

## COURSE DETAIL

### ELECTRIC AND ELECTRIC HYBRID VEHICLE TECHNOLOGY

**Country**

Sweden

**Host Institution**

Lund University

**Program(s)**

Lund University

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Engineering Electrical Engineering

**UCEAP Course Number**

187

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

ELECTRIC AND ELECTRIC HYBRID VEHICLE TECHNOLOGY

**UCEAP Transcript Title**

ELECTRC VEHICLE TECH

**UCEAP Quarter Units**

6.00

**UCEAP Semester Units**

4.00

## Course Description

The course covers the following: drive and auxiliary drive; power, torque, and speed; combustion processes – Otto, Diesel, HCCI among others; gear – manual, automatic, CVT among others; efficiency and emissions; fossil fuel, bio fuel – access, cost, and performance; EV, HEV – series, parallel, mild, power split, FCV; conventional servo steering, AC, brake, compressed air and so on; electrically driven alternatives, function, efficiency; demands for electric machines and power electronics in vehicles; criteria for dimensioning; lifetime, weight, price and so on; field reduction, starting characteristics, torque ripple and so on; various types of control, need for sensors; fuel cells – principle, function and construction; advantages and drawbacks with various designs; development trends; electric storage media – e.g. batteries and super capacitors; drive cycles, efficiency, and emission for some selected drive lines; acceleration, start, and other demands for the vehicle; regenerative braking; the need for effect and energy storage in hybrid and FC vehicles.

## Language(s) of Instruction

English

## Host Institution Course Number

EIEN41

## Host Institution Course Title

ELECTRIC AND ELECTRIC HYBRID VEHICLE TECHNOLOGY

## Host Institution Campus

Lund University

## Host Institution Faculty

## Host Institution Degree

## Host Institution Department

Faculty of Engineering

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