

# Physics of Hadrons - physics632

Degree - M.Sc. in Physics (PO von 2014)

<i>Module</i>	<b>Specialization: Advanced Experimental Physics</b>
<i>Module No.</i>	physics62a

<i>Course</i>	<b>Physics of Hadrons</b>
<i>Course No.</i>	physics632

<b>Category</b>	<b>Type</b>	<b>Language</b>	<b>Teaching hours</b>	<b>CP</b>	<b>Semester</b>
Elective	Lecture with exercises	English	3+1	6	ST

## Requirements for Participation:

**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)