

**UNIVERSITY OF CALIFORNIA, SANTA CRUZ**  
**NEW STUDENT MAJOR ADVISING SUMMARY FOR 2018-2019 FROSH**

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 in ALEKS as soon as possible, and by July 16 at the very latest. See <https://mathcoach.sites.ucsc.edu> for information about ALEKS. If you completed a college-level math course, or scored 3 or better on an AP calculus exam, or 5 or better on an IBH mathematics exam, you may be able to use that for placement instead of the ALEKS assessment. See <https://mathcoach.sites.ucsc.edu/courses/course-credit/> for information on placement based on college courses or AP/IBH.
- ❑ Students with college-level transferable courses must email a copy of the transcript to the Mathematics Undergraduate Advisor by July 1, in addition to providing the official transcript to the UCSC Admissions Office. (Email: [mathadvising@ucsc.edu](mailto:mathadvising@ucsc.edu))

**...and should take these courses their first term:** Appropriate math course based on your Math Placement.

**Sample first year plan:**

Fall: MATH 19A: *Calculus for Science, Engineering, and Math* or MATH 20A: *Honors Calculus*

Winter: MATH 19B: *Calculus for Science, Engineering, and Math* or MATH 20B: *Honors Calculus*

Spring: MATH 23A: *Multivariable Calculus* and/or MATH 21: *Linear Algebra*

**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.

**Other information:**

- Students who intend to pursue the mathematics major should not take the Math 11A/B calculus series. The Math 19A/B or Math 20A/B series is required.
- A combined major with economics is also available. Students interested in this possibility should contact the adviser.

**Links to More Information:** <http://admissions.ucsc.edu/academics/majors/> (general info)  
<http://registrar.ucsc.edu/catalog/programs-courses/>  
(major requirements, course descriptions, etc.)  
<http://www.math.ucsc.edu/undergraduate/index.html>(program website)

**Questions? Contact an Adviser!**  
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