Riemannian Geometry II

MATH 538 Section 001

Spring 2010
Instructor: Charles Boyer
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Required Text: Peter Petersen, Riemannian Geometry, 2nd Ed.

Supplemental Text: Misha Gromov, Metric Structures for Riemannian and Non-Riemannian spaces

Course Description: This is a continuation of last semester’s Math 537, Riemannian Geometry I. We will continue our development of comparison theorems, especially those with Ricci curvature bounds. However, now a main focus will be on developing the Gromov-Hausdorff topology and the related convergence theorems. We will also do this in the context of Riemannian submersions, and study the notion of collapse. I also plan to study these concepts in the presence of Kählerian and Sasakian geometries.

Grading Policy: I will make periodic homework assignments (which will also be listed on my webpage), and I encourage the students to do them. However, there is no official grading, but we can discuss solutions in class or in office hours. It is important that you keep up with the homework. The old adage that one cannot learn mathematics by simply watching someone else do it is certainly a good one. As this is an advanced graduate course, the grade will be based on regular attendance.

Qualified students with disabilities needing appropriate academic adjustments should contact me as soon as possible to ensure your needs are met in a timely manner. Handouts are available in alternative accessible formats upon request.