

Module title		Abbreviation
Advanced Laboratory Course Master Part 4		11-P-FM4-Int-201-m01
Module coordinator		Module offered by
Managing Director of the Institute of Applied Physics		Faculty of Physics and Astronomy
ECTS	Method of grading	Only after succ. compl. of module(s)
3	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	graduate	Preparation and safety briefing.
Contents		
Foundations of particle, atomic and molecular physics, low-temperature experiments and correlated systems, solid state properties, surfaces and interfaces. Experiments covering the topics x-ray radiation, nuclear magnetic resonance (NMR), quantum Hall effect, optical pumping and spectroscopy with visible light, Hall effect, superconductivity, lasers, solid state optics		
Intended learning outcomes		
Solid skills in performing an experiment and analyzing and documenting the experimental outcome. Basic knowledge of how to prepare a scientific publication and use state-of-the-art analysis systems and software. Knowledge of experimental methods, of using scientific publications, of performing and evaluating an experiment, and presenting and discussing the results in the form of a scientific publication.		
Courses (type, number of weekly contact hours, language — if other than German)		
P (3) Module taught in: English		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)		
practical examination Students must successfully prepare, perform, document (lab notebook) and evaluate (in the form of a scientific 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: English		
Allocation of places		
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Additional information		
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Workload		
90 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Master's degree (1 major) Physics International (2020) Master's degree (1 major) Quantum Engineering (2020) exchange program Physics (2023) Master's degree (1 major) Quantum Engineering (2024) Master's degree (1 major) Physics International (2024)		