Module title: Preparatory Course Mathematics
Abbreviation: 11-P-VKM-152-m01

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

ECTS: 2
Method of grading: Only after succ. compl. of module(s)

Duration: 1 semester
Module level: undergraduate
Other prerequisites: --

Contents:
Principles of mathematics and elementary calculation methods from school and partially beyond, especially for the introduction to and preparation for the modules of Experimental and Theoretical Physics.
1. Basic geometry and algebra
2. Coordinate systems and complex numbers
3. Vectors - vectored values
4. Differential calculus
5. Integral calculus

Intended learning outcomes:
The students know the principles of mathematics and elementary calculation methods which are required for successfully studying Theoretical and Experimental Physics.

Courses (type, number of weekly contact hours, language — if other than German)
T (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
a) exercises (successful completion of approx. 50% of approx. 6 exercise sheets) or b) talk (approx. 15 minutes)
Assessment offered: Once a year, winter semester

Allocation of places: --

Additional information: --

Referred to in LPO I (examination regulations for teaching-degree programmes)
§ 22 II Nr. 1 h)
§ 22 II Nr. 2 f)
§ 22 II Nr. 3 f)

Module appears in
Bachelor' degree (1 major) Physics (2015)
Bachelor' degree (1 major) Nanostructure Technology (2015)
Bachelor' degree (1 major) Mathematical Physics (2015)
Bachelor's degree (1 major, 1 minor) Physics (Minor, 2015)
First state examination for the teaching degree Grundschule Physics (2015)
First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2015)
First state examination for the teaching degree Realschule Physics (2015)
First state examination for the teaching degree Gymnasium Physics (2015)
First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2015)
First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2015)
Bachelor' degree (1 major) Mathematical Physics (2016)
First state examination for the teaching degree Grundschule Physics (2018)
| First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2018) |
| First state examination for the teaching degree Realschule Physics (2018) |
| First state examination for the teaching degree Gymnasium Physics (2018) |
| First state examination for the teaching degree Mittelschule Physics (2018) |
| First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2018) |
| First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2018) |