

t.PHIT - Physik für Informatik

Person responsible for the course: Stephan Scheidegger, scst

Credits: 4

Valid for: 2010/2011

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Learning objectives:

Students can give the correct definitions for the elementary physical quantities and can apply them to solve basic problems

They are familiar with the flow-storage concept and the physical concept of fields

They can model basic physical processes and explore the limits of the models

The can implement basic numerical integration-methods to solve physical problems

They can simulate circuits containing resistive (R), capacitive (C) and inductive (L) components

They can identify typical system behaviour by using phase diagrams

Course content:

Kinematics

Gravity and electrical fields

Momentum

Energy, work, power and potentials

Dielectrics and capacitors

C and R in series and parallel (Kirchhoffs Rules), Discharge of a capacitor

The magnetic field and electromagnetic induction

RCL-Circuits

Oscillators, effects at high frequency

Previous knowledge:

Mathematics 1st year

Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	2
Tutorial/Practicum	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	80%
1	Exam during the semester	20%
	Further assessments	

Language of instruction:

german

Instruction material:

lecture notes

Comments:

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