

Spring 2015

MATH 4250/6250 SYLLABUS

T. Shifrin

Text: T. Shifrin, *Differential Geometry: A First Course in Curves and Surfaces*, course notes available at Baxter Street Bookstore, 360 Baxter St, for \$11.85 (or available in .pdf form on my webpage).

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Web page for the class at <http://www.math.uga.edu/~shifrin/MATH4250>.

Office Hours: to be decided. They will be announced in class and posted on the web page.

The prerequisites for this class are MATH 2270/2500 and MATH 3000 (or MATH 3500(H)–3510(H)), i.e., a solid knowledge of multivariable calculus and linear algebra. We will study the geometry of curves and surfaces in \mathbb{R}^3 , culminating in the Gauss-Bonnet Theorem (one of the crowning results of the early twentieth century) and a discussion of hyperbolic geometry.

There will be two midterm exams (15% each), a final exam (30%), and nine graded homework assignments (40%). Homework will be collected approximately every third class. On each assignment, I will give a selection of problems, of which you must ordinarily work five; typically I will specify one or two problems of central interest that everyone must do. Graduate students must do at least one “pyramid” problem on each assignment.

As a UGA student taking a mathematics class, you are entitled to a copy of **Mathematica** to use while you’re at UGA. I will require everyone to do at least three homework problems using **Mathematica**; you are welcome to explore it more on your own. You can find a “primer” to help you learn your way around the program on the course webpage.

N.B.: No late homework or makeup exams. Although I encourage you to work on homework with a few other students, you **must** write up your assignments **by yourself**. You must comply with UGA’s Academic Honesty Policy; see items 3, 4, 5, and 6 at <http://ovpi.uga.edu/academic-honesty/academic-honesty-policy>.

All students are responsible for maintaining the highest standards of honesty and integrity in every phase of their academic careers. The penalties for academic dishonesty are severe; note that “lack of knowledge of the provisions of this policy is not an acceptable response to an allegation of academic dishonesty.”

Midterm exams (covering *approximately* the chapters listed) are tentatively scheduled for

- Thursday, February 12, 2015 (Chapter 1)
- Tuesday, April 7, 2015 (Chapter 2)

and the comprehensive final exam will be Tuesday, May 5, 2015, 8:00–11:00 a.m.