

Course syllabus

Elektroteknik, introduktionskurs Introduction to Electrical Engineering

EEIA01, 6 credits, G1 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED E

Date of Decision: 2023-04-11

General Information

Compulsory for: IEA1

Language of instruction: The course will be given in Swedish

Aim

The purpose of the course is to introduce the students to learning strategies, their coming professional role, ethical aspects, writing in engineering, team work, fundamental concepts in electrical engineering and development of embedded systems related to sustainable development.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- have a basic understanding of the fundamental concepts in electrical engineering
- be able to relate concepts of learning strategies and career planning to their own study situation and coming professional role

Competences and skills

For a passing grade the student must

- be able to develop a simple embedded system
- be able to use a poster to present an embedded system and relate it to sustainable development

- be able to search for literature, write a summary of a scientific article and review a summary
- be able to cooperate in a project group within a given framework

Judgement and approach

For a passing grade the student must

- be able to identify and reason about ethical dilemmas
- be able to identify concepts within sustainable development in the coming professional role

Contents

- Introduction to electrical engineering
- Introduction to embedded systems, especially Arduino
- A project where the students in groups develop a system related to sustainable development. The system must fulfill:
 - Technical demands
 - Demands on usability and clarity
- Workshops and seminars on study strategies and career planning to prepare students for their studies and their future profession
- Team building, group dynamics and ethical aspects
- Writing skills for engineers
- Security in laboratories

Examination details

Grading scale: UG - (U,G) - (Fail, Pass)

Assessment: To pass all the parts of the course must be passed

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts

Code: 0116. **Name:** Learning Strategies.

Credits: 0. **Grading scale:** UG. **Assessment:** Take part in compulsory lessons

Code: 0216. **Name:** Introduction to Electrical Engineering.

Credits: 1,5. **Grading scale:** UG. **Assessment:** Examination **Contents:** Introduction to electrical engineering

Code: 0316. **Name:** Writing Skills for Engineers.

Credits: 2. **Grading scale:** UG. **Assessment:** Take part in compulsory lessons and passed report

Code: 0416. **Name:** Project.

Credits: 2,5. **Grading scale:** UG. **Assessment:** Passed project

Admission

The number of participants is limited to: No

The course overlaps following course/s: EDT632

Reading list

- Material will be distributed as the course progresses.

Contact and other information

Course coordinator: Christian Nyberg, christian.nyberg@eit.lth.se

Course homepage: <http://www.eit.lth.se/course/eeia01>

Further information: Some of the compulsory moments are parts of Engineering days (Ing-dagar)