4	Analyze and solve geometric bodies for their moment of inertia by the methods of calculus and the methods of composite bodies.	B,C				X						C	
<b>ENGR 0037 Manufacturing Processes</b>		Enter "X" in boxes as appropriate											
CSLO 1	Read, write and analyze engineering drawings.	B,C			C						X		
CSLO 2	Set up and operate common manufacturing machines (shaping using the mill, lathe, welder, etc).	B,E			X						C		
CSLO 3	Summarize and utilize best practices for operating hand tools found in a common machine shop.	B,E			X						C		
CSLO 4	Write, describe, and produce the concepts of dimensioning and tolerancing and show the capability of both machining and measuring to those constraints.	B,C,E			C						X		
<b>ENGR 0045 Materials Science</b>													
CSLO 1	Write, compare, and contrast the different classifications of materials used in society by engineering methods.	A,C		X						C			
CSLO 2	Analyze and formulate the atomic and/or molecular structure (including atomic bonding and crystalline nature) of the common engineering materials.	C		X						C			
CSLO 3	Students will, through experimentation and data analysis, identify the five common material properties used in engineering design.	C,D		C						X			
CSLO 4	Create laboratory reports that clearly communicate the details of experiments performed in the engineering lab.	B,C,D		C						X			

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CSLO 5	Write, define, and analyze the various engineering failure mechanisms (inc. creep, fracture, plastic deformation, fatigue, etc) that cause mechanical assemblies to fail.			X						X			
<b>ENGR 0095 Internship in Engineering</b>													
CSLO 1	Establish on-the-job learning objectives that are related to new or expanded responsibilities or that contribute to current occupational or educational goals.		C						X				
CSLO 2	Evaluate learning experience in writing or by project related to learning objectives.		X						X				
CSLO 3	Through work experience, under the direction of worksite supervisor, perform duties related to learning objectives.		X						C				
<b>ENGR 0150 Introduction to Engineering Profession</b>													
CSLO 1	Identify, compare, and contrast the different disciplines within engineering.	A					C						X
CSLO 2	Discover and participate in engineering related problem solving activities.	A, C					X						C
CSLO 3	Identify educational requirements and create a proposed education plan associated with the profession of engineering.	A					X						C
CSLO 4	Engage with currently working, local area, engineering professionals to establish an understanding of what engineers do.	A					X						C
<b>ENGR 0110 Introduction to Engineering Design</b>													
CSLO 1	Participate in Engineering problem solving exercises / activities	C, E					X						C
CSLO 2	Identify and adopt behaviors that will support success in becoming an engineer.	A					X						C
CSLO 3	Understand and demonstrate skills relating to the engineering design process	B, C, D, E					X						X
CSLO 4	research and be knowledgeable of the similarities and differences within the various disciplines in the engineering profession	A					X						X
<b>ENGR 0220 Programming and Problem Solving in Engineering</b>													
CSLO 1	Demonstrate proficiency with the course software environment and functions	C, E					X						C
CSLO 2	Distinguish between and know othe uses of inputs, outputs, variables, constants, controls, and functions	E					X						X
CSLO 3	Perform advanced math functions utilizing the course software to solve engineering problems	B, C, D					X						C
CSLO 4	Use the course software to create graphical solutions for engineering problems	C, D					X						X
<b>Course # and Course Name Here</b>													

