INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
भारतीय प्रौद्योगिकी संस्थान तिरुपति
Yerpedu-Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh - 517 619

1.	Title of the course	Process Control Laboratory
2.	Course number	CH314P
3.	Structure of credits (L-T-P-C)	0-0-3-2
4.	New course/modification to	Modified with CH307P/PROCESS CONTROL LABORATORY
5.	To be offered by	Chemical Engineering
6.	Proposed by	M Nabil
7.	Prerequisite	None
8.	**Course Objective(s):** To perform experiments and analyze the dynamic response of process systems. To tune controllers and analyze the closed loop response of process systems. To simulate control systems.	
9.	**Course Content:** Dynamics of first and second order systems; Level control, temperature control, pressure control, concentration control, control valve characteristics, proportional-integral-derivative controller, cascade control, internet of things (IoT) based control; Simulation of open and closed loop responses.	
10.	**Textbook(s):** 1. Seborg D E, Edgar T F, Mellichamp D A and Doyle F J, Process Dynamics and Control, 3rd Edition, Wiley India (2011). 2. Stephanopoulos G, Chemical Process Control: An Introduction to Theory and Practice, Pearson Education India (2015).	
11.	**Reference(s):** 1. Coughanowr D R and LeBlanc S E, Process Systems Analysis and Control, 3rd Edition, Tata McGraw Hill (2013). 2. Ogunnaike B and Ray W H, Process Dynamics, Modelling and Control, Oxford University Press (1994). 3. Bequette B W, Process Control: Modeling, Design and Simulation, 2nd Edition, Addison Wesley (2023). 4. Luyben W, Process Modeling, Simulation and Control, 2nd Edition, McGraw Hill Education (2013).	