

## Advanced Topics in String Theory (T) - physics763

<i>Course</i>	Advanced Topics in String Theory (T)
<i>Course No.</i>	physics763

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

### Requirements for Participation:

#### 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)

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