MAT8021 - Algebraic Topology, Spring 2022

Instructor

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Office hours: Monday 2–3:50 pm, Thursday 9–9:50 am~~, in person or Tencent Meeting: 520-800-4008~~

Grader: 马学才 MA Xuecai

Class QQ group: 985586500

Prerequisites

Topology (MA323) or consent of the department.

Objectives

This is a half of the graduate compulsory courses in Geometry and Topology, the other half being MAT8024 Differentiable Manifolds. The main topics include compact surfaces, the fundamental group, and basic homology and cohomology.

Textbook

John M. Lee, *Introduction to topological manifolds*, second edition, Springer, 2011.

This semester we will cover Chapters 5 to 13 of the book.

Supplementary materials

Allen Hatcher, *Algebraic topology*, Cambridge University Press, 2002.

Haynes Miller, *Lectures on algebraic topology*, World Scientific, 2021.

姜伯驹，同调论，北京大学出版社，2006.

Exams

There will be one final exam worth 50% of your final grade.

Homework

The assigned problems for each week are due each Tuesday in-class at 10:20 am, listed on the Assignments page. Homework is worth 50% of your final grade.

Students must make arrangements in advance if they will not be handing in homework on time. We encourage you to discuss homework problems with your classmates, including strategies for solving different kinds of problems. However, when you actually write up your solutions, you must do this on your own.