

## t.PEMT2 - Produktentwicklung für Maschinentechnik 2

**Person responsible for the course:** Rudolf Fuchs, fhsr  
**Credits:** 6  
**Valid for:** 2010/2011  
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### Learning objectives:

Developing products and assemblies in the field of sheet metal technology.  
 Use and practice the systematic design methodology.  
 Select, use and recalculate machine elements.

### Course content:

Machine Elements (ME)  
 spring elements, stamping parts, linear bearings.

Practical exercises (PE):

Functional diagramm, morphology, first ideas, conceptual design variants, first drafts.

Arguments for decisions written down.

Planning, time schedule, budget control, reviews, estimate cost calculations; presentation of results;

Standard project documentation;

Production technology: sheet metal design.

CAD: Sheet-metal-design; assembly and part list, standard parts (partsolution), drafting (parts and assemblies).

introduction in shape design.

Select and use of electrical components as actors and sensors.

### Previous knowledge:

Good knowledge in drafting of manufacturing blue prints and assembly drawings. Knowledge about the assembly of machines.

Basic knowledge in CAD (part design, assembly design, drafting).

Good skills in computer software (word, powerpoint, excel).

Basic knowledge about cost estimation.

### Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14x2 (machine elements)
Tutorial/Practicum	14x3 (practical exercises)
Group teaching	
Block instruction	
Seminar	

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**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	60%
2	Exam during the semester	1 ME (10%), 1 CAD (10%)
2	Further assessments	2 practical exercises PE (each 10%)

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**Language of instruction:**

German

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**Instruction material:**

Schoolbook Roloff/Matek Maschinenelemente,

VSM Normenauzug

Bearing catalogues

Internet information of different normpart manufacturing companies.

Additional documents and examples on Public (intranet).

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**Comments:**

2 lessons focussed on machine elements.

4 contact lessons focussed on practical exercises (1 of the lesson is accompanied by a language master).

The practical exercises require a continuous and self-consistent manner of work of the individual student.

Teamwork is required in the practical exercises.