

Electrical Measurement for electric vehicles, 5 HE credits

Elektrisk mätteknik för elfordon, 5 hp

Established: 2021-01-07

Established by: Department of Engineering Science

Applies from: H21

Learning outcomes

Knowledge and understanding

The student must, after completing the course, be able to:

- account for methods and equipment for electrical measurement technology of relevance to electric vehicles
- understand the principles of modern sensors for measuring current and voltage relevant for electric vehicles

Competence and skills

The student must, after completing the course, be able to demonstrate:

- skills in handling measuring equipment for measuring currents and voltages in electric vehicles
- skills in measuring the electrical quantities of current and voltage relevant for electric vehicles
- skills in performing accuracy analysis of a measurement chain
- the ability to describe in writing the experiences gained after a laboratory assignment

Judgement and approach

The student must, after completing the course, be able to demonstrate the ability to:

- evaluate which measurement methods should be used for analysis of a specific component in electric vehicles
- identify need for additional knowledge and to take responsibility for knowledge development
- evaluate plausibility assessment of a measurement chain

Entry requirements

General entry requirements and approved result from the following course/courses:

IKE100-Introduction to Electric Vehicle Systems and Components and

GEE100-Basics of Electrical Engineering for electric vehicles and

RSE100-Guidelines for safety when working on and in electric vehicles or the equivalent.

The forms of assessment of student performance

Individual written exam. Laboratory work in group. Project report in group.

Course contents

Measurement technology adapted for work in and for electric vehicles. Through analysis of methods and equipment for electric vehicle technology, knowledge regarding modern sensors for measure electric parameters on components relevant in electric vehicles, is gained.

Other regulations

Course grading: U/3/4/5

Course language: The teaching is conducted in English.

General rules pertaining to examination at University West are available at www.hv.se.

If the student has a decision/recommendation on special support due to disability, the examiner has the right to examine the student in a customized examination form.

Cycle

Second cycle

Progressive specialization

A1N - second cycle, has only first-cycle course/s as entry requirements

Main field of study

Electrical Engineering