

## **Electrical Measurement for electric vehicles, 5 HE credits**

*Elektrisk mätteknik för elfordon, 5 hp*

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Established: 2021-01-07

Established by: Department of Engineering Science

Applies from: H21

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### **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](http://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