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