

## COURSE DETAIL

### HYDROGEN, BATTERIES, AND FUEL CELLS

**Country**

Sweden

**Host Institution**

Lund University

**Program(s)**

Lund University

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Mechanical Engineering Electrical Engineering Chemical Engineering

**UCEAP Course Number**

136

**UCEAP Course Suffix****UCEAP Official Title**

HYDROGEN, BATTERIES, AND FUEL CELLS

**UCEAP Transcript Title**

HYDROGN BATTERY FUEL

**UCEAP Quarter Units**

6.00

**UCEAP Semester Units**

4.00

## Course Description

The course covers hydrogen as an energy carrier, how to produce it, and how to store it. The role of hydrogen in future energy systems is discussed. Electrochemical conversion in batteries and fuel cells is described and analyzed. All major transport processes, such as momentum, heat, mass, ion and current, and thermal management issues are presented. System integration is described. Properties and characteristics of energy-relevant materials and their role in electrochemical devices are treated. The relevance of energy systems and the transportation sector is discussed. Various engineering problems are presented.

### Language(s) of Instruction

English

### Host Institution Course Number

MVKP25

### Host Institution Course Title

HYDROGEN, BATTERIES AND FUEL CELLS

### Host Institution Course Details

<https://kurser.lth.se/lot/course/MVKP25>

### Host Institution Campus

Lund

### Host Institution Faculty

Engineering

### Host Institution Degree

### Host Institution Department

### Course Last Reviewed

2022-2023

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