

# MAT 360: Geometric Structures      Spring 2004

## Where and When:

Mondays, Wednesdays, and Fridays    11:45-12:40pm    Lt. Engineering 154

**Text:** *Roads to Geometry*, (Third edition) by H. Wallace and S. West.

Note that the second edition of the text (the brown one) is probably also acceptable. I will try to ensure that I reference both in homework assignments, but I will primarily go by the third edition.



**About this course:** This is a course in planar geometry, covering both Euclidean and non-Euclidean geometries. It is assumed that you have already had a high-school course in Euclidean geometry (more precisely, know the geometry covered in MAT 200). Our approach will be primarily axiomatic. We will be doing a lot of proofs, so it is crucial that you be familiar with basic logic and proof techniques (again, as covered in MAT 200).

We will cover the bulk of the text, beginning with neutral geometry, then adding the Euclidean parallel axiom and reviewing Euclidean geometry. After that, we will cover two non-Euclidean geometries (hyperbolic and elliptic). Time permitting, we'll also cover some ideas in projective geometry and knot theory.

We will likely have some work involving technology such as Geometer's Sketchpad.

**Examinations and grading:** There will be weekly homeworks, one midterm examination, and the ever-popular comprehensive final examination. There will very likely be a couple of projects, as well.

Mathematics is not a spectator sport; you must work problems in order to fully understand<sup>1</sup> the material. Consequently, homework will be collected and graded, and your grade on the homework is a significant piece of your final grade.

What	When	% of Final Grade
Midterm	mid-March or so    11:45-12:40pm	30%
Final Exam	Wednesday, May 19    11:00-1:30 pm	40%
Homeworks, Projects, etc.		30%

**Webpage:**      <http://www.math.sunysb.edu/~scott/mat360.spr04/>

**Homework and Schedule:** The list of homework assignments and the most current schedule of topics can be found on the class web page. It will change, so check it regularly.

Homeworks will be due in class on the wednesday following the week they are assigned. The homeworks will be graded giving 5 points per problem (so a long homework set counts more than a short one), plus up to 10 points per assignment for effort. Since the solutions will be posted, late homeworks (which lose the 10 "effort points") cannot be accepted after friday.

**Instructor:** Prof. S. Sutherland    / Math 5D-148 / 632-7306 / [scott@math.sunysb.edu](mailto:scott@math.sunysb.edu)

Office hours: Wed 2-4, and by appointment. Note that I can often be found around the department most days. Send me an email or phone first if you want to be sure I'm around, or just come by and take your chances. I'm around a lot, but often you'll have to wait a bit.

**Grader:** Huayi Zeng    / Math S-240C (near the Math Learning Center) / [hzen@math.sunysb.edu](mailto:hzen@math.sunysb.edu)

**Disabilities:** If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students requiring emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following web site:

<http://www.ehs.stonybrook.edu/fire/disabilities.asp>

<sup>1</sup>"One learns by doing a thing; for though you think you know it, you have no certainty until you try." (Sophocles)