

MATH 230a: Differential Geometry
Monday, Wednesday, Friday 1:00 - 2:00 PM
Science Center 507

Instructor: Tristan Collins, Science Center 239

Office Hours: 2:00-3:00p, Wednesday and Thursday.

Textbooks:

- Differential Geometry: Bundles, Connections, Metrics and Curvature– Clifford Taubes
- Foundations of Differential Geometry– Shoshichi Kobayashi and Katsumi Nomizu

Course Outline:

- Smooth manifolds
- Lie groups
- Vector bundles
- Metrics and Connections
- Geodesics
- Principal bundles
- Characteristic classes
- Other topics too

Prerequisites: Math 132 and/or Math 136, or permission of the instructor.

Homework: There will be weekly assignments, posted on Wednesday, which are to be turned in the following Wednesday at 5:00 pm. Late homework is discouraged. Please staple or paper clip your homework, and remember to write your name on it!

Exams: There will be a take-home final exam

Grading: The final grade will (essentially) be computed in the following way: Homework: 60%, Final: 40%.

Collaboration: I encourage students to collaborate on their homework. However, it is absolutely essential that students write up their own solutions. Collaboration extends to discussion amongst

classmates and peers, but *DOES NOT* include the use of online resources of any kind (eg. Math Stack Exchange, online solutions manuals etc.). Collaboration on the final exam is prohibited.

Important Dates:

University Holiday Monday, September 5 (tentative)
Thanksgiving Recess Saturday, March 14 - Sunday, March 22
Second Midterm Wednesday, November 23–Sunday, November 27
Last Day of Class Friday, December 2