

Meaning, Quality, and Integrity Degree Statement for Civil Engineering Program

The Civil Engineering Program offers one undergraduate degree, Bachelor of Science in Civil Engineering (BSCE), and one graduate degree, Master of Science in Civil Engineering (MSCE). The program is accredited by the Engineering Accreditation Commission of ABET. In accordance, it must satisfy *General Criteria for Baccalaureate Level Programs* (Criteria 1-8). Additionally, each accredited program must satisfy so called Program Criteria to ensure academic rigor specific to particular disciplines. Throughout this document we will make specific references to Criteria set forth by ABET: this will be the General Criteria.

Meaning:

Expectations for entering students

Currently our program is impacted. Up to date admissions requirements can be found at: <http://www.cpp.edu/~admissions>

Mission, Vision, and Program Educational Objectives

The mission of the Cal Poly Pomona Civil Engineering Department and our program, as part, is “to meet the challenges of an evolving society, we provide practice-oriented civil engineering education that fosters personal, professional and social responsibility; technical excellence and creativity; and effective communication, teamwork and leadership”. The vision the Cal Poly Pomona Civil Engineering Department and our program is “to provide the best civil engineering learning experience”.

Our department strives to be a leader in providing relevant and rigorous engineering education in a learning-centered environment. As such, we offer programs and curricula that are up-to-date, globally competitive, and supported by strong ties to educational and industrial partners, while maintaining a community of students, staff, and faculty who are talented, successful, and reflect the diversity of California.

Our program is accredited by the Engineering Accreditation Commission of ABET and must satisfy Criterion 2: Program Educational Objectives (PEO):

The program must have published program educational objectives that are consistent with the mission of the institution, the needs of the program’s various constituencies, and these criteria. There must be a documented, systematically utilized, and effective process, involving program constituencies, for the periodic review of these program educational objectives that ensures they remain consistent with the institutional mission, the program’s constituents’ needs, and these criteria.

In fulfillment, the Civil Engineering Department has adopted the following as its program educational objectives for its Civil Engineering program:

PEO1: Develop a career as an engineer, surveyor, and/or manager in the civil engineering, construction, or engineering related fields.

PEO2: Maintain and promote professional competency, via professional licensure and life-long learning through continuing education, graduate studies, and participation in professional societies.

PEO3: Practice the profession of engineering, taking into consideration the ethical, political, economical, legal, environmental, and societal impacts of their decisions.

Our department has both undergraduate and graduate programs. They are distinctly different. Our graduate program has heightened expectations.

Quality:

Our program is accredited by the Engineering Accreditation Commission of ABET. As such, our curriculum is designed to meet standards set forth by ABET including Program Criteria which describes sufficient courses in mathematics, basic sciences and engineering.

In addition to meeting curriculum requirements, we are required to have documented student outcomes that prepare graduates to attain the program educational objectives. As described by ABET in Criterion 1:

Student performance must be evaluated. Student progress must be monitored to foster success in attaining student outcomes, thereby enabling graduates to attain program educational objectives. Students must be advised regarding curriculum and career matters.

The program must have and enforce policies for accepting both new and transfer students, awarding appropriate academic credit for courses taken at other institutions, and awarding appropriate academic credit for work in lieu of courses taken at the institution. The program must have and enforce procedures to ensure and document that students who graduate meet all graduation requirements.

The faculty in the Civil Engineering Program adopted the following student outcomes specified by ABET Criterion 3, 1-7:

1. **Problem solving** - an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
2. **Engineering design** - An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
3. **Communication** - An ability to communicate effectively with a range of audiences;
4. **Professionalism & Ethics** - An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
5. **Teamwork** - An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
6. **Experiment analysis** - An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
7. **Apply knowledge** - An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Our department has both Civil Engineering undergraduate and graduate programs. Our learning outcomes are distinct for the two.

Integrity:

Our program is accredited by the Engineering Accreditation Commission of ABET which requires documented continuous improvement as described in Criterion 4:

The program must regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The results of these evaluations must be systematically utilized as input for the continuous improvement of the program. Other available information may also be used to assist in the continuous improvement of the program.

To address Criterion 4, our department utilizes a variety of documented assessment instruments including standalone summative exams and formative exams. The results of the evaluations are used as input for continuous improvement of our program. Currently, we use the following instruments:

- Graduate Writing Test (GWT)
- Senior Project Survey
- Employer/Alumni Survey
- Senior Exit Survey
- Course based assessment