

# CalTeach (EDSTEM)

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## Courses

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### EDSTEM 82 K-8 Teaching and Inquiry-Based Lesson Design in the Science and Mathematics Classroom 2 Units

Terms offered: Fall 2022, Spring 2022, Fall 2021

This course surveys basic approaches to K-8 science and math teaching through modeling inquiry-based teaching and discussion. Topics include inquiry-based pedagogy, assessment techniques, lesson plan design and revision, and child development. Students are placed in science and math learning environments with upper elementary and middle school children to practice teaching. This seminar offers an opportunity to explore teaching, foster children's natural curiosity, and inspire local students.

K-8 Teaching and Inquiry-Based Lesson Design in the Science and Mathematics Classroom: Read More [ + ]

#### Rules & Requirements

**Repeat rules:** Course may be repeated for credit with instructor consent.

#### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar per week

**Summer:** 8 weeks - 4 hours of seminar per week

#### Additional Details

**Subject/Course Level:** CalTeach/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Stone

K-8 Teaching and Inquiry-Based Lesson Design in the Science and Mathematics Classroom: Read Less [-]

### EDSTEM 82T K-12 Tutoring in Science and Mathematics 2 Units

Terms offered: Fall 2022, Summer 2022 8 Week Session, Spring 2022

This course surveys basic approaches to K-12 science, computer science, engineering, and mathematics (STEM) tutoring through modeling inquiry-based teaching approaches. Topics include effective STEM pedagogy, assessment, lesson plan design and revision, attention to equity in underserved schools, and child development. Students are placed with K-12 students for STEM enrichment and tutoring experiences. This seminar offers an opportunity to explore K-12 teaching, foster children's natural curiosity, and inspire local students to engage in STEM learning.

K-12 Tutoring in Science and Mathematics: Read More [ + ]

#### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar per week

**Summer:** 8 weeks - 4 hours of seminar per week

#### Additional Details

**Subject/Course Level:** CalTeach/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Stone

K-12 Tutoring in Science and Mathematics: Read Less [-]

### EDSTEM 187 Project-Based Instruction 4 Units

Terms offered: Fall 2022, Spring 2022, Fall 2021

Framed around the topic of sustainability, the course engages students from different math, science, and engineering majors in the process of applying the content knowledge from their discipline to build project-based curricula for presentation as part of the field placement. Students develop pedagogical content knowledge and relate teaching theory to practice through readings, classroom activities, discussion, lesson planning, and field observations. Field placements of 4 hours per week will be scheduled in middle and high school math and science classrooms, and discussion groups will be scheduled at a time convenient for each team to work collaborate.

Project-Based Instruction: Read More [ + ]

#### Rules & Requirements

**Prerequisites:** EDUC 131AC

#### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture, 1 hour of discussion, and 4 hours of fieldwork per week

#### Additional Details

**Subject/Course Level:** CalTeach/Undergraduate

**Grading/Final exam status:** Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

**Instructor:** Spencer

Project-Based Instruction: Read Less [-]

## EDSTEM 189 Integrating Research Methods into K-12 Teaching in Mathematics and Science 3 Units

Terms offered: Summer 2022 8 Week Session, Summer 2021 8 Week Session

This course is designed to provide connections between research methods and science and math content learned in a research lab with teaching in the K-12 classroom. Hands-on inquiry-based science and math lessons are modeled and discussed. Students write research proposals, create posters demonstrating their research accomplishments, develop K-12 lesson plans that align with their research, and assemble digital portfolios on standards-based teaching and assessment.

Integrating Research Methods into K-12 Teaching in Mathematics and Science: Read More [+]

### Rules & Requirements

**Prerequisites:** Students enrolled in the course must have completed one or more CalTeach courses (EDSTEM 82, EDUC 130 or EDUC 131AC) previously, and have a concurrent approved research placement. For approval, submit a CalTeach Summer Research Institute application. CalTeach staff are able to assist with identifying a research placement upon request

### Hours & Format

**Summer:** 8 weeks - 4 hours of seminar per week

### Additional Details

**Subject/Course Level:** CalTeach/Undergraduate

**Grading/Final exam status:** Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

**Instructor:** Stone

Integrating Research Methods into K-12 Teaching in Mathematics and Science: Read Less [-]

## EDSTEM 190 Independent Study - Research Methods 3 Units

Terms offered: Summer 2022 10 Week Session, Summer 2021 10 Week Session

Students enrolled will develop an independent research project under the supervision of a research mentor. Students will submit a formal research proposal and a final research paper, guided by the instructor.

Independent Study - Research Methods: Read More [+]

### Hours & Format

**Summer:** 8 weeks - 19 hours of independent study per week

### Additional Details

**Subject/Course Level:** CalTeach/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Alternative to final exam.

**Instructor:** Stone

Independent Study - Research Methods: Read Less [-]

## EDSTEM 303 Apprentice Teaching in Science and Mathematics 3 Units

Terms offered: Fall 2022, Spring 2022, Fall 2021

The course is designed to support new science and mathematics teachers in earning a credential for teaching in California secondary schools. Students demonstrate that they have developed the skills to meet the state credentialing requirements by undertaking an inquiry project on their own teaching practice. Effective teaching methods for the science and mathematics classrooms are emphasized, including strategies for lesson planning, assessment, and English language learner support.

Apprentice Teaching in Science and Mathematics: Read More [+]

### Rules & Requirements

**Prerequisites:** EDSTEM 187

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** CalTeach/Professional course for teachers or prospective teachers

**Grading:** Letter grade.

**Instructor:** Stone

Apprentice Teaching in Science and Mathematics: Read Less [-]

## EDSTEM 304 Supervised Teaching in Mathematics and Science for Secondary Schools 5 Units

Terms offered: Fall 2022, Spring 2022, Fall 2021

Fieldwork for Cal Teach single subject math or science teaching credential.

Supervised Teaching in Mathematics and Science for Secondary Schools: Read More [+]

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 10 hours of fieldwork per week

### Additional Details

**Subject/Course Level:** CalTeach/Professional course for teachers or prospective teachers

**Grading:** Letter grade.

**Instructor:** Stone

Supervised Teaching in Mathematics and Science for Secondary Schools: Read Less [-]