

Math 636—Spring 2021—CRN 33531

Course Information

Instructor	Robert Lipshitz
e-mail	lipshitz@uoregon.edu
Course Zoom	See the Canvas website
Office Hours	Monday 12-12:30, Friday 9-10, 12-12:30 and by appointment. Subject to change.
Grader	Wei Zhang

Course Prerequisites	Math 635 or instructor's permission.						
Course Requirements	There will be written homework due roughly once a week, typically on Friday. There will be take-home midterm and final exams. There <i>will</i> be new material covered and a homework assignment due during the last week of classes.						
Test Dates	<i>Midterm</i> : Provisionally due April 29. Subject to change. <i>Final exam</i> : Provisionally due Wednesday of final exam week.						
Grading Policy	<table><tr><td>Written Homework</td><td>35%</td></tr><tr><td>Midterm</td><td>25%</td></tr><tr><td>Final Exam</td><td>40%</td></tr></table> The lowest homework score will be dropped. Late homework may not be accepted.	Written Homework	35%	Midterm	25%	Final Exam	40%
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Final Exam	40%						
Students with disabilities	The University of Oregon is committed to an inclusive learning environment. If you have a disability which may impact your performance on exams, please contact the Accessible Education Center to discuss appropriate accommodations. If there are other disability-related barriers to your participation in the course, please either discuss them with me directly or consult with the Accessible Education Center.						

Course Policies

- You are expected to read the material in the textbook *before* it is covered in class.
- You are not required to have your video cameras on during class, but I prefer if you do.
- You are welcome to work on the homework together, but you must write up your final answers by yourself. Failure to abide by this policy constitutes cheating.
- Any resources you use when solving homework problems, other than the textbook, must be cited in your homework. You may not use electronic resources (e.g., Google) other than the textbook and recommended textbooks. Failure to follow this policy constitutes cheating; if you are caught cheating on the homework you will receive a 0 for the homework portion of the class and will be reported to the administration. Failure to cite sources constitutes academic misconduct.
- For exams, you may not receive help from anyone except the instructor. In particular, you may not discuss exam problems with other students.

Course Resources

- Textbook: *Algebraic Topology*, second edition, by Allan Hatcher. Available for download from the author's website.
- Lectures will be delivered live over Zoom. The Zoom meeting ID and password are listed in Canvas.
- Lecture notes will be available via a OneNote Class Notebook, which you will receive a link to.
- You will use Canvas to submit homework assignments. I will also post solutions to homework assignments on Canvas.
- Course website, with up to date syllabus and assignments:

<http://pages.uoregon.edu/lipshitz/Teaching/Sp21Ma636.html>

Course goals

The main goals of this course (learning outcomes) are:

- Being able to compute homotopy groups in special cases, using the Hurewicz theorem, long exact sequence for a fibration, and other elementary techniques.
- Understanding and applying Whitehead's theorem to show when spaces are homotopy equivalent.
- Reinterpreting cohomology as a representable functor, and understanding how this classifies cohomology operations.