Students are admitted to UCSC with a "proposed major" in most cases, and later petition to officially declare the major. Admission to UCSC does not guarantee acceptance into a particular major. Students must be declared in a major by the end of the second year (or equivalent), so learning about and preparing for a major is a primary goal for first-year students.

### Major: MATHEMATICS

#### Importance of an early start:

This major begins with a sequence (19A, 19B, 23A, 23B) of calculus courses. In the upper division, the major concentrates on a deep understanding of theory that requires a significant amount of writing and logical reasoning. It is advisable to finish calculus classes early to give sufficient time for the conceptual changes in the upper division.

#### Qualification requirements and/or prerequisites for the major:

To qualify for any of the mathematics majors (all concentrations) and minor, students must complete the following courses, or their equivalents, with a grade of C or better: Math 19A, Math 19B, Math 21, Math 23A, Math 23B, and Math 100. Additional courses are required for concentrations.

#### Frosh who intend to pursue this major should do the following things prior to the beginning of fall term:

- Determine your Math Placement by completing an assessment at [http://undergrad.pbsci.ucsc.edu/enrollment/math/math-placement/mp-aleks-overview.html](http://undergrad.pbsci.ucsc.edu/enrollment/math/math-placement/mp-aleks-overview.html). If you have completed a college-level math course, or have scored 3 or better on an AP or IB calculus exam, you may be able to use that for placement instead of the ALEKS assessment.

#### Other information:

- Students with college-level transferable courses must mail or email a copy of the transcript to Baskin School of Engineering Undergraduate Advising by July 1, in addition to providing the official transcript to the UCSC Admissions Office.

#### Sample first year plan:

**Fall:** MATH 19A: *Calculus for Science, Engineering, and Math*

**Winter:** MATH 19B: *Calculus for Science, Engineering, and Math*

**Spring:** MATH 23A: *Multivariable Calculus, OR Linear Algebra (recommended for pure track)*

#### Skills important for success in this major:

Students should not only have computational fluency in calculus, but also a desire to understand the theoretical underpinnings of ancient and modern mathematics. Mechanical computation quickly gets replaced by writing proofs -- careful logical arguments -- and students are required to develop this technical writing skill. Successful students in mathematics are critical thinkers, careful writers, close readers, and are devoted to mathematics for its own sake as well as for its applications.

#### Links to More Information:

- [http://admissions.ucsc.edu/academics/majors/](http://admissions.ucsc.edu/academics/majors/) (general info)
- [http://registrar.ucsc.edu/catalog/programs-courses/](http://registrar.ucsc.edu/catalog/programs-courses/) (major requirements, course descriptions, etc.)
- [http://undergrad.pbsci.ucsc.edu/mathematics/](http://undergrad.pbsci.ucsc.edu/mathematics/) (program website)

#### Questions?

Nicole Lautenschlager  
459-4143 or mathadvising@ucsc.edu

142 Jack Baskin Engineering Bldg