Advanced Topics in String Theory (T) - physics763

Degree - M.Sc. in Physics (PO von 2014)

Module	**Elective Advanced Lectures: Theoretical Physics**
Module No.	physics70c

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 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. Reps. 110C (1984)1)

J. Polchinski: String Theory I & II (Cambridge University Press 2005)