### INTRODUCTORY REQUIREMENTS

<table>
<thead>
<tr>
<th>Calculus:</th>
<th>MATH 19A (FWS) ___ OR MATH 20A (F) ___</th>
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<tbody>
<tr>
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<td>MATH 19B (FWS) ___ OR MATH 20B (W) ___</td>
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| Linear Algebra: | MATH 21 (FWS) ___ |

| Multivariable Calculus: | MATH 23A (FWS) ___ + MATH 23B (FWS) ___ |

| Statistics: | AMS 5 (FWS) ___ |

### ADVANCED REQUIREMENTS

**Math:**
- AMS 131 Introduction to Probability Theory (S) ___
- MATH 100 Introduction to Proof and Problem Solving (FWS) ___
- MATH 110 Introduction to Number Theory (FW) ___
- MATH 111A Algebra (FW) ___
- MATH 128A Classical Geometry: Euclidean and Non-Euclidean (F) ___
- MATH 181 History of Mathematics (W) ___
- MATH 188 Supervised Teaching (IS) ___ OR EDUC 50B Cal Teach 1 - MATH (FW) ___ + EDUC 100B Cal Teach 2 - MATH (S) ___

**Analysis:**
- ONE from the following...
  - MATH 103A Complex Analysis (FS) ___
  - MATH 105A Real Analysis (FW) ___

### COMPREHENSIVE REQUIREMENT

- MATH 194 Senior Seminar (WS) ___
- OR MATH 195 Senior Thesis (IS) ___

**Disciplinary Communication:** Students satisfy this requirement by successfully completing courses MATH 100 and either Requirement (DC) MATH 194 or MATH 195. The DC course requirement must be taken at UCSC.

### Mathematics Subject Matter Program (Optional)

Listed below are the courses (or alternates) in addition to the above, you must take if you want to bypass the CSET series of exams before entering a California teaching credential program. Equivalents from other institutions are accepted on approval from the Mathematics Department.

**Education:**
- Educ 185B Introduction to Teaching Mathematics (W) ___

**Additional Math:**
- ONE from the following...
  - Math 24 Ordinary Differential Equations (S) ___
  - Math 30 Mathematical Problem Solving (F) ___
  - Math 115 Graph Theory (*) ___
  - CMPE 16 Applied Discrete Mathematics (FWS) ___

**Computer Science:**
- ONE from the following...
  - CMPS 10 Introduction to Computer Science (FWS) ___
  - CMPS 5C Introduction to Programming in C/C++ (*) ___
  - CMPS 5J Introduction to programming in Java (FW) ___
  - CMPS 5P Introduction to Programming in Python (S) ___