

## t.MEST3 - Mechanik für Systemtechnik 3

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**Person responsible for the course:** Michael Warden, wami  
**Responsible OU:** IMS  
**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:

Theory of Elasticity:

The students are familiar with the deformation properties of elastic bodies. They can estimate the load capacity of construction elements subjected to bending and torsional loads.

Dynamics:

The students understand the kinematic description of motions, including, position, velocity and acceleration. They know Newton's laws and can apply them to technical examples by using appropriate approximations.

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### Course content:

Lecture Theory of Elasticity:

- Strain
- Bending of Bars
- Torsion

Lecture Dynamics:

- Motion of Particles
- Motion of Rigid Bodies

Problem solving:

Problems are handed out which have to be solved as home work. These are discussed during the lectures.

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### Previous knowledge:

Courses MEST1 and MEST2

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**Teaching method:**

Type of lesson:	Number of lessons per week:
Lecture	14x4
Tutorial/Practicum	
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	test	written	2x45%	1-6	2x20%
Semester end exam	test	written	90%	1-6	60%

**Language of instruction:**

German

**Instruction material:**

- Gross D., Hauger W., Schröder J., Wall W.A.: Technische Mechanik. Elastostatik (Band 2), Springer-Lehrbuch, Berlin Heidelberg.
- Gross D., Hauger W., Schröder J., Wall W.A.: Technische Mechanik. Kinetik (Band 3), Springer-Lehrbuch, Berlin Heidelberg.
- Problems (can be downloaded from the server)

**Additional literature:**

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**Comments:**

None