The Hong Kong University of Science and Technology

UG Course Syllabus Template (Simplified version uploading to SENG website)

System Modeling, Analysis and Control

ELEC3200

4 Credits

Prerequisites: ELEC 2100 AND [MATH 2350 OR (MATH 2111 AND MATH 2351)]

Exclusions: CENG 3110, MECH 3610

Name: Yajing Shen

Email: eeyajing@ust.hk

Course Description

This course introduces basic concepts, tools and techniques for modeling, analysis, and control of dynamical systems. The course starts from the use of differential equations to model continuous time systems. Examples from a variety of Electronic and Computer Engineering disciplines will be given to illustrate the modeling process. Then, basic tools needed for analyzing the behavior of dynamical systems will be presented. Finally, techniques for controlling their behavior will be introduced. Throughout the course, laboratory experiments demonstrating the use of these analysis/design tools will be included.

Assessments:

[List specific assessed tasks, exams, quizzes, their weightage]

Assessment Task	Contribution to Overall Course grade (%)
Homework	20%
Laboratory	5% (bonus)
Mid-Term Examination	30%
Final Examination	50%

Required Texts and Materials

Textbook:

L. Qiu and K. Zhou, *Introduction to Feedback Control*, Prentice Hall, 2009.

Additional Resources:

K. J. Åström and R. M. Murray, *Feedback System: an introduction for scientists and engineers*, Prentice Hall, 2011.