Degree:

Module: Specialization II

Module No.: physics630

Course: universitätbonn

Physics of Hadrons

Course No.: physics632

| Category | Туре | Language | Teaching hours | СР | Semester |
|----------|------------------------|----------|----------------|----|----------|
| Elective | Lecture with exercises | English | 3+1 | 6 | ST |

Requirements:

Preparation:

Completed B.Sc. in Physics, with experience in electrodynamics, quantum mechanics, atomic- and nuclear physics

Form of Testing and Examination:

Requirements for the examination (written or oral): successful work with the exercises

Length of Course:

1 semester

Aims of the Course:

Understanding the many-body structure of hadrons, understanding structural examinations with electromagnetic probes, introduction into experimental phenomenology

Contents of the Course:

Structure Parameters of baryons and mesons; hadronic, electromagnetic and weak probes; size, form factors and structure functions; quarks, asymptotic freedom, confinement, resonances; symmetries and symmetry breaking, hadron masses;

quark models, meson and baryon spectrum; baryon spectroscopy and exclusive reactions; missing resonances, exotic states

Recommended Literature:

B. Povh, K. Rith C. Scholz, F. Zetsche; Teilchen und Kerne (Springer, Heidelberg 6. Aufl. 2004) Perkins; Introduction to High Energy Physics (Cambridge University Press 4. Aufl. 2000) K. Gottfried, F. Weisskopf; Concepts of Particle Physics (Oxford University Press 1986)