

t.SEN - Sensorik

Person responsible for the course: Michael Warden, wami

Credits: 4

Valid for: 2011/2012

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Learning objectives:

Lecture:

The students are familiar with the various sensor technologies from a users point of view. They know the physical principles and the general sensor properties. They also understand the technical data of sensors such as error, stability, measuring range, response threshold, accuracy, sensitivity, hysteresis, or saturation. With this knowledge the students are able to lay out sensors for specific applications.

Practical Course:

The students are familiar with the selection criteria and the advantages and disadvantages of the various sensors. They can interpret the data sheets and also characterize the sensors.

Course content:

Lecture:

- inductive sensors
- capacitive sensors
- ultrasonic sensors
- photoelectric sensors
- magnetic sensors

Practical Course:

Various types of sensors, such as inductive sensors, capacitive sensors, magnetic sensors and ultrasonic sensors are characterized.

Previous knowledge:

- Physics
 - Mathematics
 - knowledge specific to Mechatronic Engineering
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Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14x2
Tutorial/Practicum	14x2
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	Precece and course report(s)

Language of instruction:

German

Instruction material:

Current books on sensor technology (exact titles will be given during the course)

Practical course material

Comments:

None