Module title			Abbreviation
Modern Physics 3 (Nuclear, Particle and Astrophysics)			11-L-M3-152-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
2 semester	undergraduate	--

Contents

Nuclear Physics: experimental methods, detectors, structure of the atomic nucleus, radioactivity, nuclear fission, technical and medical applications, radiation protection. Elementary Particle Physics: Particle accelerator, classification of elementary particles, fundamental interactions. Astrophysics: Stellar development, structure of the Sun, cosmology.

Intended learning outcomes

The students have structured knowledge of the aforementioned terms; they know relevant key concepts and experiments as well as measuring methods and dimensions of central values; they are able to work on simple relevant problems in a quantitative manner.

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

V (3) + Ü (1)
Module taught in: Ü: 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)
Language of assessment: German and/or English

Allocation of places

--

Additional information

--

Workload

180 h

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

§ 77 I Nr. 1 b)

Module appears in

First state examination for the teaching degree Gymnasium Physics (2015)
Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)
Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)