Advanced Topics in Field and String Theory (T) - physics764

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

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

Course	**Advanced Topics in Field and String Theory (T)**
Course No.	physics764

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

Requirements for Participation: Prerequisite knowledge of Quantum Field Theory, Superstring Theory, and General Relativity is helpful.

Preparation:

Quantum Field Theory (physics755)

Advanced Theoretical Physics (physics607) / Advanced Quantum Field Theory (physics7501)

Superstring Theory (physics752)

Form of Testing and Examination: active participation in exercises, oral or written examination

Length of Course: 1 semester

Aims of the Course: An introduction into modern topics in Mathematical High Energy Physics in regard to current research areas

Contents of the Course:

String and Supergravity Theories in various dimensions

Dualities in Field Theory and String Theory

Topological Field Theories and Topological Strings

Large N dualities and integrability

Recommended Literature:

Selected review articles an arXiv.org [hep-th]

J. Polchinski: String Theory I & II

S. Weinberg: Quantum Theory of Fields