
CPET CERTIFICATE OF PRACTICE IN UNIVERSITY TEACHING

The Certificate of Practice is a program offered through CPET (the Caltech Project for Effective Teaching) and the CTLO (Center for Teaching, Learning and Outreach). This program is intended for Caltech graduate students who are interested in developing their teaching skills with feedback and guidance from the CTLO and CPET. If you are interested in participating in this Certificate Program, please contact ctlo@caltech.edu. Please note that you do not have to complete the Certificate of Interest program before participation in the Certificate of Practice.

The Certificate of Practice program seeks to achieve three major outcomes for participants:

- (1) synthesis and application of effective methods for teaching and learning,
- (2) assessment and implementation of a teaching philosophy, and
- (3) refinement of pedagogy through feedback and self-evaluation.

Participants first investigate approaches to teaching in STEM through classroom instruction. Subsequently, they apply this knowledge in a teaching environment and refine their teaching practice through evaluation, feedback and self-reflection. Throughout this process, CPET directors and CTLO staff suggest useful strategies and resources and review participant progress.

Participants in this program progress through several phases as outlined below.

Phase 1: Plan

Plan a program to develop your teaching skills. Your plan should answer the following questions:

- What are the desired goals from participating in this program?
- In which activities will I participate to achieve these outcomes?

This phase is documented by completing the “Certificate Plan” form, which can be located online at <http://ctlo.caltech.edu/universityteaching/programs/certificates/practice>. This document may be developed in collaboration with CPET and the CTLO. Your goals and plans may change over time, and the document is meant to serve as a guide rather than a stringent curriculum. This document must be completed and returned to ctlo@caltech.edu ahead of a meeting with the CTLO Associate Director to enroll you in the program.

Phase 2: Learn

Learn about approaches to teaching and factors influencing student outcomes by participating in a pedagogy class. The recommended learning experiences is to participate in the Caltech course *E110: Principles of University Teaching in STEM* (as an enrolled student, or as an approved auditor). E110 is a 3-unit course which is generally offered in Winter and Spring quarters. If this is not possible, you may be able to fulfill the **Learn** requirement by participating in an approved online course (please contact ctlo@caltech.edu to see what is available and to discuss further). This phase is documented by completing the “Learning Experience” form. This document should be completed and submitted within two weeks of the completion of the learning experience.

Phase 3: Apply

Apply what you learned in the previous phase in teaching environments. Different participants may wish to fulfill the **Apply** requirements in different ways; therefore, the **Apply** portion of the certificate is standardized using a general points system. Each participant must complete 20-points of **Apply** experiences, after which the **Apply** phase is complete. Some examples of potential **Apply** experiences (and their general point value) are:

- Serve as a TA (up to 10 points per quarter) and develop your instructional practice throughout the quarter.
- Guest Lecture (up to 4 points per lecture) and develop, practice, and refine a course lesson.
- Lead a Workshop/Session (up to 2 points) at the annual Fall Teaching Conference.
- Mentor undergraduate students through a structured program (e.g. SURF) (up to 5 points) and develop and follow a syllabus for teaching them elements of research practice/professional development.
- K-12 Guest Lecturing and Outreach (points vary) through CTLO to develop teaching skills.
- Other activities that demonstrate application of your teaching philosophy are also encouraged and may be implemented with approval from the CTLO Associate Director

Caveats:

- ❖ Please note that the points are general guidelines, and the CTLO Associate Director has final discretion for the number of points that are awarded. These numbers may increase or decrease depending on the details of a specific experience, and it is key that these teaching experiences involve thoughtful application of educational pedagogy and best practices. For instance, a guest lecture in which the participant receives slides (from a professor) and is responsible for presenting those slides as-is will receive only 1 point, while a guest lecture in which the participant chooses their material and develops and carries out a lesson plan incorporating a variety of skills and techniques may be worth up to 4 points.
- ❖ Students are required to complete at least 50% of the Apply requirements at the postsecondary education level. I.e., no more than 10 of the 20 points can be acquired through K-12 outreach.

This phase is documented in two forms. A “Teaching Experience” description form should be completed before each teaching experience start date. A “Teaching Experience Reflection” form must be completed within two weeks of your teaching experience end date.

Each experience should be documented separately. For example, each quarter of TA-ing counts as one experience, recurrent outreach through a single program counts as one experience, and planning a lesson or a series of related lessons counts as one experience. However, if you are guest lecturing for a class in which you are also TA-ing, you must fill out one set of forms for the guest lectures and one set for the TAing in order to receive credit for both.

Phase 4: Reflect and Refine

Reflect on and **Refine** your teaching through evaluation and feedback. This portion can be conducted in conjunction with the **Apply** portion. Some potential **Reflect and Refine** experiences are:

- Implement a course assessment strategy that utilizes student feedback or other resources to make improvements in a course.
 - Design and carry out a mid-quarter survey for your students which assesses specific aspects of your teaching (i.e., not just "What is going well?" and "What can be improved?"). This may refer to getting feedback on specific active learning techniques you are incorporating, evaluating the impact of inclusive teaching practices you have implemented, etc. Reflect on how this midterm feedback affected your teaching for the remainder of the term.
 - Receive feedback on teaching through a review of a classroom session by members of CPET or CTLO. Document how this review is utilized to improve your teaching.
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- ❖ Feedback must be incorporated into *at least* one teaching experience, but some form of feedback is recommended for all experiences.
 - ❖ We recommend feedback be solicited in the middle of a long-term experience (such as TAing) such that the feedback can be assessed and implemented by the participant.

This phase is documented by completing the “Feedback Reflection” form, which should be completed and submitted within two weeks of receiving feedback.

Phase 5: Record

Phase 5: Record the development of your teaching pedagogy and practice through a teaching portfolio, incorporating a teaching philosophy and representative documents from teaching. This document should be developed throughout the certificate program.

Guidelines for creating a teaching portfolio and a teaching statement, including a general description, necessary components, and organization, can be found online at <http://ctlo.caltech.edu/universityteaching/programs/certificates/practice>.

Acknowledgement of Participation

Graduate students who complete the Certificate of Practice in University Teaching will receive a notation on their transcript recognizing their completion of the Certificate of Practice, a Letter of Completion signed by the CTLO Director and the Dean of Graduate Studies, recognition of participation during graduation, and a celebration with other awardees at the end of the academic year of completion.