Program Learning Outcomes

Knowledge	PLO1: Apply advanced knowledge in mechatronic engineering to analyze, interpret, and resolve theoretical and practical challenges in the design and integration of complex mechatronic systems.
	PLO2: Develop advanced knowledge of theories, methods, and practices used to design mechanical components and systems, electronic circuits, and embedded systems in mechatronic systems.
	PLO3: Gain a deep understanding of advanced practices, theories, and methods in mechatronics, including their application in the design and creation of complex mechatronic systems and products.
Skills	PLO4: Analyze and explain different practices and theories in mechatronics, selecting the best methods and technologies to address complex development challenges.
	PLO5: Critically evaluate and apply advanced theories and methods in the design of complex mechatronic systems and products.
	PLO6: Document, present, and communicate advanced engineering issues and related academic topics to collaboration partners (specialists) and users (non-specialists).
	PLO7: Communicate the results of their studies in written and oral forms in national and international journals and conferences.
Competencies	PLO8: Independently participate in product development projects and interdisciplinary collaboration with a professional engineering approach.
	PLO9: Develop a critical mindset to bring innovative solutions or suggest improvements to existing solutions for practical and theoretical engineering problems.
	PLO10: Keep an open mind to lifelong learning and self-development, adopt a lifelong learning philosophy, follow state-of-the-art developments in engineering, and improve themselves.

	Courses	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
Semester I	Advanced Electrical and Electronics Engineering		1	1		1	1		1	1	
	Complex Software Modelling and Design	1				1	1		1	1	
	Automation and Industrial Communication	1	1		1		1				
	Advanced Material Sciences and Engineering	1	1			1	1			1	
	Management and Organisational Culture						1	1		1	1
	Modelling and Simulation for Advanced Mechatronics					1	1	1		1	1
Semester II	Advanced Mechatronics Systems	1				1	1		1		1
	Advanced Design and Control Engineering	1	1			1				1	1
	Robotics and Automation Systems	1	1	1						1	1
	Complex System Engineering	1			1	1	1				
	Micro-Mechatronics	1		1				1		1	
	Digital Signal Processing	1		1				1			1
	Embedded System Design	1	1				1		1		
	Research Methods	1		1			1		1		1
	Operations and Project Management					1	1	1	1	1	
Focus Area: Artificial Intelligence and Robotics	Robotic Vision	1	1	1		1	1				
	Motion Planning			1	1	1		1	1		
	Special Topics in Robotics	1	1	1		1	1				
	Neural Networks and Deep Learning	1		1		1	1		1		
Focus Area: Biomedical Engineering	Biomedical Instrumentation and Signals		1	1		1	1		1		
	Biomimetic			1	1	1			1	1	
	Biomedical Signal Processing		1	1		1	1		1		
	Biomechanics		1	1	1	1			1		
Focus Area:Industrial Product Design	Product Development and Management			1		1	1		1	1	
	Finite Element Method	1	1		1	1			1		
	Design Optimisation	1	1	1		1				1	
	Design for Advanced Manufacturing	1	1	1		1			1		
Focus Area: Production Process Engineering and Technology	Advanced Manufacturing Processes		1	1	1	1		1			
	Machine and System Dynamics		1		1	1			1	1	
	Design for Advanced Manufacturing	1	1	1		1			1		
	Finite Element Method	1	1		1	1			1		
Focus Area: Energy Engineering	Advanced Power Systems		1	1	1	1	1				
	Smart Grid Technologies		1	1	1	1			1		
	Renewable Energy Sources		1	1	1		1		1		
	Special Topic in Energy Engineering		1	1	1	1			1		
Focus Area: Mechatronics Management	Engineering Economics and Management			1		1	1		1	1	
	Management Information Systems	1		1			1		1	1	
	Decision Analysis						1	1	1	1	1
	Marketing Management			1		1	1	1	1		
	Mechatronics Applied Project	1				1	1	1	1	1	1
	Thesis	1	1	1		1	1	1	1	1	1