

t.PHUI2 - Physik für Unternehmensinformatik 2

Person responsible for the course: Ralf Markendorf, mklf

Credits: 4

Valid for: 2010/2011

Last saved: 08.09.2010 09:35

Learning objectives:

Tools: Students get familiar with the physical way of thinking and working by means of well-chosen issues from nature and technology. That includes experiments and modeling, analogies and recognition of physical structures. Students are capable of checking results in principle by considering limiting cases, assessing their plausibility, performing estimations and comparing them with empirical values from technology and science.

Knowledge: Students understand the basics of electrostatics and alternating currents and are able to apply them qualitatively and quantitatively to phenomena from nature and technology.

Course content:

Energy: Work, energy, potential and kinetic energy, power, selected problems in energy

Gravitation: Crossover to electrostatics

Electrostatics: Introduction of fields, field strength, electrostatic potential

Direct currents (repetition only): Kirchhoff's rules, voltage divider, current divider, electrical measurement

Magnetism: Magnetic flux density, law of Ampere, electromagnetic induction, electric generator, transformer, skin effect

Fiber optics: Optical wave guides, modal-, material- and wave-guide dispersion, types of fibers, bandwidth-length-product

Previous knowledge:

Module PHUI1

Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14*2
Tutorial/Practicum	14*2
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%
	Exam during the semester	2 x 20%
	Further assessments	

Language of instruction:

german

Instruction material:

lecture notes on lectures/exercise courses/laboratory

Comments:

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