Quantum Field Theory II (T) - QFT II

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

Module	**Elective Advanced Lectures: BCGS Courses**
Module No.	physics70d

Course	**Quantum Field Theory II (T)**
Course No.	QFT II

Category	**Type**	**Language**	**Teaching hours**	**CP**	**Semester**
Elective	Lecture with exercises	English	4+2	8	ST

Requirements for Participation:

Preparation: Quantum Field Theory I

Form of Testing and Examination: Written or oral examination

Length of Course: 1 semester

Aims of the Course: Quantum field theory is one of the main tools of modern physics with many applications ranging from high-energy physics to solid state physics. A central topic of this course is the concept of spontaneous symmetry breaking and its relevance for phenomena like superconductivity, magnetism or mass generation in particle physics.

Contents of the Course:

Correlation functions: formalism, and their role as a bridge between theory and experiment

Renormalization

Topological concepts

Recommended Literature: A. Altland and B.D. Simons, Condensed Matter Field Theory (Cambridge University Press, Cambridge, second edition: 2010)