

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

HYDROGEN 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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