

Modules:

physics700 **Elective Advanced Lectures**
 physics730 **Theoretical Physics**

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:

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 on arXiv.org [hep-th]
 J. Polchinski: String Theory I & II
 S. Weinberg: Quantum Theory of Fields