Module title: Theoretical Solid State Physics 2
Abbreviation: 11-TFK2-111-m01

Module coordinator: Managing Director of the Institute of Theoretical Physics and Astrophysics
Module offered by: Faculty of Physics and Astronomy

ECTS: 8
Method of grading: numerical grade
Other prerequisites: --
Duration: 1 semester
Module level: graduate

Contents:
- a) metal-insulators and topological insulators
- b) transport phenomena
- c) magnetic impurities in metals. Kondo effect and heavy fermions
- d) electron-phonon interaction
- e) one-dimensional conductors

Intended learning outcomes:
The students have advanced knowledge of the theoretical description of solid-state phenomena. They know the mathematical or theoretical methods and are able to apply them to problems of solid-state theory and understand the connections to experimental results. The individual students have elaborated on an advanced topic of solid-state theory and have discussed this topic in a seminar presentation.

Courses:
V + R (no information on SWS (weekly contact hours) and course language available)

Method of assessment:
- a) written examination (approx. 90 minutes) or b) oral examination of one candidate each or oral examination in groups (approx. 30 minutes per candidate, for modules with less than 4 ECTS credits approx. 20 minutes) or c) project report (approx. 8 to 10 pages, time to complete: 1 to 4 weeks) or d) presentation/seminar presentation (approx. 30 minutes)

Assessment offered: When and how often assessment will be offered depends on the method of assessment and will be announced in due form under observance of Section 32 Subsection 3 ASPO (general academic and examination regulations) 2009.
Language of assessment: German, English

Allocation of places:
--

Additional information:
--

Referred to in LPO 1 (examination regulations for teaching-degree programmes):
--

Module appears in:
Master's degree (1 major) Physics (2010)
| Master's degree (1 major) Physics (2011) |
| Master's degree (1 major) Nanostructure Technology (2011) |
| Master's degree (1 major) Nanostructure Technology (2010) |
| Master's degree (1 major) Mathematical Physics (2012) |
| Master's degree (1 major) FOKUS Physics (2010) |
| Master's degree (1 major) FOKUS Physics (2011) |
| Master's degree (1 major) FOKUS Physics (2006) |