

# MAT 762 – Algebraic Topology

**Instructor:** Stephan Wehrli, 304B Carnegie, smwehrli@syr.edu

The course will cover parts of Chapter 3 and 4 of the textbook, as well as additional topics depending on time and interest.

After a brief review of MAT 761, we will discuss the following material:

- Cohomology of a Chain Complex and Universal Coefficient Theorem
- Singular Cohomology and Cup Product
- Orientations and Homology
- Poincar Duality and Intersection Product
- Applications of Cohomology
- Higher Homotopy Groups
- Additional Topics (e.g. Obstruction Theory, Fiber Bundles, Spectral Sequences, Characteristic Classes, De Rham Cohomology, Sheaf Theory, Knot Theory)

More information can be found below:

- **Text:** Allen Hatcher, *Algebraic Topology*, Cambridge University Press, 2001. Electronic Version available at <http://www.math.cornell.edu/hatcher/AT/ATpage.html>
- **Classes:** TTh 9:30 AM - 10:50 AM, 111 Carnegie
- **Office Hours:** TTh 3:30 PM - 4:30 PM
- **Academic Integrity:** The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see <http://academicintegrity.syr.edu>
- **Students with Disabilities:** If you believe you need an accommodation for a disability, please talk to me at the beginning of the semester or contact the Office of Disability Services (ODS), located in Suite 303 of 804 University Avenue, or call (315) 443-4498
- **Religious Observances Notification:** Students who will be observing religious holidays during the semester are required to fill out their notification form on MySlice by the end of the second week of classes.

**Course Webpage:** <https://smwehrli.expressions.syr.edu/teaching/mat-762-fall-2016/>