**Core Requirements for All Mathematics**

- A. Math 2A, 2B, 2D/H2D, 3A/H3A, 3D, 13
- B. Math 9
- C. One of the following sequences:
  - Chem 1A, B, C
  - Physics 7C, D, E
  - Physics 7C, Stats 7, Math 10

Upper-div: Math 120A, 121B, 147
130A, 140A, 140B

---

**Core Requirements for All Mathematics Majors plus:**

Math 2E/H2E, 120B, 121B, 147
Five additional 4-unit math courses (100-189):

---

**No specialization/concentration (Pure Mathematics)**

Core requirements for all Mathematics Majors plus:

Math 2E/H2E
Math 120B, 121B, 147

---

**Concentration in Data Science**

Core requirements for all Mathematics Majors plus:

Math 2E/H2E
Replace Item C in the Core Requirements with the following:

Physics 7C, Stats 7, Math 10

---

**Concentration in Mathematical Biology**

Core requirements for all Mathematics Majors plus:

Math 2E/H2E
Replace Item C in the Core Requirements with the following:

- Bio Sci 93, 94, AND
- Two courses selected from:
  - Chem 1A, 1B
  - Bio Sci 97
  - Physics 2, 7C, 7D

A. All of the following:
Math 105A/LA, 105B/LB
112A, 112B, 113A, 113B, 115

B. Two elective courses from at least one from Math (100-189). The second may be either upper-division Math or a 4-unit upper-division Biological Sciences course with advanced approval from the advisor for this specialization.

Elec. #1. Elec. #2.

---

**Specialization in Mathematical Biology**

Core requirements for all Mathematics Majors plus:

Math 8

A. All of the following:
Math 105A/LA, 105B/LB
130B, 150, 161, 180A, 184, 184L, AND
One additional math course numbered 100-189:

B. All of the following:
Phy Sci 5, 105
Chem/Physics 193
Elec. 55, 109, 143AW, 143BW, 148, AND
Two quarters of Educ 158

This concentration allows students to earn a bachelor’s degree and complete the required coursework and field experience for a California Preliminary Single Subject Teaching Credential at the same time.

NOTE: Students may pursue either the concentration in Mathematics for Education/Secondary Teaching Certification OR the specialization in Mathematics for Education, but not both.

---

**Specialization in Applied and Computational Mathematics**

Core requirements for all Mathematics Majors plus:

Math 2E/H2E

A. All of the following:
Math 105A/LA, 105B/LB
112A, 112B, 115, 121B

B. Three elective courses from:
Math 107, 107L, 110A, 110B
112C, 117, 118, 130B, 130C
134A, 134B, 140C, 176

Two approved upper-division courses in an area of application outside of Mathematics. Approval must be obtained in advance from the advisor for this specialization. The student is responsible for satisfying any prerequisites for these courses.

Elec. #1. Elec. #2.

---

**Concentration in Mathematics for Education/Secondary Teaching Certification**

Admission requires approval in advance. The admission process begins with completing an Intent form at the CalTeach Resource and Advising Center.

Core requirements for all Mathematics Majors plus:

Math 8

A. All of the following:
Math 105A/LA, 120B
130B, 150, 161, 180A, 184, 184L, AND
One additional math course numbered 100-189:

B. All of the following:
Phy Sci 5, 105
Chem/Physics 193
Elec. 55, 109, 143AW, 143BW, 148, AND
Two quarters of Educ 158

This concentration allows students to earn a bachelor’s degree and complete the required coursework and field experience for a California Preliminary Single Subject Teaching Credential at the same time.

NOTE: Students may pursue either the concentration in Mathematics for Education/Secondary Teaching Certification OR the specialization in Mathematics for Education, but not both.

---

Effective Fall 2023

[1] Three elective courses from list provided. At least one must be from outside the Mathematics department.