MA721 DIFFERENTIAL TOPOLOGY I – FALL 2018

Instructor: Steve Rosenberg
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Office Hours: T 10:30-12, F 10-11 or by appointment
Text: J. Lee, *Introduction to Smooth Manifolds*

The object of this course is to develop the theory of smooth manifolds, which can be roughly thought of as spaces with a good theory of integration and differentiation. Topics covered this semester will include abstract manifolds, vector bundles (tangent, cotangent and tensor bundles), the Lie derivative, differential forms, the exterior derivative and integration on manifolds, and Stokes' Theorem (the Fundamental Theorem of Calculus on manifolds). As time permits, we'll look at de Rham cohomology.

Homework will be regularly assigned from the text, and will form the basis of the course grade.