

Modules:

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

Course:

Advanced Topics in String Theory (T)

Course No.: physics763

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

Requirements:**Preparation:**

Quantum Field Theory (physics755)
 Group Theory (physics751)
 Advanced Theoretical Physics (physics607) / Advanced Quantum Field Theory (physics7501)
 Theoretical Particle Physics (physics615)
 Superstring Theory (physics752)

Form of Testing and Examination:

active participation in exercises, written examination

Length of Course:

1 semester

Aims of the Course:

Detailed discussion of modern string theory as a candidate of a unified theory in regard to current research

Contents of the Course:

Realistic compactifications
 Interactions
 Effective actions
 Heterotic strings in four dimensions
 Intersecting D-branes

Recommended Literature:

D. Lüst, S. Theisen: Lectures on String Theory (Springer, New York 1989)
 S. Förste: Strings, Branes and Extra Dimensions, Fortsch. Phys. 50 (2002) 221, hep-th/0110055
 C. Johnson: D-Brane Primer (Cambridge University Press 2003)
 M. Green, J. Schwarz, E. Witten: Superstring Theory I & II (Cambridge University Press 1988)
 H.P. Nilles: Supersymmetry and Phenomenology (Phys. Repts. 110C (1984)1)
 J. Polchinski: String Theory I & II (Cambridge University Press 2005)