Overview: This course will be a continuation of Topology I. The main topic under consideration will be cohomology. We will reverse all arrows, and all preconceptions. The crucial difference between homology and cohomology is the existence of a ring structure on the cohomology groups. The ring structure turns out to be a powerful invariant which reveals finer symmetry in the topology of certain spaces, particularly manifolds. We will cover the universal coefficient theorem for cohomology, cup products, and Poincaré duality before moving on to more advanced topics.

Prerequisites: MATH 151A: Topology I

Course Requirements: This course will have regular homework assignments, a take-home midterm and a take-home final. The grade percentages are as follows:

Homework: 40%
Midterm: 30%
Final: 30%

Accessibility Support: It is the policy of Brandeis University that any student with a disability receive fair and equal treatment in this course. If you have a documented disability that requires academic adjustments or accommodation, please contact me and present your letter of accommodation as soon as possible. All discussions will remain confidential. You will also need to contact Beth Rodgers-Kay (x6-3470 or brodgers@brandeis.edu) in Academic Services, which may be found in Usdan Student Center 130.