

18.906 Spring 2007

Instructor: Tyler Lawson

Class location: 2-151, MWF 2pm-3pm

Office: 2-171

Office phone: 3-4385

Office hours: MW 1pm-2pm

Email: tlawson@math.mit.edu

Website: <http://math.mit.edu/~tlawson/18.906.html>

Course outline. This course is a second course in algebraic topology. It is a continuation of 18.905, but starts by moving in a different direction from homology and cohomology theory. Specifically, in this course we will study basic homotopy theory, fibrations, spectral sequences, vector bundles and characteristic classes, as well as cohomology operations.

Prerequisites. The prerequisite for the course is 18.905 or an equivalent first course in homology and cohomology.

Text. There is no assigned textbook for the course. Texts you might find useful include the following.

Algebraic topology, by Hatcher.

A concise course in algebraic topology, by May.

Spectral sequences in algebraic topology, by Hatcher.

Characteristic classes, by Milnor and Stasheff.

Differential forms in algebraic topology, by Bott and Tu.

The first three of these textbooks are freely available online, and there are links from the course website.

There are also lecture notes for last year's 18.906 course available on OpenCourseWare. The emphasis will be somewhat different but the basic material will be the same.

Exams. There are no exams for this course.

Assignments. Your grade for this course will be based on weekly assignments. Assignments are due each Wednesday in-class. There will be 12 assignments in all. Assignments and outlines of their solutions will be posted to the course website. Working together with other students is acceptable so long as assignments are written up independently.

Grading. Your lowest assignment grade will be not be counted towards your final grade. The remaining assignments will be given equal weight.

Late policy. No late assignments will be accepted without *prior* arrangement. (This means you would need to contact me before the date that the assignment is due.)