COURSE DETAIL

ADVANCED COMBUSTION ENGINE CONCEPTS
Country Sweden
Host Institution Lund University
Program(s) Lund University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mechanical Engineering Engineering
UCEAP Course Number 183
UCEAP Course Suffix
UCEAP Official Title ADVANCED COMBUSTION ENGINE CONCEPTS
UCEAP Transcript Title ADV COMBUST ENGINE
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description
The course starts from the challenges facing current internal combustion engines. The historical development of engines is reviewed to better understand the reasons for current engine designs. Next, experimental and numerical tools are reviewed for investigating the processes occurring in engines, which are used in studying and improving engine designs. Advanced engine concepts and fuels are then discussed, with their merits and challenges. This includes advanced engine controls. Finally, an outlook is given as to where continued research and development of engines and fuels can lead, and how the combustion engine can be part of a sustainable future. Engine combustion is analyzed in laboratory exercises. Simulation exercises are also conducted with the purpose of making the students identify the engine's response to changes to its components and settings as well as running engines virtually. Normally a guest lecture is given by an expert from industry.

Language(s) of Instruction
English

Host Institution Course Number
MVKN55

Host Institution Course Title
ADVANCED COMBUSTION ENGINE CONCEPTS

Host Institution Course Details

Host Institution Campus
Engineering

Host Institution Faculty

Host Institution Degree

Host Institution Department
Engineering- Energy Sciences

Course Last Reviewed

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