The goal of this course is to introduce the basic objects in algebraic topology: fundamental groups and covering spaces, singular homology and cohomology. Time permitting, we will discuss more advanced topics, such as the Lefschetz fixed point theorem, higher homotopy groups, or Serre’s techniques for computing homotopy groups.

**Meeting time and location.** 10am — 11am on M-W-F in 3088 EH.

**Background.** Previous exposure to point-set topology and abstract algebra will be assumed. Familiarity with the basic language of category theory will be very useful.

**Textbooks.** No text is required, but the following are recommended reading:

1. *Algebraic topology* by Allen Hatcher.
2. *A concise course in algebraic topology* by Peter May.
3. *Algebraic topology* by Edwin Spanier.
5. *Differential forms in algebraic topology* by Bott and Tu.

**Homeworks.** Regular problem sets will be posted to the course webpage, and will be fundamental to the course.

**Quizzes.** There will be occasional short quizzes, announced 1 lecture in advance.

**Exams.** There will be a 50-minute in-class midterm exam on 02/23, and 2-hour final exam at 10:30am on 04/25. Both exams will be in 3088 EH, and both shall be cumulative.

**Policy.** Make-up exams will not be provided. Any form of plagiarism or cheating will not be tolerated.

**Course webpage.** [http://www-personal.umich.edu/~bhattb/mat592w18](http://www-personal.umich.edu/~bhattb/mat592w18)

**Office hours.** TBA