Physics of Higgs Bosons (T) - physics766

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

Module	**Elective Advanced Lectures: Theoretical Physics**
Module No.	physics70c

Course	**Physics of Higgs Bosons (T)**
Course No.	physics766

Category	**Type**	**Language**	**Teaching hours**	**CP**	**Semester**
Elective	Lecture with exercises	English	3+2	7	WT

Requirements for Participation:

Preparation: Theoretical Particle Physics (physics615)

Form of Testing and Examination:

Requirement for the examination (written or oral): successful participation in the exercises

Length of Course: 1 semester

Aims of the Course:

Understanding the physics of electroweak symmetry breaking, and the interpretations of the recently discovered signals for the existence of a Higgs boson

Contents of the Course:

Spontaneous symmetry breaking

The Higgs mechanism

The Higgs boson of the Standard Model

Experimental situation

Extended Higgs sectors

Precision calculations

Recommended Literature:

J. Gunion, H.E. Haber, G.L. Kane and S. Dawson: The Higgs Hunter's Guide (Frontiers of Physics, 2000)

A. Djouadi: Anatomy of Electroweak Symmetry Breaking I (Phys. Rep. 457 (2008) 1, hep-ph/0503173)

A. Djouadi: Anatomy of Electroweak Symmetry Breaking II (Phys. Rep. 459 (2008) 1, hep-ph/0504090)