



ANNUAL PROGRAM REPORT

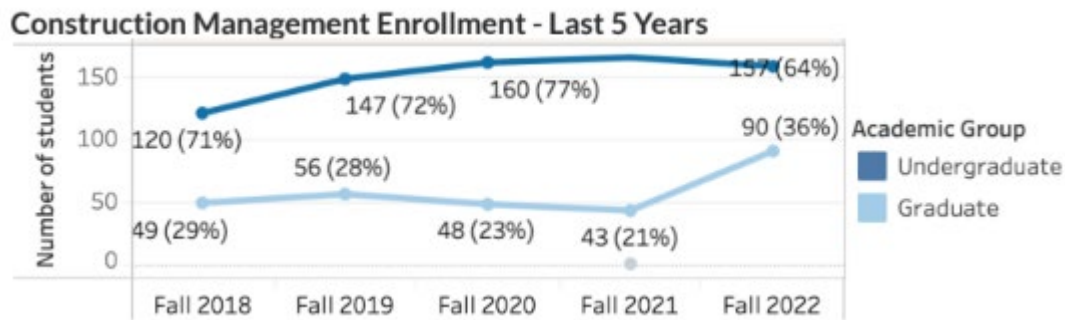
College	Science
Department	Engineering
Program	B.S. Construction Management
Reporting for Academic Year	2023-2024
Last 5-Year Review	2012-2023
Next 5-Year Review	2027-2028
Department Chair	Farnaz Ganjeizadeh
Date Submitted	10/1/2023

SELF-STUDY (suggested length of 1-3 pages)

A. Five-Year Review Planning Goals

1. Along with the rest of the university, we transitioned to online teaching, starting March of 2020. This has been a major undertaking as industry-based projects, site visits and laboratory courses had to be modified or eliminated. The faculty have worked hard to substitute these activities with computer simulation, virtual tours and other active learning practices. We just completed the Accreditation Board of Engineering and Technology (ABET) visit in September 2021.
2. Faculty: We have hired one additional faculty (Roya Nasimi). She has experience in structural engineering, and development of engineering laboratories. She is supporting our construction management program teaching courses in statics and surveying.
3. Research: The Construction Management faculty are active in research and are being successful in securing funds for their research. The construction management faculty actively pursue funding opportunities and publishing, specifically in areas related to the advancement of construction/engineering education, and virtual reality in construction. STEM camp for high school students from Contra Costa County (Funded by industry for the 9th consecutive year in summer 2023). They are also involved in several other STEM education grants.

4. Equipment: Through A2E2 annual funding and the normal refresh cycle of computers by IT and the support from College of Science, we have been able to maintain and upkeep the Construction Management laboratories. With funds from the A2E2 initiative, the construction management program is able to maintain and improve our laboratories to meet the increasing enrollment and excellence of the program.
5. Enrollment: Student enrollment in Construction Management program has significantly increased since its inception in Winter of 2009 from 6 students to 157 students in the Fall of 2022. Our enrollment has been steady during the pandemic and post pandemic years.



6. Excess credits: n/a.

B. Progress Towards Five-Year Review Planning Goals

1. We have successfully completed the Accreditation Board of Engineering and Technology (ABET) visit in September 2021.
2. During this period, we lost two construction management faculty. We have hired two tenure track faculty during this period, Dr. Bitu Astaneh, who is fully focused on the construction management program, and Dr. Roya Nasimi, who is a Civil Engineering faculty and mostly teaches Civil Engineering courses. With the increasing enrollment we need one additional faculty for construction management.
3. The remodeling of materials lab SSC 247 has been completed and it is used as lab/active learning classroom as well as the Surveying lab. In addition (VBT 217), for the past three years, space for an advanced technology laboratory/center in construction has been secured, one new faculty in the field of technology was hired, one faculty in the field of structures was hired, and equipment was acquired to develop a state-of-the-art facility to serve students, faculty research and collaboration with the industry. We have retrofitted the lab for online instruction in the spring of 2020. We intend to use this space to train our students in the field of construction management/technology as well as conduct research with graduate students and collaborate with the industry.
4. Enrollment in Construction Management has increased substantially over the ten years since its inception and seems to be steady but while keeping an upward trend in the past two years. Our student population in the Construction Management program is diverse, 75.8% of our students are URM. Our student demographics is 71.3% Latinx, 4.5% Black.



UG MAJORS

Enrollment has increased
31% in the last 5 years



DIVERSITY

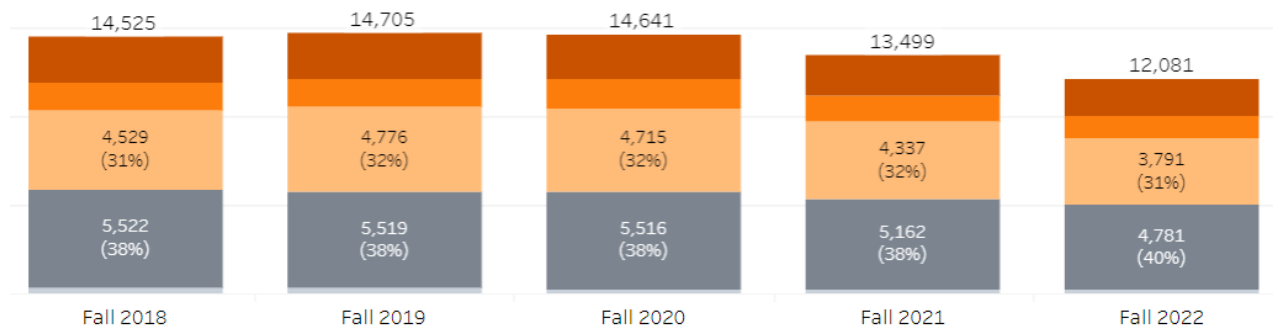
More than half (75.8%) are URM
(71.3% Latinx, 4.5% Black)

C. Program Changes and Needs

Report on changes and emerging needs not already discussed above. Include any changes related to SB1440, significant events that have occurred or are imminent, program demand projections, notable changes in resources, retirement/new hires, curricular changes, honors received, etc., and their implications for attaining program goals. Organize your discussion using the following subheadings.

Overview: The Construction Management program started in the year of 2010 and has been steadily growing. The last two years our enrollment has been steady, in spite of the overall lower post pandemic student enrollment at the college and university level.

College: State-Support



Curriculum: The transformed curriculum is designed to include more active learning practices and includes courses and materials that are in line with the employment trends for construction managers. We have successfully awarded the ABET accreditation in July 2022.

Students: Demand for construction management graduates is very strong. The majority of our students are completing internships throughout the year, and our graduates are employed in construction management positions mainly in the Bay Area. Our connections with industry are very strong, and we hold meetings with industry and job fairs several times a year.

Faculty: Since 2009, we have hired four faculty members. In 2009, Dr. Farzad Shahbodaghlou joined the School of Engineering in the capacity of Director of Construction Management Program. In 2012 Dr. Cristian Gaedicke joined the program followed by Drs. Akhavian in 2015 and Castronovo in 2016. Drs. Akhavian and Castronovo left for other opportunities, however we hired Dr. Bita Astaneh and Dr. Roya Nasimi. Drs. Shahbodaghlou and Gaedicke are tenured and Dr. Astaneh and Dr. Nasimi are tenure-track faculty.

Staff: We have one full time staff advisor for the School of Engineering, Mrs. Lisa Holmstrom and a laboratory technician, Mr. Linh Nguyen. In addition, we have the support from the Computer Science-Engineering hub for administrative processes.

Resources: Room SCS 247, Materials Testing Laboratory, has been remodeled to a lab-lecture room with a capacity of 36. Flexible furniture suitable for active learning practices have been installed.

Assessment: An extensive assessment process has been successfully completed for the Construction Management program. Sample results are provided in the following section.

SUMMARY OF ASSESSMENT (suggested length of 1-2 pages)

Program Learning Outcomes (PLO)

Students graduating with a B.S. in Construction Management will be able to: on	
<i>PLO a</i> <i>ILO 6</i>	Have knowledge in the core construction management areas (construction materials and methods, safety, codes, scheduling, commissioning, planning and control, project management, construction law, cost accounting, human resources management, environmental and safety issues in construction).
<i>PLO b</i> <i>ILO 1,6</i>	Have knowledge in broad areas of construction management beyond the core areas.
<i>PLO c</i> <i>ILO 2</i>	Ability to communicate effectively.
<i>PLO d</i> <i>ILO 3,4</i>	Ability to function in teams.
<i>PLO e</i> <i>ILO 5,6</i>	Have the knowledge of sustainable building and construction techniques and relevant state regulations.
<i>PLO f</i> <i>ILO 4,5</i>	Have an awareness of the complex environment (involving professional and ethical responsibilities) in which they will practice their profession.
<i>PLO g</i> <i>ILO 1,6</i>	Ability to educate themselves and be prepared for lifelong learning and professional development.

<i>PLO h</i> <i>ILO 1,6</i>	Have experience in solving real life problems.
--------------------------------	--

We have assessed the following PLOs for the Construction Management program during the 2020-21 Academic Year:

The following SLOs for the **Construction Management Bachelor Program** were assessed during the 2019-20 Academic Year:

Year 2: 2022-2023	
<i>1. Which PLO(s) to assess</i>	PLO a - Have knowledge in the core construction management areas (construction materials and methods, safety, codes, scheduling, commissioning, planning and control, project management, construction law, cost accounting, human resources management, environmental and safety issues in construction).
<i>2. Is it aligned to an ILO</i>	Yes, ILO 5,6
<i>3. Sample (courses/# of students)</i>	a-CMGT 206;
<i>4.SLO from the course</i>	a- Identify construction materials and analyze their properties
<i>5.Assessment indicators</i>	a-Laboratory 01 performance
<i>6.Assessment instrument</i>	Program rubric
<i>7.Time (which semester(s))</i>	a-Fall 2022;
<i>8.Responsible person(s)</i>	a-Prof Gaedicke
<i>9.Ways of reporting (how, to who)</i>	The results (quantitative) will be reported by faculty to the department chair via completion of the course Faculty Self-Assessment form.
<i>10. Ways of closing the loop</i>	Interaction between chair, faculty and industrial advisory board

Assessment of SLO:

CMGT 206 – Construction Materials The outcome was assessed through the laboratory 1 report. In this report, students briefly described the procedure that was followed to test the specimens, they created the stress (ksi) vs strain (%) curve for each specimen, and calculated the following properties: ultimate strength, elastic modulus, 0.2% offset yield stress, and strain at rupture based on the recorded data.

This assignment helped the students understand the properties of construction materials, and applications of such materials based on code. We consider this outcome met when at least 70% of

students achieve above a score of or above 80%. The outcome was met, with 91% of students (achieving a score above 80% in the report. Based on this assessment, the instructor suggests continued scaffolding and breaking up of the lab groups into smaller submissions to support continuous improvement assessment.

Assessment Plans for Next Year

Summarize your assessment plans for the next year, including the PLO(s) you plan to assess, any revisions to the program assessment plan presented in your last five-year plan self-study, and any other relevant information.

We will assess the following PLO’s in this academic year.

Year 3: 2023-2024	
1. Which PLO(s) to assess	PLO c - Ability to communicate effectively. (ILO 2)
2. Is it aligned with ILO	Yes, ILO 2
3. Course name and number	CMGT 350
4. SLO form the course	Create and organize a construction schedule. Apply different project planning techniques such as CPM and PERT. Use techniques and tools needed to program and manage a schedule through use of computer software.
5. Assessment indicators	c-Oral presentation rubric
6. Assessment Instrument	Program rubric
7. Time (which semester(s))	d-Spring 2024
8. Responsible person(s)	d-Prof. Shahbodaghlou
9. Ways of reporting (how, to who)	The results (quantitative and qualitative) will be reported by faculty to the department chair via completion of the course Faculty Self-Assessment form.
10. Ways of closing the loop	Interaction between chair, faculty and industry advisory board

DISCUSSION OF PROGRAM DATA & RESOURCE REQUESTS

Each program should provide a one-page discussion of the program data available through CAPR. This discussion should include an analysis of trends and areas of concern. Programs should also include in this discussion requests for additional resources including space and tenure-track hires. Resource requests must be supported by reference to CAPR data only. Requests for tenure-track hires should indicate the area and rank that the program is requesting to hire. If a program is not requesting resources in that year, indicate that no resources are requested.

Discussion of Trends & Reflections

Notable Trends:

Summarize and discuss any notable trends occurring in your program over the past 3-5 years

based on program statistics (1-2 paragraphs). You may include 1-2 pages of supplemental information as appendices to this report (e.g., graphs and tables).

- Recruiting and employment
- Enrollment
- resources

Reflections on Trends and Program Statistics:

Provide your reflections on the trends discussed above and statistics and supplemental information presented in this report.

Request for Resources:

A2E2 provides sufficient funding for laboratory maintenance.

Request for Tenure-Track Hires:

We have hired a tenure-track faculty member to replace Dr. Fadi Castronovo.

Request for Other Resources

N/A

DISCUSSION OF PROGRAM DATA & RESOURCE REQUESTS

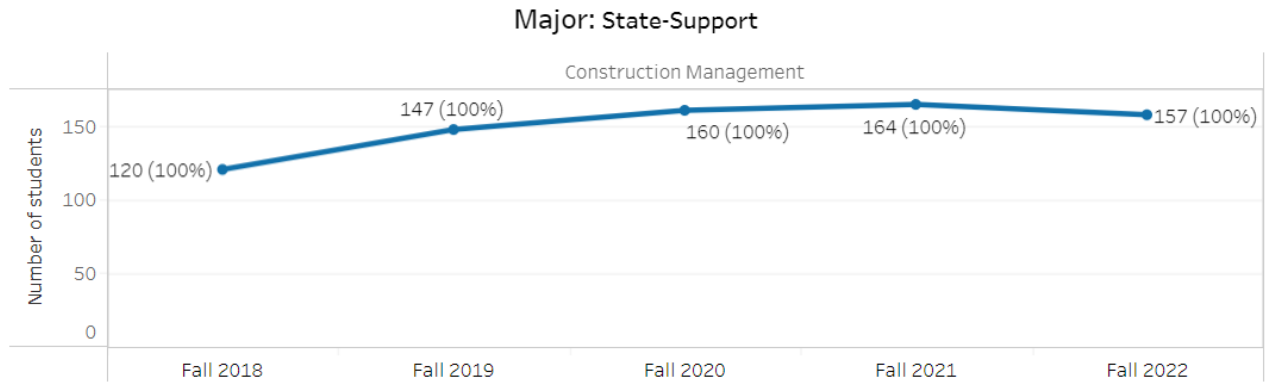
Each program should provide a one-page discussion of the program data available through CAPR. This discussion should include an analysis of trends and areas of concern. Programs should also include in this discussion requests for additional resources including space and tenure-track hires. Resource requests must be supported by reference to CAPR data only. Requests for tenure-track hires should indicate the area and rank that the program is requesting to hire. If a program is not requesting resources in that year, indicate that no resources are requested.

Discussion of Trends & Reflections

According to data from CSUEB the BS in construction management is growing steadily. The number of first-time freshmen as of Fall of 2022 has increased year over year from 87 to 95.

Student Headcount by Program:

Construction Management: Admit Type											
		Fall 2018		Fall 2019		Fall 2020		Fall 2021		Fall 2022	
		n	%	n	%	n	%	n	%	n	%
Undergraduate	First-time Frosh	58	48%	70	48%	80	50%	87	53%	95	61%
	Transfer	62	52%	77	52%	80	50%	77	47%	62	39%
	Total	120	100%	147	100%	160	100%	164	100%	157	100%
Grand Total		120	100%	147	100%	160	100%	164	100%	157	100%



According to the data above, program enrollments is steadily increasing. The CSUEB Construction Management Program is the only program of its kind in the Bay Area. The closest undergraduate program is at Sacramento State University and there is no similar Master’s program in Northern California.

Notable Trends:

Summarize and discuss any notable trends occurring in your program over the past 3-5 years based on program statistics (1-2 paragraphs). You may include 1-2 pages of supplemental information as appendices to this report (e.g., graphs and tables).

1. We have successfully been awarded the ABET accreditation in 2022.
2. We have offered an exclusive bi-annual Career Day/Job fair for CMGT students starting in 2012. The first event was attended by 1 construction company and 14 students and since it has grown to over 35 companies and between over 75 students participating.

Reflections on Trends and Program Statistics:

Provide your reflections on the trends discussed above and statistics and supplemental information presented in this report.

We anticipate that this program will be growing given the level of interest and our outreach efforts to community colleges.

Request for Resources (suggested length of 1 page)

Upkeep of the laboratory software and hardware, access to large computer lab/classes for some of the courses. The calibration of our lab equipment is not current. We anticipate that calibrating the equipment will cost approximately \$15 - \$20k.

Request for Tenure-Track Hires:

We are requesting one tenure-track position for the CMGT Program at this time.

Request for Other Resources

n/a