

<b>Module:</b>	<b>Elective Advanced Lectures: Theoretical Physics</b>
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<b>Module No.:</b> physics70c
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<b>Course:</b>	 <b>Superstring Theory (T)</b>
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<b>Course No.:</b> physics752
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Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture with exercises	English	3+2	7	WT

**Requirements for Participation:****Preparation:**

Quantum Field Theory (physics755)

Group Theory (physics751)

Advanced Theoretical Physics (physics607) / Advanced Quantum Field Theory (physics7501)

Theoretical Particle Physics (physics615)

**Form of Testing and Examination:**

Requirements for the examination (written): successful work with the

**Length of Course:**

1 semester

**Aims of the Course:**

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

**Contents of the Course:**

Bosonic String Theory, Elementary Conformal Field Theory

Kaluza-Klein Theory

Crash Course in Supersymmetry

Superstring Theory

Heterotic String Theory

Compactification, Duality, D-Branes

M-Theory

**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 &amp; II (Cambridge University Press 1988)

H.P. Nilles, Supersymmetry and phenomenology (Phys. Repts. 110 C (1984) 1)

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