Course: Energy Transfer

credits: 5

Course code	WBVB24EOV
Name	Energy Transfer
Study year	2026-2027
ECTS credits	5
Language	English
Coordinator	J.T. Hofman
Modes of delivery	Education
Assessments	Energy Transfer - Assignment

Learning outcomes

The student:

- calculates, draws, and explains the temperature distribution and heat flow through multiple layers of material (plate and tube; conduction and convection)
- determines the heat transfer coefficient for convection based on characteristic numbers
- calculates temperatures and powers in a heat exchanger with heat capacity flows, logarithmic mean temperature differences, and power balances
- selects and sizes components (underfloor heating and radiators) appropriate for the required heat output

Content

Many mechanical installations and machines transfer heat. Sometimes that is precisely the purpose, sometimes heat is a byproduct. Transfer occurs through radiation, conduction, and convection. This course covers the theory of transfer in static situations. Calculating and sizing heat exchangers is applied to radiators and underfloor heating.

Included in programme(s)

Mechanical Engineering

School(s)

Engineering, Life Sciences & ICT

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