

Module title					Abbreviation
Advanced Laboratory Course Master Part 3					11-P-FM3-161-m01
Module coordinator				Module offered by	
Managing Director of the Institute of Ap			plied Physics Faculty of Physics and Astronomy		
ECTS	ECTS Method of grading		Only after succ. compl. of module(s)		
3	(not) s	successfully completed			
Duration		Module level	Other prerequisites		
1 semester		graduate	Preparation and safety briefing.		
Contents					
Principles of Nuclear, Atomic and Molecular Physics, experiments on cryogenic temperatures and correlated sy- stems, properties of solids, surfaces and interfaces. Experiments on the following topics: X-rays - nuclear magne- tic resonance (NMR) - quantum Hall effect - optical pumping and spectroscopy in the field of optics - Hall effect - superconductivity - laser - solid-state optics					
Intended learning outcomes					
Knowledge of conducting experiments, analysing and documenting experimental results, basic knowledge of is- suing scientific publications, application of modern evaluation systems. The students are familiar with modern experimental methods. They are able to work on a task on the basis of publications, to conduct and evaluate an experiment and to present and discuss their results in a scientific publication.					
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)					
P (3)					
<b>Method of assessment</b> (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scienti- fic publication) an experiment to be considered to have successfully completed this experiment. Students must successfully complete two experiments to be considered to have successfully completed this module. Detailed regulations are laid down in the respective module description. Language of assessment: German and/or English					
Allocation of places					
Additional information					
Workload					
90 h					
Teaching cycle					
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)					
Module appears in					
Master's degree (1 major) Physics (2016) Master's degree (1 major) Nanostructure Technology (2016) Master's degree (1 major) Nanostructure Technology (2020) Master's degree (1 major) Physics (2020) Master's degree (1 major) Quantum Technology (2021) exchange program Physics (2023)					

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