

EE6225 PROCESS CONTROL

Acad Unit: 3.0
Prerequisite: Nil
Effective: Acad Year 2000-2001
Last update: 20 March 2000

OBJECTIVE

The course of Process Control is directed to provide a review of modern process control engineering. The purpose of the course is to serve as an introduction to process dynamics, modeling and control. The objectives include: (a) equipping students with basic understanding of issues related to basic control algorithms, advanced control strategies, multivariable control, plant parameter estimation, and process modelling and simulation; (b) enhancing students' skills and techniques for tackling practical process control system design problems through case studies.

DESIRED OUTCOME

On completion of this course students should be confident to handle tasks on modeling, analysis, design and implementation of control systems for the continuous process industry.

OTHER RELEVANT INFORMATION

Students should have prior knowledge of basic control engineering such as transfer functions, poles and zeros, performance and stability analysis methods, etc.

CONTENT

Basic control algorithms. Advanced control strategies. Multivariable control. Plant parameter estimation. Process modelling and simulation. Case studies in process control.

ASSESSMENT SCHEME

Continuous Assessment	20%
Final Examination	80%

TEXTBOOK

1. Ogunnaike B.A. and W. Hermon Ray, Process Dynamics, Modelling and Control, Oxford University Press, 1994.

REFERENCES

1. Coughanowr D. R., Process Systems Analysis and Control, 2nd Edition, McGraw-Hill, 1991.
2. Shinskey F. G., Process Control Systems, McGraw-Hill, 1988.
3. Roozeboom F. (Ed.), Advances in Rapid Thermal Processing, NATO ASI Series, Kluwer Academic Publishers, 1996.