

DEPARTMENT OF INSTRUMENTATION ENGINEERING

ANNA UNIVERSITY, CHENNAI

VISION OF THE DEPARTMENT

The Department of Instrumentation Engineering perseveres in becoming a Centre for Excellence in Electronics, Instrumentation, Process Control & Information Technology for Higher level learning, Research & Consultancy, and aims at imparting high quality education to students and professionals leading them towards global competence to become a preferred partner of the industry and community for providing Engineering solutions.

MISSION OF THE DEPARTMENT

- Provide the students with strong foundation in Electronics, Instrumentation and Control Engineering.
- Enhance the core competency of the students to cater to the needs of the industries and research organizations.
- Update the curriculum periodically and to upgrade the laboratories with state-of-art equipment.
- Encourage faculty members to keep abreast of current trends through continuing educational programs.
- Carry out interdisciplinary research and consultancy in the cutting-edge technology.

Attested


DIRECTOR
Centre for Academic Courses
Anna University, Chennai-600 025

ANNA UNIVERSITY, CHENNAI
UNIVERSITY DEPARTMENTS
M.E. INSTRUMENTATION ENGINEERING (SPECIALIZATION IN INDUSTRIAL AUTOMATION)
REGULATIONS 2023
CHOICE BASED CREDIT SYSTEM
CURRICULUM AND SYLLABUS I TO IV SEMESTERS

1. PROGRAMME EDUCATIONAL OBJECTIVES(PEOs): (3 or 5)

I	Excel in their preferred profession in government and private sectors.
II	Involve in life-long learning and work as faculty members in reputed educational institutions, imparting knowledge and skills in the field of instrumentation engineering to the younger generations thereby producing talented engineers.
III	Carry out ground-breaking research in emerging areas in the field of instrumentation engineering, and thereby solving various technical and societal problems at national and global levels.
IV	Promote new ideas, innovation solutions and alternative methods in their work places contributing to the development of entrepreneurship. Exhibit leadership and inter-personal skills.
V	Adhere to professional ethics and exhibit leadership and inter-personal skills in their workplace.

2. PROGRAMME OUTCOMES(POs):

PO	Programme Outcomes
1	An ability to independently carry out research/investigation and development work to solve practical problems.
2	An ability to write and present a substantial technical report/document.
3	Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.
4	Select and apply relevant techniques, Engineering and IT tools for Engineering activities like modeling and control of systems/processes and also being conscious of the limitations.
5	Demonstrate the knowledge and understanding of Engineering and Management principles and to apply these to one's own work as a member / leader in a team to manage Electronics / Instrumentation / Control and Automation projects and multidisciplinary environments.
6	Recognize the need for self and life-long learning, keeping pace with technological challenges in the broadest sense.

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4. PEO/PO Mapping:

PEO	PO					
I	1	2	3	1	3	3
II	3	3	3	3	3	3
III	3	-	3	3	3	2
IV	2	-	3	3	3	2
V	2	-	2	2	3	-

1,2,3,-, scale against the correlation PO's with PEO's



Attested

PROGRAM ARTICULATION MATRIX OF PG INSTRUMENTATION ENGINEERING (SPECIALIZATION IN INDUSTRIAL AUTOMATION)

		COURSE NAME	PO1	PO2	PO3	PO4	PO5	PO6
YE	SEMESTER I	Numerical Methods and Optimization Techniques	2	-	2.5	2	-	1
		Research Methodology and IPR	1	1	-	-	1	1
		Transducers and Smart Instruments	3	2	2	-	-	-
		Advanced Instrumentation Systems	2.3	2.3	2.3	2.3	2.6	2.8
		Advanced Digital Signal Processing	1	1.5	3	2	-	3
		Process Control: Design and Analysis	1	2	1	2.3	1	-
		Process Control and Instrumentation laboratory	1	2.3	2.5	2	2	-
		Embedded System Laboratory	1.3	-	1	1	-	-
	SEMESTER II	Advanced Process Control	1	2.5	3	3	1	1
		Instrumentation System Design	-	-	1	1	1	-
		Applied Machine Learning	1.16	2.7	1	1.3	2.6	2.5
		Professional Elective - State and Parameter Estimation	1	1.6	1	2.1	2	3
		Professional Elective - Linear and Nonlinear Systems Theory	3	3	3	3	3	1
		Professional Elective - Industrial Data Communication	2	1	2.6	1	-	-
		Professional Elective - Process Data Analytics	1.5	1.6	1.5	1.6	-	2.6
		Professional Elective - Optimal Control	1.6	2	1.5	2	-	2.6
		Professional Elective - Adaptive Control	3	-	1.4	1.5	-	-
		Professional Elective - Modeling and Simulation	3	1	2	3	-	-
		Professional Elective - Fault Detection and Diagnosis	2	-	1.6	-	-	3
		Professional Elective - Safety Instrumented Systems	3	3	2	2	-	-
		Professional Elective - Cyber Physical Systems	3	3	2.7	3	3	2

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[Signature]
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