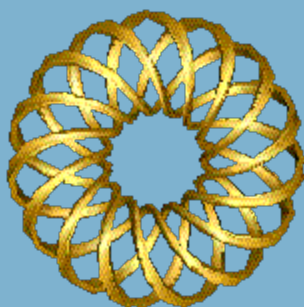




MAT 531 TOPOLOGY/GEOMETRY II

Stony Brook - Spring 2001

- INSTRUCTOR:



André de Carvalho
Math Tower 4-103
tel. 632-8266
E-mail: andre@math.sunysb.edu

- OFFICE HOURS:

Mon 2-3pm, Wed 1-2pm or by appointment.

- TEXT:

A Comprehensive Introduction to Differential Geometry, Vol. I by Michael Spivak, Publish or Perish, Inc., 1999.

This text is required for the course. In addition there are several other books on the subject, which are worth examining. The first one below is on reserve at the Math-Physics Library and is an optional book for the course.

- *Calculus on Manifolds* by Michael Spivak.
- *Differential Topology* by V. Guillemin and A. Pollack.
- *Differential Topology* by M. Hirsch.
- *Topology and Geometry* by G. Bredon.

- COURSE DESCRIPTION:

This course is the second semester of an introduction to Topology, a subject which had its beginnings in questions in Analysis in the late 19th century. It has since become a central and important part of mathematics, with strong ties to most branches of mathematics.

Although having attended the first semester is not a prerequisite, familiarity with point set topology is essential, whereas some acquaintance with the fundamental group will be helpful.

- SYLLABUS:

We will cover Chapters 2 through 8 of the textbook.

Students will be assumed to be familiar with some concepts of advanced calculus, although I will make an effort to recall some of them, if briefly, when they are used. Important among these are the Inverse and Implicit Function Theorems. These can be found in many books, for

example, in *Calculus on Manifolds*, by M. Spivak, which is quite a nice little book. A rough timetable is:

| | |
|-------|----------|
| Ch. 2 | 2 weeks |
| Ch. 3 | 2 weeks |
| Ch. 4 | 1½ weeks |
| Ch. 5 | 2 weeks |
| Ch. 6 | 1½ weeks |
| Ch. 7 | 2½ weeks |
| Ch. 8 | 2½ weeks |

- **HOMEWORK:**

Homework exercises from the text will be assigned approximately weekly, and due the following week.

- **EXAMS:**

There will be one Midterm Exam, near the middle of the semester (right after we cover Ch. 5), during lecture time.

The Final exam will be on Friday, May 11th, at **8:30am** in room P-131, although it appears in the bulletin scheduled for 2 - 4:30pm

- **GRADES:**

The homework and the midterm will represent each 30% of your grade, and the Final Exam 40%.

- **SPECIAL NEEDS:**

If you have a physical, psychological, medical or learning disability that may impact on your ability to carry on assigned course work, please contact the staff in the [Disabled Student Services](#) office (DSS), Room 133 Humanities, 632-6748/TDD. DSS will review your concerns and determine, with you, what accommodations are necessary and appropriate. All information and documentation of disability is confidential.