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. Reps. 110C (1984)1)
J. Polchinski: String Theory I & II (Cambridge University Press 2005)