

Module title		Abbreviation
Fundamentals of Semiconductor Physics		11-HLP-152-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)
6	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
1. Symmetry properties 2. Crystal formation and electronic band structure 3. Optical excitations and their coupling effects 4. Electron-phonon coupling 5. Temperature-dependent transport properties 6. (Semi-)magnetic semiconductors		
Intended learning outcomes		
The students are familiar with the principles of Semiconductor Physics. They understand the structure of semiconductors and know their physical properties and effects. They know important applications.		
Courses (type, number of weekly contact hours, language — if other than German)		
V (3) + R (1) Module taught in: German or 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)		
written examination (approx. 90 to 120 minutes) or oral examination of one candidate each (approx. 30 minutes) or oral examination in groups (groups of 2, approx. 30 minutes per candidate) or project report (approx. 8 to 10 pages) or presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may instead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original examination date at the latest. Assessment offered: Once a year, summer semester Language of assessment: German and/or English		
Allocation of places		
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Additional information		
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Workload		
180 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		
Bachelor' degree (1 major) Physics (2015) Bachelor' degree (1 major) Nanostructure Technology (2015) Bachelor' degree (1 major) Physics (2020) Bachelor' degree (1 major) Nanostructure Technology (2020)		

Bachelor' degree (1 major) Quantum Technology (2021)  
exchange program Physics (2023)