

AB Geometrie und Topologie
Prof. Bernhard Leeb, Ph.D.

Riemannian geometry (Differential geometry II)

COURSE SoSEM 2018

This is a continuation of my course *Differentiable manifolds* from previous semester.

The first part of the lecture is devoted to vector bundles, connections and curvature. The aim will be to discuss Chern-Weil theory, the differential-geometric approach to characteristic classes.

In the second part of the lecture we give an introduction to Riemannian geometry.

Language: German or english (depending on the auditorium)

For: Students of mathematics and physics (Bachelor, Master, TMP, Lehramt)

Prerequisites: Course *Differentiable manifolds*

References: Kobayashi, Nomizu, *Foundations of Differential Geometry*, Wiley, 1963

Lawson, Michelsohn, *Spin geometry*, Princeton, 1989

O'Neill, *Semi-Riemannian Geometry with Applications to Relativity*, Academic Press, 1983

do Carmo, *Riemannian Geometry*, Birkhäuser, 1992

Cheeger, Ebin, *Comparison theorems in Riemannian geometry*, North-Holland, 1975

Space-time: Tuesday+thursday 10-12 in room B 252