

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