

t.PE3 - Produktentwicklung 3

Person responsible for the course: Rudolf Fuchs, fhsr
Credits: 5
Valid for: 2010/2011
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Learning objectives:

Solving of technical problem sets on the field of plastic injection molding technology and on the field of drive technology.
 Developping of assemblies with CAD.
 Selection, calculation and integration of machine elements.
 Use of systematic product methodology like carify, concieve, design, elaborate.
 Consolidating of good writing in German.
 Presentation of results.
 Elaborating of solutions individually und in teamwork.

Course content:

Machine elements (ME):
 chains, timing belts, screws

Practical exercises (PE):

Developping of assemblies on the filed of plastic injection moulding technology and the field of handling- and automation engineering, supported by CAD and systematic design methodology.
 Modelling plastic injection molded parts with Catia.
 Basic introduction in ultrasonic welding and rapid prototyping.
 Creation of project documentations. Taking notes from meetings, creating of presentation documents.
 Estimation of manufacturing cost of assemblies.
 Planning and controlling of developpement projects.

Previous knowledge:

Finished basic education in part design, assembly design, drafting.
 Good skills in sketching ideas and design concepts.
 Knowledge about standard design methodology.

Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14x2 (machine elements)
Tutorial/Practicum	14x4 (practical exercises)
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	60%
1	Exam during the semester	1 ME (10%)
2	Further assessments	2 practical exercises PE (each 15%)

Language of instruction:

Deutsch

Instruction material:

Schoolbook Roloff/Matek Maschinenelemente,

VSM Normenauszug

Bearing catalogues

Internet information of different standard part manufacturing companies

Additional documents on Public (intranetwork)

Comments:

2 lessons focussed on machine elements.

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

The practical exercises require a continuous and self-consistent manner of planning and work in teams and as individual student. Written weekly reports about the status of the projects are required.