

Course Syllabus

Electrical Power Engineering 7.5 Credits, First Cycle

Learning Outcomes

Upon completion of the course, students will be able to:

- explain fundamental concepts from the field of electrical power and energy
- identify basic components of electrical power systems and explain their principles
- perform calculations on power, energy, efficiency, motor torque and equivalent circuit parameters
- assemble basic circuits of power systems according to circuit diagrams
- measure and evaluate relevant parameters in electrical power systems and motors
- explain the basics of electrical safety

Course Content

Electrical power engineering is the technology used to design power systems for the generation, transmission and distribution of electrical energy. The course includes basic concepts for electrical power systems, such as single and three phase systems, power triangle and phase compensation. Included in the course are important components in electrical power systems and grids, for example transformers as well as direct current, asynchronous and synchronous motors. In addition, the basics of power electronics and transmission lines are included.

Because they are important in terms of practical experience, the course includes labs, where circuit assembly and measurements are made. The concept of electrical safety is included here.

Assessment

- Written examination
- Laboratory work

Grades

The grading scale used for the final course grade is U, 3, 4, 5.

Grades are reported as follows:

- Laboratory Work - 2.5 Credits | U–G
- Written Examination - 5 Credits | U, 3, 4, 5

Prerequisites

Electricity, 7.5 credits

Other Information

This course cannot be counted towards the same degree along with courses that have equivalent content.

If the student has received a decision/recommendation granting study support from Dalarna University because of a disability, then the examiner has the right to offer an alternative examination arrangement. The examiner takes into account the objectives in the course syllabus when deciding whether the examination can be adapted in accordance with the decision/recommendation.

Subject:

Electrical Engineering

This course can be included in the following main field(s) of study:

1. No main field of study

Progression Indicator:

1. GXX

Approved:

Approved 23 February 2023

Valid from 15 March 2023