PHY-M-VS 08

Effective WS 2011/12 / Please also read the comments in item 13.

1. Module title:	**Databases and the Internet**
2. Field / responsibility of:	Physics / the department, the Dean of Studies
3. Module contents:	In this course, participants learn how to plan and program database-driven web applications. They are realized with the highly popular tools PHP and MySQL. Contents: • A brief review of HTML; creating your first small application • The programming language PHP • HTML forms and their processing with PHP • Important security considerations • Introduction to relational database systems, important SQL commands • Data modeling (entity-relationship model, normal forms), implementing models with SQL • Advanced techniques (e.g. regular expressions, authentication, sessions, Ajax)
4. Qualification objectives of the module / competencies to be acquired:	Learning and practicing important techniques for developing database-supported, dynamic websites, applying what has been learned in a sample application (in a small group)
5. Prerequisites for participation:	
a) Recommended knowledge:	Knowledge of any programming language
b) Prerequisite courses:	None
6. Module can be used for:	M.Sc. (and B.Sc.) in Physics, Nanoscience, Computational Science
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): 110 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 08.1	Compulsory	Lecture Practical course	Databases and the internet	4	Successful completion of the practical exercises (with the instructor signing off each course session); project work

12. Module exam:

Nr.	Competence / topic	Type of exam	Duration	Time / notes	Weighting for module grade

13. Notes:

Successful participation in the practical course is a prerequisite for taking the module exam.