Linnæus University

Jnr: 2014/4031-3.1.2

Course syllabus

Faculty of Technology
Kalmar Maritime Academy

1ER51T Reglerteori, 3 högskolepoäng
Control Theory, 3 credits

STCW reference
Sektion A III/1 och A III/2

Main field of study
Electrical Engineering

Subject Group
Electrical Engineering

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved by Faculty of Technology 2014-12-09
The course syllabus is valid from autumn semester 2015

Prerequisites
General entry requirements and Mathematics 2a / 2b / 2c, Physics 1b1 / 1a or Mathematics B, Physics A (Field-specific entry requirements 7/A7). implemented programme courses Measurement and Control Technology 7 credits, Applied Mathematics II 3 credits or equivalent (Applied Mathematics II may be taken concurrently).

Objectives

Proficiency and comprehension
By the end of this course, students will be able to:

- explain the concepts of linear systems and nonlinear systems

Evaluation skills and Approach
By the end of this course, students will be able to:

- use transfer functions and Bode diagrams for analysing control
- dimension controllers by the use of transfer functions and Bode plots

Content

- Investigation of transfer functions with step response and frequency analysis
- Process Identification
- Bode plot
- Control systems: accuracy and stability
- Design of Controllers
- Filters

Type of Instruction

Instruction consists of lectures and graded exercises

Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
The expected objectives must be achieved in order to pass the course. In order to receive the Pass with distinction grade, a similar grade is required for the written exam.
Knowledge assessment takes place as follows:

- Individual written examination and graded exercises

Course Evaluation

Course evaluation is in accordance with the Kalmar Maritime Academy's quality manual.

Required Reading and Additional Study Material

Bertil. T, *Reglerteknik*, Sjöfartshögskolan/Liber, Senaste upplagan
Bertil. T, *Reglerteknik*, övningsbok, Sjöfartshögskolan/Liber, Senaste upplagan
Laborationer i reglerteori, Sjöfartshögskolan
Teknisk formelsamling, Sjöfartshögskolan