

COURSE DETAIL

CONTROL ENGINEERING 1

Country

Ireland

Host Institution

Trinity College Dublin

Program(s)

Irish Universities, Trinity College Dublin

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Engineering

UCEAP Course Number

120

UCEAP Course Suffix**UCEAP Official Title**

CONTROL ENGINEERING 1

UCEAP Transcript Title

CONTROL ENGR 1

UCEAP Quarter Units

4.00

UCEAP Semester Units

2.70

Course Description

This course introduces the technology of control systems and their applications in power electronic control devices to control motors such as AC, DC, and stepping motors. Students learn to select and design suitable control systems and are introduced to programmable logic controllers, PID and fuzzy control systems, real time control, and digital control. Further topics include transfer functions, time response of 1st and 2nd order systems, modelling in the frequency domain, block diagram algebra, stability and the Routh-Hurwitz criterion, steady state errors, root locus techniques – analysis and design of compensators, frequency response techniques (Bode plots and Nyquist criterion), and use of Matlab and Control Systems Toolbox in Analysis and Design of Control Systems.

Language(s) of Instruction

English

Host Institution Course Number

ME4B09

Host Institution Course Title

CONTROL ENGINEERING 1

Host Institution Course Details

Host Institution Campus

Trinity College Dublin

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mechanical Engineering

Course Last Reviewed

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