

t.MC - Microcontroller

Person responsible for the course:	Rolf Klaus, klsr
Credits:	4
Valid for:	2011/2012
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Learning objectives:

After successfully finishing this course, the students are able to understand the architecture and the functions of common microcontrollers.

With this knowledge they can design systems with microcontrollers and are able to develop interface logic and programmes for industrial applications.

The course will enable them to understand and work with other microcontrollers quickly.

Course content:

- Architecture of a common 8-bit-microcontroller with integrated special functions
- Architecture of a common 16-bit-microcontroller, bussystem, interfacing to memory and IO
- Integrated special functions of a common 16-bit-microcontroller (interrupts, timers, ad-converter, pwm-unit, peripheral event control, serial interface, etc)
- Development tools, programming in C and assembler
- Practical work with examples from the area of embedded systems like: matrix-keyboard, multiplexed-display, ad-conversion, time- and frequency measurement, software-timer, software-state-machine

Previous knowledge:

Content of the courses Digitaltechnik und Technische Informatik 1 und 2

Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14 * 2 lessons
Tutorial/Practicum	7 * 4 lessons
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	
7	Further assessments	Praktika total 40%

Language of instruction:

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Instruction material:

For more details about the course like schedule and documentation, see:

<https://olat.zhaw.ch/olat/url/RepositoryEntry/58851349/guest-en>

Comments:

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