



Course syllabus

Faculty of Technology

Department of Physics and Electrical Engineering

1ED132 Introduktion till Elkraftsystem, 7,5 högskolepoäng

Introduction to Electric power systems, 7.5 credits

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 2015-09-22

The course syllabus is valid from autumn semester 2016

Prerequisites

Electrical and Control Engineering (1ED061) 7,5 hp, and Electric power engineering (1ED033) 7.5 credits, or equivalent

English B/ English 6

Objectives

After completing the course the student should:

- Be able to explain basic concepts in electric power engineering
- Be able to describe the structure of the electric power system
- Be able to explain stability, power quality, short-circuit and overload protection
- Have good knowledge of renewable energy and power generation

Content

The course covers the following topics:

- Electrical circuits and electromagnetic concepts
- Power supply and renewable electricity
- Construction of electric power networks, electric power systems
- Distribution systems and power quality, EMC
- Generators
- Design of electrical conductors
- Error handling in the electric power system

Type of Instruction

The teaching consists of lectures, problem solving, laboratories and study visits.

Laboratories and study visits are compulsory.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.

The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

The course is examined by laboratories and a written exam.

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Some elements of the course may incur costs that are to be paid by the course participant.

Required Reading and Additional Study Material

Ned. Mohan, Electric Power Systems - a first course. Wiley & sons, 2012. ISBN : 978-1-118-07479-4. Pages: 256.

Other reading materials

Laboratory manuals and handouts. 50 pages.