SELF-EVALUATION STUDY

Submitted by:

Name of Institution:

CALIFORNIA POLYTECHNIC STATE UNIVERSITY

Name of Construction Educational Unit:

CONSTRUCTION MANAGEMENT DEPARTMENT

Title of Construction Program:

CONSTRUCTION MANAGEMENT

I. INTRODUCTION

A. Accreditation

1. Name of regional organization by which the institution is accredited:

Western Association of Schools and Colleges (WASC).

2. Is the construction educational (degree) program, or a portion thereof, accredited by another accrediting agency? If yes, describe:

No, the department is not accredited by any other agency other than ACCE.

3. List accrediting agencies that currently accredit programs at the institution.

Accreditation Board for Engineering and Technology, Inc. (ABET) / Computing Accreditation Commission
- Computer Science, BS

Accreditation Board for Engineering and Technology, Inc. (ABET) / Engineering Accreditation Commission
- Aerospace Engineering, BS
- Architectural Engineering, BS
- BioResource and Agricultural Engineering, BS
- Civil Engineering, BS
- Computer Engineering, BS
- Electrical Engineering, BS

Environmental Engineering, BS
Industrial Engineering, BS
Manufacturing Engineering, BS
Materials Engineering, BS
Mechanical Engineering, BS
Software Engineering, BS

Accrediting Counsel for Collegiate Graphic Communications (ACCGC)
Graphic Communication, BS

Accrediting Council for Education and Dietetics (ACEND)
Dietetic Internship
Nutrition, BS (Applied Nutrition Concentration)

American Council for Construction Education (ACCE)
Construction Management, BS

American Society of Landscape Architects (ASLA) /
Landscape Architectural Accreditation Board (LAAB)
Landscape Architecture, BLA

Association to Advance Collegiate Schools of Business (AACSB)
Business Administration, BS, MBA
Economics, BS

Association of Technology, Management, and Applied Engineering (ATMAE)
Industrial Technology, BS

Council on Accreditation of Parks, Recreation, Tourism and Related Professions (COAPRT)
Recreation, Parks, and Tourism Administration, BS

National Architectural Accrediting Board (NAAB)
Architecture, BArch

National Association of Schools of Art and Design (NASAD)
Art and Design, BFA

National Association of Schools of Music (NASM)
Music, BA

National Council for Accreditation of Teacher Education (NCATE) / California Commission on Teacher Credentialing (CTC)
Teacher Education (Multiple Subject , Single Subject , Education Specialist Mild/Moderate, Administrative Services, Agriculture Specialist)

Planning Accreditation Board (PAB)
City and Regional Planning, BS, MCRP

Society of American Foresters (SAF)
Forestry and Natural Resources, BS

B. Institution

Provide background information about the institution. Describe its history, mission, size, purpose, and organizational structure in general terms. (If this information is available elsewhere, it may be included by reference.)

California Polytechnic State University, San Luis Obispo, is part of the nation's largest university system, the California State University (CSU) system, with 23 campuses and seven off-campus centers, more than 437,000 students and a faculty and staff of 44,000. Including capital outlay, the CSU budget totals more than $5 billion to provide support for about 1,100 bachelor's, 700 master's, and 17 joint doctoral degree programs in 240 areas of study. Each year, as many students graduate with bachelor's degrees from the CSU as from all other Colleges and Universities in California combined. The CSU system is administered by a Board of Trustees and a Chancellor. Each of the 23 campuses has its own President.

The individual campuses were brought together as a system by the Donahoe Higher Education Act of 1960; in 1972 the system became known as "The California State University and Colleges"; and in 1982 attained the name the system bears today, "The California State University." The oldest campus—what is now called San Jose State University—was founded in 1857, the newest—California State University, Channel Islands—began accepting freshmen in Fall 2003.

California Polytechnic State University, San Luis Obispo, was founded in 1901 when the State Legislature established a vocational high school in San Luis Obispo. The institution served as a forerunner in vocational education for agriculture and industry in California. In 1924, its Board of Trustees was dissolved and the State Board of Education administered the school until July 1, 1961, when administration passed to the Trustees of The California State Colleges.

Cal Poly began offering junior college courses in 1927 and became a two-and three-year institution for higher education in 1933. In 1940, the first baccalaureate degrees were authorized and the first Bachelor of Science degrees were awarded in 1942. The California Polytechnic School was renamed the California State Polytechnic College

in 1947 and was granted approval to offer the Master of Arts degree in education in 1949 and the Master of Science degree in 1967. In 1972, Cal Poly's official name was changed to California Polytechnic State University, the name it still bears.

The College of Architecture and Environmental Design developed as follows:

1946	The college started as the newly created Architectural Engineering Department offering a 4-year degree.
1961	Initiatives for Construction program started.
1964	The state education code permitted this institution to offer a five-year Bachelor of Architecture degree.
1965	The Architecture program was accredited by NAAB.
1968	The two degrees of Architecture and Architectural Engineering were organized into programs and the name of the unit changed to the School of Architecture.
1970	The program in City and Regional Planning was added to the two other programs offering a four-year B.S. in City and Regional Planning.
1970	The name of the school was changed to the School of Architecture and Environmental Design.
1970	The program in Construction Engineering was added offering a four-year B.S. in Construction Engineering.
1972	First graduating class in Construction Engineering.
1972	The program in Landscape Architecture was added offering a four-year B.S. in Landscape Architecture.
1975	The Bachelor of Architecture degree changed from a five-year degree to a four-year B.S. Architecture degree and a two-year M.S. degree in Architecture was added.
1974	Master of City and Regional Planning degree added.
1976	Master of Science in Architecture was changed to Master of Architecture.
1978	School of Architecture and Environmental Design reorganized into departments.
1978	Name of Construction Engineering changed to Construction.

1978 Initial accreditation of Construction Department by the American Council for Construction Education.

1978 B.S. in Architecture dropped and the five-year Bachelor of Architecture degree reinstated.

1983 Reaccreditation of Construction Department by the American Council for Construction Education.

1984 Name of department and degree program changed from Construction to Construction Management.

1988 Reaccreditation of Construction Management Department by the American Council for Construction Education.

1988 Master of Architecture degree converted to M.S. in Architecture.

1993 Reaccreditation of Construction Management Department by the American Council for Construction Education.

1993 The School of Architecture and Environmental Design (SAED) is changed to the College of Architecture and Environmental Design (CAED).

1994 Bachelor of Landscape Architecture (BLA) five-year degree started. Department drops four-year BS.

1996 Reaccreditation of Construction Management Department by the American Council for Construction Education.

1999 Construction Management Department hosted the 35th Annual Conference of the Associated Schools of Construction.

2002 Reaccreditation of Construction Management Department by the American Council for Construction Education.

2002 First California Bond Issue passed to provide preliminary design funds for new Construction Management Building. Capital Campaign started to raise $6 million to expand the size of the state supported building.

2004 Second California Bond Issue passed to provide final design and construction funds for new Construction Management Building: the Construction Innovations Center.

2006 Groundbreaking for new Construction Innovations Center. The new building occupies the site of the old Air Conditioning Building where the first classes in the CAED were offered.

2008 Reaccreditation of Construction Management Department by the American Council for Construction Education.

2008 Building Dedication for new Construction Innovations Center.

2009 New Integrated Curriculum implemented by Construction Management Department.

2010 Building Dedication for the Simpson Strong-Tie Materials Demonstration Laboratory and Construction Management 40th Anniversary Celebration

2013 Construction Management Department hosted the 49th Annual Conference of the Associated Schools of Construction.

2014 Launch of the Facilities Management and Operations Graduate Certificate Program.

2015 Planned beginning of Master of Science in Architecture with a specialization in Construction Project Management.

C. Construction Educational Unit

1. Provide background information about the construction educational (degree) program and unit--i.e., describe its origins, developmental history, mission, goals, and current size and organizational structure.

The Construction Management Department resides in the College of Architecture and Environmental Design (CAED). The college grew out of a program of Architectural Engineering which, from 1946 to 1964, was a program within the Division, or School, of Engineering (see historical chronology of the college in Section I.B). In 1964, the addition of a five-year program in Architecture was approved.

During the middle 1960's, the programs experienced extremely rapid growth and, in 1968, the School of Architecture was created with George Hasslein, formerly the Architecture Program Head, selected to serve as dean. The program in City and Regional Planning was added in 1970, the same year that the name of the school was changed to the School of Architecture and Environmental Design. Construction Engineering was added to the school in 1970 and Landscape Architecture in 1972. All programs were reorganized into departments in 1978 and, in July 1993, the University renamed the "School" as the "College" of Architecture and Environmental Design with Paul R. Neel serving as dean.

In 1961, Mr. Paul Spencer, a member of the Board of Trustees for the California State Colleges and a general contractor in Southern California, asked the President

of the College (University) to review the possibility of establishing a Construction Engineering Program at Cal Poly, San Luis Obispo. Other institutions within the system were also given consideration and nearly ten years of deliberation, research, and evaluation followed. During this time, the School of Architecture and Environmental Design was created. In 1970, approvals were given to begin a program in Construction Engineering. Since all programs within the school had a common first and second year curriculum, the Construction Engineering Program began classes in Fall 1970 with a third year class, producing its first graduating class in June 1972.

In 1978, the "Construction Engineering" program name was changed to "Construction". This name change reflected the program's emphasis on management rather than engineering. The name "Construction Management" was adopted in 1984.

The Construction Engineering program received its first accreditation in 1978 with subsequent reaccreditation as Construction or Construction Management in 1983, 1988, 1993, 1996, 2002, and 2008.

Reflecting the Learn-By-Doing tradition at Cal Poly, the Construction Management Department has always had a heavy emphasis on excellence in undergraduate education. The curriculum has always been primarily based on lab instruction and that history is readily seen in the curriculum today. The Integrated Curriculum that was fully implemented in 2009 still relies on project-based learning and team solutions to practical problems in the construction profession.

As reflected in the specific mission and goals stated in the next section of this self-study, there is a specific commitment to professionalism, problem solving, leadership, communication, and excellence resulting in graduates who are ready to perform in industry from "day one." This ability has been confirmed by industry recruiters of our graduates and by other measures of educational outcomes (see Section IX of this report).

The emphasis on professionalism has been manifested in the department in two important ways. First of all, the department supports and encourages faculty efforts to attain the professional credentials appropriate to their educational background and experience (e.g., CPC, PE, AIA, LEED AP, DBIA, PMP, CCC, CPE, etc.) The department covers annual dues or registration fees and supports faculty participation in national conferences with an annual budget of donated funds ranging from $80,000 to $100,000.

Secondly, the department has created the Professional Advising for Construction Students (PACS) program to raise students' awareness of and participation in professional and trade associations. Each year at a mandatory advising session in the fall, all CM students review with their advisors their progress towards understanding and participating in extracurricular professional activities. The

department covers the student costs for successfully passing certification exams, participating in competitions, and attending national conferences with a budget ranging from $80,000 to $100,000 per year separate from the faculty professional development budget described above.

As with many CM programs around the country, the department at Cal Poly has decreased in the size of the student body over the past five years. From its peak enrollment of about 400 students in 2008, enrollment declined to about 300 in 2012. This was due to intentional cutbacks resulting from declining State support during this time and to a shrinking pool of applicants to the program. From a peak of nearly 300 applicants for the fall of 2007 and 2008, that pool has declined to about 170 applicants in the past two years. This resulted in a decline of new students from a peak of 97 in the fall of 2008 to a low of just 49 new students in the fall of 2010. Targeted recruiting efforts and an improving construction economy in California have started to reverse this trend and the department welcomed 75 new students in the fall of 2013.

In terms of organizational structure, the Construction Management Department is one of five departments in the College of Architecture and Environmental Design, each administered by its own department head. Only the Architecture Department, as the largest department in the College, currently has designated an associate department head. The College is administered by a Dean and an Associate Dean who report to the Provost as shown in Section II.A. The Construction Management Department is supported by two full time administrative staff as well as standing faculty committees and special task forces as needed. This structure is further described in Sections below.

2. List near and long-term objectives of the construction education unit (i.e., Strategic Plan) in relation to how it is intended that educational (degree) program goals will be achieved and how progress or achievement will be measured.

The current mission statement and goals for the department are listed as follows:

MISSION STATEMENT

We provide innovative educational challenges focused on preparing construction professionals committed to excellence.

PROGRAM GOALS

In support of the interdisciplinary goals of the
College of Architecture and Environmental Design

The Cal Poly CM department will produce graduates who:

1. Demonstrate a readiness and ability to perform in the construction industry.

2. Demonstrate an ability to apply problem-solving skills and integrate technical knowledge.

3. Demonstrate an ability to participate successfully within an interdisciplinary team environment.

4. Demonstrate an understanding of professional behavior, standards, and leadership attributes.

5. Demonstrate an ability to communicate effectively, both orally and written, and professionally present ideas.

6. Demonstrate a propensity for life long learning and service to the industry and community at large.

The Cal Poly CM faculty will:

1. Work closely with the architecture, engineering, and construction (AEC) industry and maintain currency and participation with industry practice.

2. Bring the AEC professions into the classroom and engage students in innovative learning experiences.

3. Engage in the scholarship of teaching, discovery, application, and integration.

4. Engage in life-long learning endeavors.

The Cal Poly CM administration will:

1. Secure, develop, and maintain professional relationships with the construction industry.

2. Create opportunities for faculty professional development.

3. Create a rich and challenging learning environment by providing the staff, faculty, space, equipment and supplies required.

4. Encourage and support innovative endeavors and approaches to teaching, learning, and the engagement of students.

These program goals were determined by the faculty in 2004 and progress towards the goals is reviewed on a regular basis. As noted above, the goals are divided into three categories describing overall objectives for students, faculty, and administrative staff. Most goal statements are ongoing, so they are not achieved just once but are regularly measured to note continuing improvements in these categories.

Throughout this self-study, the mechanisms put into place to achieve these objectives are described. The initiatives to achieve the first set of goals addressing skill sets expected of our graduates are primarily curricular in nature and this structure is described in Sections III and V of this self-study. The mechanisms established to achieve the second set of goals related to faculty are addressed predominantly in Section IV of this self-study. Finally, as the administration is involved with all of the goals as a central player in student, faculty, facilities, and external relations initiatives, the administrative policies and procedures are described throughout this document, but they are more specifically addressed in Sections II, VI, and VII.

The CM Department continuously strives for improvement and is making good progress in achieving the stated goals, but the nature of the process is ongoing and always can be improved. Progress is being measured by collecting data from multiple sources including faculty, students, members of the Industry Advisory Committee, other industry professionals, alumni, and peer reviewers both external and on campus. Data have been collected through both formal and informal discussions and surveys as well as from direct measures of student achievement. Senior Exit Interviews are conducted with many graduating seniors at the end of their studies here and student evaluations are now conducted in all classes every quarter. Formal surveys have been conducted with industry employers of our graduates and extensive feedback is collected from meetings of the Industry Advisory Committee. At intervals no greater than six years, the department completes a formal external review by a visiting team from ACCE and a formal internal review during the Program Review cycle on campus. These processes and the outcomes assessment results are described in detail in Section IX of this self-study.

The Dean of the College of Architecture and Environmental Design has initiated an updating process for the College Strategic Plan to be completed during the 2013-2014 academic year. This formal process will afford the CM Department the opportunity to review its mission and goals with an eye to better aligning itself with the College and the University. This will result in an updated Strategic Plan for the department as well that will help guide the department in the short- and mid-term. Plans for participation in that strategic planning process are presented in Section IX.