

## t.FTH2 - Fluid- und Thermodynamik 2 - Thermodynamics 2

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**Person responsible for the course:** Joachim Borth, bthj

**Responsible OU:**

**ECTS:** 4

**Valid for:** 2012/2013

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**Expertise:**

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**Methodological skills:**

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**Social skills:**

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**Personal skills:**

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**Learning objectives:**

Presentation of change of state in phase diagrams

Ability to apply energy balances

Ability to analyse simple energy systems and components

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**Course content:**

Lectures:

- Equation of states
- First law of thermodynamics for open and closed systems
- Second law of thermodynamics
- Different processes of ideal gas
- Compressible flows
- The Carnot cycles
- Simple thermal power processes with ideal gases
- Properties of real substances

Practice:

- Centrifugal Pump
- Tube Friction
- Characteristic of ventilators
- Piston compressor (Burckhardt)

or

- Multi cell compressor
  - fuel cell
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**Previous knowledge:**

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**Teaching method:**

Type of lesson:	Number of lessons per week:
Lecture	14x3L
Tutorial/Practicum	4x4L
Block instruction	

**Assessment:**

According to the table or as specified in writing by the lecture at the beginning of the semester!

description	type	form	scope	assessment	weighting
Performance records during school hours	2 Exam	written		grading	$\geq 40\%$
Semester end exam	Exma	written	2 Lect. (1.5 h)	grading	$\leq 60\%$

**Language of instruction:**

Englisch

**Instruction material:**

Cerbe, Wilhelms, Technische Thermodynamik

**Additional literature:**

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**Comments:**

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