Module: Base Module Laboratory Course

Module No.: physics600

Course: Advanced Laboratory Course

Course No.: physics601

Category	Type	Language	Teaching hours	CP	Semester
Required	Laboratory	English	3+2	7	WT

Requirements:

Preparation:

Form of Testing and Examination:
Experiments are selected from the catalogue of laboratory set-ups offered. (Cumulative credit points =7 are required)
Requirements for the module examination (written report for every laboratory): successful completion of the experiment and initial oral questioning

Length of Course:
1 semester

Aims of the Course:
The student shall gain insight in the intricate workings of physics in relevant advanced experiments. The student gains experience in the setting up of a proper experimental environment and experiences the intricacies of forefront experimental research

Contents of the Course:
Advanced experiments are carried out. Experimenting time in units of 8 hrs, preparation time and report writing each ~15 hrs. Further details are listed in the catalogue of laboratories. The experiments are chosen among those being offered and after consultation with the head of the course.

Recommended Literature:
Hand outs and literature will be distributed with the registration for an experiment

Catalogue of laboratories (related to physics601)
1. Properties of Elementary Particles (Bubble Chamber events): 3 units; 1,5 CP
2. Analysis of Decays of the Heavy Vector Boson Z0: 3 units; 1,5 CP
3. Holography: 2 units; 1 CP
4. Photovoltaic and Fuel Cell: 2 units; 1 CP
5. Optical Frequency doubling: 2 units; 1 CP
6. Laser Spectroscopy: 2 units; 1 CP
7. Photonic Crystals: 2 units; 1 CP
8. Mößbauer-Effect / Debye-Scherrer Method: 2 units; 1 CP
9. Nuclear Gamma-Gamma Angular Correlations / Beta+ Annihilation: 2 units; 1 CP
10. Wave propagation on coaxial cables and waveguides / Setup of a radio-astronomical receiver: 2 units; 1 CP