

MECH 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
INSTITUTIONAL STUDENT LEARNING OUTCOMES - ISLOs													
ISLO 1	COMMUNICATION												
1A	Read		X	X	X	X	X						
1B	Listen		X				X						
1C	Write		X	X	X		X						
1D	Dialogue												
ISLO 2	TECHNOLOGY AND INFORMATION COMPETENCY												
2A	Demonstrate Technical Literacy		X	X	X	X	X						
2B	Apply Technology		X	X	X	X	X						
2C	Access Information		X	X	X	X	X						
2D	Evaluate and Examine Information		X	X	X	X	X						
ISLO 3	CRITICAL AND CREATIVE THINKING												
3A	Inquire		X				X						
3B	Analyze		X	X	X	X	X						
3C	Problem Solve		X	X	X	X	X						
3D	Express		X										
ISLO 4	CITIZENSHIP												
4A	Ethics												
4B	Diversity												
4C	Sustainability/Global Awareness				X								
4D	Personal Responsibility		X	X	X	X	X						
MECH PROGRAM OUTCOMES - PSLOs		Related ISLOs		Enter "X" in boxes as appropriate									
PSLO A	Analyze pneumatic/hydraulic and VFD/electric-motor control diagrams and construct them with appropriate hardware.	1A, 1C, 2A-D, 3B, 3C, 4D							X				
PSLO B	Analyze, construct and test electrical and electronic circuits from schematic diagrams.	1A, 1C, 2A-D, 3B, 3C, 4D			X	X	X						
PSLO C	and assemble mechanical assemblies from technical drawings using hand and machine tools.	1A, 2A-D, 3B, 3C, 4D				X		X					
PSLO D	Analyze, construct and test automated systems including electronic sensors, mechanical actuators and computer control.	1A-C, 2A-D, 3A-D, 4A, 4C,			X				X				
PSLO E	Demonstrate the ability to create PLCs and microcontroller programs and properly interface them to input and output devices.	1A-B, 2A-D, 3A-C, 4D			X				X				

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MECH COURSE OUTCOMES - CSLOs		Related PSLO											
MECH 0001 The Science of Electronics		Enter "X" in boxes as appropriate											
CSLO 1	Distinguish components of an electrochemical cell and construct a working cell.						X						P
CSLO 2	Analyze and demonstrate relationship between electric current, voltage and resistance.												
CSLO 3	Construct functional electronic circuits using soldering.						X						P
MECH 0004 Fundamentals of Mechatronics		Enter "X" in boxes as appropriate											
CSLO 1	Apply industrial electrical wiring standards.			X									
CSLO 2	Construct functional electric motor control circuits.												
CSLO 3	Design PLC programs to control actuators and indicators.												
MECH 0008 Introduction to Electronics		Enter "X" in boxes as appropriate											
CSLO 1	Analyze the relationship between electric current, voltage, resistance, and power.												
CSLO 2	Analyze functional electronic circuits from schematic diagrams.												
MECH 0010 Fundamentals of Electronics		Enter "X" in boxes as appropriate											
CSLO 1	Construct and analyze functional electronic circuits from schematic diagrams.								X				
CSLO 2	Evaluate results from electronic multimeters and oscilloscopes.								X				
CSLO 3	Construct and evaluate electronic circuits build using solder.		X						X				
MECH 0014 Fabrication Techniques		Enter "X" in boxes as appropriate											
CSLO 1	Construct precision sheetmetal assemblies.					X							
CSLO 2	Demonstrate ability to utilize precision measurement tools.					X							
CSLO 3	Design and evaluate functional printed circuit boards from schematic diagrams.												
MECH 0025 Personal Computer Configuration and Repair		Enter "X" in boxes as appropriate											
CSLO 1	Construct an electro-mechanical system using a personal computer as the control device.											X	
CSLO 2	Construct functional electronic circuits built using solder.				X							X	
CSLO 3	Apply computer interface techniques to use a computer system as a data acquisition device.											X	
MECH 0028 Independent Study		Enter "X" in boxes as appropriate											
CSLO 1	Develop an independent study project with written goals and objectives to include critical thinking.												
CSLO 2	Complete proposed project independently.				X				X				

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CSLO 3	Evaluate project success with instructor.												
	MECH 0044 Mechatronic Processes and Materials	Enter "X" in boxes as appropriate											
CSLO 1	Create precision metallic components using common machine tools and mechanical drawings.			X									
CSLO 2	Construct and evaluate control circuitry for electro-mechanical systems.												
CSLO 3	Assemble metal components into working systems.												
	MECH 0054 Mechatronics System												
CSLO 1	Diagnose and develop solutions for issues with complete mechatronic control systems.						X				x		
CSLO 2	Analyze and construct pneumatic and hydraulic actuated systems.										x		
CSLO 3	Design and create closed loop industrial control systems.						X				x		
	MECH 0090 Microcontroller Embedded Systems												
CSLO 1	Create microcontroller programs to provide deterministic control of actuators.		X										
CSLO 2	Design, construct and critique complete mechatronic systems.												
CSLO 3	Design and construct input and output interface hardware for microcontrollers.												
	MECH 0095 Independent Study												
CSLO 1	No outcomes in WebCMS								x				