

## **Electromagnetic compatibility, 2,5 HE credits**

*Elektromagnetisk komabilitet, 2,5 hp*

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Established: 2020-12-17

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 demonstrate an understanding of:

- how electromagnetic interference can be generated in an electric vehicle
- the negative effects of electromagnetic interference in an electric vehicle

#### **Competence and skills**

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

- skills in methods to reduce the impact of electromagnetic interference on components and systems of an electric vehicle
- the ability to analyze the electrical system of an electric vehicle from the perspective of EMC

#### **Judgement and approach**

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

- demonstrate the ability to deal with the risks of electromagnetic interference in and from the electrical systems of an electric vehicle
- evaluate the eligibility of introducing a component in an electric vehicle, based on component descriptions

### **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. Individual laboratory work with individual written laboratory report.

### **Course contents**

Interaction between electromagnetic fields and electric circuits, transients, high frequency behavior, shielding and grounding.

### **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**

Mechanical Engineering