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Department of Chemical Engineering	
Process Control Lab (64458)	
Total Credits	**1**
major compulsory	
Prerequisites	P1 : Process Control (64451) OR Process Control (64453)

Course Contents

Experiments are conducted in the areas of process control such as: flow, temperature, pressure, pH, level and distillation column.

	Intended Learning Outcomes (ILO's)	Student Outcomes (SO's)	Contribution
1	Design &conduct experiments in chemical process control, as well as to analyze &interpret data.	B	70 %
2	Communicate effectively and writing technical and scientific reports in the field of process control.	G	10 %
3	Use the techniques, skills &modern engineering tools necessary for engineering practice through performing the experiments and writing the technical reports.	K	10 %
4	Show understanding of professional &ethical responsibility during his work in the lab and during preparation of the reports..	F	10 %

Textbook and/ or Refrences

Prepared Lab Manual 1. Smith C. A., &corripio A. B. Principles and Practice of Automatic Process Control (2nd). Canada: John Wiley &SonsInc, (1997). 2. Seborg D.E., Edgar T.F., and Mellichamp D.A., Process Dynamics and Control, Wiley, 2004.

Assessment Criteria	Percent (%)
Reports	35 %
Laboratory Work	15 %
Final Exam	50 %

Course Plan

Week	Topic
1	Introduction and safety rules in lab
2	Level control
3	Flow control
4	pH control
5	Temperature control
6	Pressure control
7	Valve characterization
8	Tuning
9	Discussion
10	General control configuration of distillation column control
11	Control of distillation using reflux configuration
12	Control of distillation using the reboiler configuration
13	Applications of different controllers(P, PI, and PID controllers)
14	Simulink
15	Final exam