

## t.WTST - Werkstofftechnik

**Person responsible for the course:** Gregor Peikert, peik

**Credits:** 2

**Valid for:** 2010/2011

**Last saved:** 31.08.2011 15:18

### 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:

2 experiments, 3 lessons each, teamwork:

- Metallography and scanning electron microscopy; examination of microstructures and fracture surfaces;
- Ultrasonic inspection

### Previous knowledge:

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### Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	10x2L
Tutorial/Practicum	3x3L
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	
	Further assessments	

### Language of instruction:

german

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**Instruction material:**

- Anleitungen für das Werkstoffkundepraktikum WTST, N. Wüthrich

**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

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**Comments:**

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