

PHY-M-VS 07

Effective WS 2011/12

1. Module title:		Computer and Microcontroller Technology			
2. Field / responsibility of:		Physics / the department, the Dean of Studies			
3. Module contents:		<ul style="list-style-type: none"> • The structure of a computer system • Operation and instruction set of a standard microprocessor • Hardware-related programming • Interfaces with peripheral devices • Technical use of microcontrollers, real-time behavior • Modern concepts to improve the performance of computer systems 			
4. Qualification objectives of the module / competencies to be acquired:		Understanding of the inner workings of a computer and insight into the the technical use of computers			
5. Prerequisites for participation:					
a) Recommended knowledge:		Good knowledge of a (higher) programming language			
b) Prerequisite courses:		None			
6. Module can be used for:		M.Sc. (and B.Sc.) in Physics, Nanoscience, Computational Science, Teacher Training for Academic Secondary School, Teacher Training for Physics			
7. Module is offered:		On a semiannual basis			
8. Module can be completed in:		1 semester			
9. Recommended semester of study:		1			
10. Overall module workload / number of credit points:		Workload: Total number of hours: 180 Allocation: 1. Attendance: 4 credit hours 2. Independent study (including exam preparation/ exam): 120 hours Credit points: 6			
The successful completion of all assignments listed in items 11 and 12 is a prerequisite for receiving the credit points mentioned in item 10.					
11. Module components:					
Nr.	Req./req. elective	Form of teaching	Subject area/topic	Credit hours	Coursework
PHY-M-VS 07 .1	Compulsory	Lecture Practical course	Computer and microcontroller technology	4	Successful completion of the practical exercises across all course topics; project work
12. Module exam:					
Nr.	Competence / topic	Type of exam	Duration	Time / notes	Weighting for module grade