Math 7350, Geometry of Manifolds, Spring 2015

Instructor: Dr. Vaughn Climenhaga
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Course times:
- *Lectures:* MWF 10-10:50am, room C 108
- *Office hours:* MWF 11-11:50am, or by appointment

Textbook: Introduction to Smooth Manifolds, 2nd ed., by John M. Lee

Prerequisites: Math 6342 or a solid grounding in basic topology, abstract linear algebra, and advanced multivariable calculus (see appendix of Lee's book)

Course Description: This is the second part of the two-semester topology/geometry sequence that began with Math 6342. We will study smooth manifolds and maps, tangent and cotangent vectors, and vector fields and bundles. Further topics may include embeddings, Lie groups and algebras, tensors, differential forms, integration on manifolds, de Rham cohomology, flows, and distributions and foliations.

Grading:

Homework	40%	Due as announced in class
Midterm test	30%	In class, date TBA
Final exam	30%	Friday, May 8, 11am–2pm

Attendance and homework: It is vital that you attend all lectures and ask questions when you do not follow something I say. This sort of feedback is essential for maintaining an appropriate pace and level in the lectures.

The homework assignments will include some questions that apply material covered in lecture, some that fill in details we skip over, and some that go above and beyond what the lectures cover. It is important that you complete all homework problems; if you are struggling with a particular problem, it is much better to come ask me about it during office hours than to leave it undone.

Make-up privileges for missed assignments and tests are at the instructor's sole discretion and require appropriate supporting documentation.

Academic honesty and dishonesty: You are permitted and encouraged to work collaboratively with your classmates on homework assignments to discover and understand solutions – working together and teaching each other is one of the best ways to fully learn the material. **However, the final write-up of the solutions must be in your own words.** All work on the exams must be your own.

Special needs: If you have a disability or condition that requires special accomodation, please see me as soon as possible to discuss what steps may be taken.