

UCB *Cal Teach*

Common Characteristics of CAT 1 Courses

SAMPLE LESSONS

During the course, students will experience sample lessons in the content area that demonstrate constructivist or inquiry-based learning.

DESIGN AND TEACH A LESSON OR PROJECT

During the course students will design a lesson or project in that meets the California standards for the course that they are observing for their field placement. The students should be given the opportunity to teach the lesson or project to each other during the course and to reflect on how it went. The students should receive feedback from their mentor teacher regarding their lesson or project. If possible, given time and curriculum constraints, the student should teach the lesson or project in their mentor teacher's classroom.

FIELD PLACEMENT SUPPORT

During the course, students will keep a journal documenting their field experience. The students should be given prompts each week to target their observations and reflections. The journals should be regularly monitored by the instructors to make sure that they are up to date and satisfactory. During the course, there should be regular time devoted to debriefing the field experience and supporting the students in engaging with the mentor teachers and K12 students.

CAT 1 Courses

We offer a variety of CAT 1 Courses to build on students' interests and to get a broad range of participation with Cal Teach. They are offered mostly as freshman/sophomore seminars that meet for 1.5 to 2 hours a week.

ENGIN 39 -- Engineering and Project Based Learning

This seminar will explore the development and use of engineering-based projects in K-12 science and math education. Project based learning is a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks. It is an increasingly popular mode of instruction that takes advantage of students' inherent drive to learn and their capability to do significant work. Students in this seminar will study the basis for this instructional approach, examine the structure of well designed projects, and work in groups to create projects that they will take into local K-12 classrooms.

ESPM 178A--Teaching and Learning Environmental Science

This course introduces theories of cognitive development and the practices of curriculum design and lesson presentation for environmental education. Ecology and natural resource management provide the context of curriculum development. Students create lesson plans integrating core concepts and their knowledge of local environmental issues. Lessons are presented to Bay Area high school and middle school students in field and classroom settings.

MATH 39--Seminar for Teaching Math in Schools

The purpose of this seminar is to introduce the participants to life in a K-12 mathematics classroom. Several specific mathematical topics that are known to be troublesome in the K-12 curriculum will be discussed. Students will contrast what they learn about these topics in mathematics courses in college with how they will teach them to their students. The course includes a field placement in a local school.

PHYSICS 39 -- Teaching Science

This seminar is for students who are interested in both improving their ability to communicate scientific knowledge, and considering a career in teaching science in K-12 schools. It combines instruction in inquiry-based science teaching methods, learning pedagogy and a field placement in a local school.

STAT 39-- Teaching Statistics with Demos, Activities and Projects

This course will explore the development and use of demonstrations, activities and projects in K-12 math education. Students in this course will study the basis for these instructional approaches, examine the structure of well designed demos, activities and projects, and work in groups to create activities that they will take into local schools.