

ENE2031 Thermodynamics, basic course - Study plans 2016-2017

Course code:

ENE2031

Course name:

Thermodynamics, basic course

Course level:

Bachelor (syklus 1)

ECTS Credits:

10

Duration:

Vår

Language of instruction:

Norsk, alternativt engelsk

On the basis of:

REA1131 Basic Mathematics and Statistics or Mathematics 1

or

REA1141 Mathematics 1

Expected learning outcomes:**Knowledge:**

Students will be able to explain:

- Thermodynamics 1 and 2 law and how they affect us
- How gas laws work
- How humid air diagram may be used.
- How the heat transfer between the gas, liquid and solids takes place and means

Skills:

Students will gain the skills to:

- Calculate mixtures of airflows of different amount and quality
- Calculate a steam turbine process in a step
- Compute such required chimney height provided a combustion volume
- Calculate circuit processes for piston machines
- Calculate the heat transfer in various substances
- Calculate the temperatures and flow rates at different air mixtures

General competence:

- Have an opinion about what efficiency is and can relate to them.
- Know the difference between energy and power,
- May participate in discussions on an elementary level regarding energy and heat in the process and comfort heating

Topic(s):

- Basic thermodynamics
- Heat Transfer
- Moist air
- Water vapor thermodynamics
- Vapour Processes
- Combustion and purification
- Refrigeration and Heat Pump Processes

Teaching Methods:

Lectures

Exercises

Project work

Teaching Methods (additional text):

Lectures

Exercises

Project assignment

Form(s) of Assessment:

Written exam, 5 hours

Form(s) of Assessment (additional text):

- Written exam, 4 hours (60%)
- Evaluation of the project (40%).
- Both parts must be passed.

Oral presentation if 5 or fewer students are registered for the examination

Grading Scale:

Alphabetical Scale, A(best) – F (fail)

External/internal examiner:

An internal sensor.

At the oral exam two examiners will be present.

Re-sit examination:

Regular examination of the written exam.

For project: New project at the next scheduled liquidation of the subject.

Tillatte hjelpemidler:**Academic responsibility:**

Faculty of Technology, Economy and Management

Course responsibility:

Dosent Magnar Eikerol og Professor Alemayehu Gebremedhin

Teaching Materials:

To be announced.

Publish:

Yes