

t.WTC1 - Werkstofftechnik und Chemie 1

Person responsible for the course: Gregor Peikert, peik

Credits: 4

Valid for: 2010/2011

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Learning objectives:

Models of the materials microstructure allow an assessment and application of material properties that are necessary for the design and operating of components.

Course content:

Lectures:

- Definition of important mechanical properties, overview and comparison of materials
- Ideal and real structures of metals and their influence on the strength
- Alloys (Steel, Aluminium, Titanium)
- Polymers, Composites

Practice:

4 experiments, 3 lessons each, teamwork:

- Mechanical properties of typical engineering materials: tensile and impact testing
- Metallography and scanning electron microscopy: examination of microstructures and fracture surfaces
- Solidification and microstructures of Sn/Pb alloys
- Ultrasonic inspection

Previous knowledge:

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Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14x3L
Tutorial/Practicum	5x3L
Group teaching	
Block instruction	
Seminar	

Assessment:

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

Number	Type	Weighting
1	End of term exam	
	Exam during the semester	
1	Further assessments	

Language of instruction:

german

Instruction material:

- Anleitungen für das Werkstoffkundepraktikum WTC1,

Literatur:

Werkstoffkunde für Ingenieure E. Roos, K. Maile Springer

Werkstoffwissenschaften und Fertigungstechnik B. Ilchner, R.F. Singer Springer

Werkstofftechnik 1 +2; Bergmann, Hanser Verlag. Eher für MV-Studenten

Comments:

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