Primary Area of Specialization

Nuclear and Particle Physics

Module No.: MN-P-SP-Nuc **status quo 08.05.2012**

	HPW	estimated effort (h)	credit points
Lecture Course	11	480	16
Advanced Seminar	2	120	4
Total	13	600	20

Literature

Mayer-Kuckuk, Kernphysik (Teubner)
Krane, Introductory Nuclear Physics (Wiley & Sons)
Casten, Nuclear Structure from a Simple Perspective (Oxford University Press)
Heyde, The nuclear shell model (Springer)
Leo, Techniques for nuclear and particle physics experiments (Springer)
Povh Rith Scholz Zetsche, Teilchen und Kerne (Springer)
Machner, Einführung in die Kern und Elementarteilchenphysik (Wiley)

Organization

The Primary AoS Nuclear and Particle Physics is composed of:

1. 3 core courses: Nuclear physics II , Detector physics and Particle physics (in total 9 hpw)
2. 1 specialized course (2 hpw)
3. 1 advanced seminar (2 hpw)

Examinations

1. Participation in the lectures
2. Successful participation in the advanced seminar
3. Oral examination over the courses

The grade given for the module is equal to the grade of the oral examination.

Aims

This module introduces the student to actual themes in nuclear and particle physics. It prepares the student especially for experimental nuclear spectroscopy and creates the prerequisities for using this subjects in a master thesis.

Prerequisites for Participation

None

Prerequisites

Basic knowledge in atomic, nuclear and particle physics and quantum mechanics at the level of the bachelor courses in physics

Frequency

The Advanced Seminar and at least one special courses are offered in each semester. The lecture Nuclear Physics II takes place in winter semester and the lectures Particle Physics and Detector Physics in summer semester.

Soft Skills
Elocution and public speaking

Use in Other Courses of Study
None

Coordinators
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