Module title: Special Theory of Relativity
Abbreviation: 11-SRT-112-m01

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

ECTS: 4
Method of grading: numerical grade
Only after succ. compl. of module(s): --

Duration: 1 semester
Module level: graduate
Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Contents:
- Mathematical principles
- Differential forms
- Special relativity
- Minkowski space
- Lorentz transformation
- Hamiltonian equation of motion
- Relativistic free particle

Intended learning outcomes:
The students are familiar with the physical concepts and mathematical principles of special relativity. They are familiar with modern mathematical formulation of special relativity. They are able to apply the acquired knowledge to problems of special relativity.

Courses:
V + R (no information on SWS 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.

Allocation of places: --
Additional information: --

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

Module appears in:
- Bachelor’ degree (1 major) Physics (2010)
- Bachelor’ degree (1 major) Physics (2012)
- Master’s degree (1 major) Physics (2010)
- Master’s degree (1 major) Physics (2011)
- 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)