

## t.PHVS3 - Physik für Verkehrssysteme 3

**Person responsible for the course:** Christian Hilbes, hilc

**Credits:** 4

**Valid for:** 2011/2012

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### Learning objectives:

Students are familiar with the principles of oscillations and waves in material media, as far as relevant within the field of traffic systems, and can apply them.

They can model and run simulations of simple systems from the field of vehicle dynamics and deduce design constraints from those simulations.

They can interpret time- and phase-diagrams as well as frequency-response characteristics and determine characteristic system properties from those.

They are familiar with the field concept.

They can explain the basic models describing the propagation of electromagnetic waves.

### Course content:

Principles of oscillations and waves in material media.

Modeling and simulation of vehicle dynamics systems.

Principles of the electromagnetic field, of electrodynamics and of the propagation of electromagnetic waves.

Wave-particle dualism.

### Previous knowledge:

Mathematics and Physics 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	60%
1	Exam during the semester	20%
1	Further assessments	20%

### Language of instruction:

german

**Instruction material:**

lecture notes and self-written notes

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**Comments:**

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