

**physics754    General Relativity and Cosmology**  
**Mo 16-18, We 12, HS I, PI**

Instructor(s):    H. Jockers, H.-P. Nilles

Prerequisites:

Theoretical Physics I and II (in particular Electrodynamics),  
Basic Lectures in Mathematics

Contents:

- Special relativity and electrodynamics (recap)
- Riemannian geometry
- Einstein's equation
- Gravitational waves
- Black holes
- Time evolution of the universe
- Friedmann-Robertson-Walker solution

Literature:

- S. Carroll: Spacetime and Geometry - An Introduction to General Relativity
- L.D. Landau, E.M. Lifschitz: Klassische Feldtheorie (Classical Field Theory)
- S. Weinberg: Cosmology

Comments: