RIEMANNIAN GEOMETRY II – MATH 568
TUESDAYS & THURSDAYS, 12:40-1:55, HBB 132.
SPRING 2010

Professor: Fernando Schwartz, Aconda Court 401C, tower 4.
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Office Hours. Tuesdays & Thursdays 3:45-4:45, or by appointment.
Course Webpage: *http://www.math.utk.edu/∼fernando*

Course description:
This is the second part of a year-long course in Differential Geometry. The main goal of this sequel is to introduce Riemannian and semi-Riemannian manifolds, and explore in depth the different notions of curvature that arise in these objects as well as the connections with General Relativity. The course will begin with a (brief) review of differentiable manifolds.

Textbook: Semi-Riemannian Geometry, with applications to Relativity, by Barrett O'Neill.

Recommended References for Differentiable manifolds:

- Differentiable Manifolds, by Nigel Hitchin.
  Available at *http://people.maths.ox.ac.uk/∼hitchin/hitchinnotes/hitchinnotes.html*
- An Introduction to Differentiable Manifolds and Riemannian Geometry, by William M. Boothby

Recommended References for Riemannian Geometry and General Relativity:

- Riemannian Geometry, by Manfredo P. Do Carmo.
- General Relativity, by Robert M. Wald.
- Lectures on the Ricci Flow, by Peter Topping.
  Available at *http://www.warwick.ac.uk/∼maseq/RFnotes.html*

Course Evaluation. Homework sets, take-home final.