

Module title		Abbreviation
FOKUS Research Module Applied Semiconductor Physics and Devices		11-FM-SPD-102-m01
Module coordinator		Module offered by
chairperson of examination committee		Faculty of Physics and Astronomy
ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	11-KM-2
Contents		
Specific and advanced knowledge of independent scientific work in a current research area, especially in the specialist field of Semiconductor Physics and Components, reproduction of knowledge, acquisition of social and methodological competencies. Principles of Semiconductor Physics. Introduction to key theories on semiconductors. Components from the areas of electronics and photonics.		
Intended learning outcomes		
The students have special and advanced knowledge of independent scientific work in Applied Semiconductor Physics. They are familiar with the properties of semiconductors, they have gained an overview of the electronic and phononic band structures of important semiconductors and the resulting electronic, optical and thermal properties. They know the realisation possibilities of low-dimensional charge carrier systems on the basis of semiconductors and their technological importance. They have acquired advanced knowledge of a special topic and are able to summarise their knowledge in an oral presentation.		
Courses (type, number of weekly contact hours, language — if other than German)		
Halbleiterphysik und Bauelemente (Applied Semiconductor Physics and Devices): V (3 weekly contact hours) + Ü/P (1 weekly contact hour), German or English, once a year (winter semester) Kompaktseminar Halbleiterphysik und Bauelemente (Block Taught Seminar Applied Semiconductor Physics and Devices): S (2 weekly contact hours), German or English, details on availability to be announced (block taught seminar (3 days), usually held during semester break)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)		
<p>This module has the following assessment components</p> <ol style="list-style-type: none"> <li>Topics covered in lectures and exercises: written examination (approx. 90 minutes) or talk (approx. 30 minutes) or oral examination of one candidate each or oral examination in groups (approx. 30 minutes) or project report (approx. 8 pages)</li> <li>Seminar: talk (approx. 30 to 45 minutes)</li> </ol> <p>Assessment components 1 and 2 will be offered in German or English. Students must register for assessment components 1 and 2 online (details to be announced). Assessment component 1 will be offered once a year in the winter semester; details on when assessment component 2 will be offered to be announced. To pass this module, students must pass both assessment component 1 and assessment component 2.</p>		
Allocation of places		
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Additional information		
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Workload		
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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) FOKUS Physics (2010)

Master's degree (1 major) FOKUS Physics (2011)

Master's degree (1 major) FOKUS Physics (2006)