

t.PEMT1 - Produktentwicklung für Maschinentechnik 1

Person responsible for the course: Rudolf Fuchs, fhsr
Credits: 7
Valid for: 2011/2012
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Learning objectives:

Sketching of parts and small assemblies;
 Clarify tasks, list of requirements, conceiving, designing and working out;
 Using roller and bush bearings in small shaft assemblies;
 Foundry technology (sand casting).
 Calculation of estimate manufacturing costs.
 Planning and documentation of technical projects in a structured manner.
 Presentation of decisions and results in written and verbal form.
 Select, use and recalculate machine elements

Course content:

Machine elements (ME):
 Roller and bush bearings, seals , shaft to collar connections,

Practical exercises (PE):

Apply the systems engineering in practical tasks (shaft assemblies, castings).
 Producing hand made sketches, conceiving different concepts (variants), working out scaled assembly and detail drawings.
 Working out of a proper written documentation.
 Time schedules, budget control, estimate manufacturing cost.

CAD: basic training in part design, assembly design, drafting

Previous knowledge:

Knowledge in metal-cutting technology.
 Good knowledge in drafting manufacturing blue prints and assembly drawings.
 Basic skills in computer software (Office)

Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14x2 (ME)
Tutorial/Practicum	14x3 (PE)
Group teaching	14x2 (CAD)
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	60%
2	Exam during the semester	1 ME (10%), 1 CAD (10%)
2	Further assessments	2 practical exercises PE (each 10%)

Language of instruction:

German

Instruction material:

Schoolbook Roloff/Matek Maschinenelemente,

VSM Normenauszug

Bearing catalogues

Internet information of different standard part suppliers.

Additional documents and examples on Public (intranet)

Comments:

2 lessons focussed on machine elements (ME).

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

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

2 lessons CAD practical training in groups.