## 2017 - 2018 Annual Program Assessment Report

The Office of Academic Program Assessment California State University, Sacramento

For more information visit our **website** or **contact us** for more help.

Please begin by selecting your program name in the drop down.

If the program name is not listed, please enter it below:

**BS Civil Engineering** 

OR enter program name:

## Section 1: Report All of the Program Learning Outcomes Assessed

Question 1: Program Learning Outcomes

Q1.1.

Which of the following Program Learning Outcomes (PLOs), Sac State Baccalaureate Learning Goals (BLGs), and emboldened Graduate Learning Goals (GLGs) **did you assess?** [**Check all that apply**]

- 💶 1. Critical Thinking
- 2. Information Literacy
- 3. Written Communication
- 4. Oral Communication
- 5. Quantitative Literacy
- 6. Inquiry and Analysis
- 7. Creative Thinking
- 8. Reading
- 9. Team Work
- 10. Problem Solving
- 11. Civic Knowledge and Engagement
- 12. Intercultural Knowledge, Competency, and Perspectives
- 13. Ethical Reasoning
- 14. Foundations and Skills for Lifelong Learning
- 15. Global Learning and Perspectives
- 16. Integrative and Applied Learning
- 17. Overall Competencies for GE Knowledge
- 18. Overall Disciplinary Knowledge
- 19. Professionalism

20A. Other, specify any assessed PLOs not included above:

a.	
b.	
с.	

20B. Check here if your program has not collected any data for any PLOs. Please go directly to Q6 (skip Q1.2 to Q5.3.1.)

#### Q1.2.

Please provide more detailed background information about **EACH PLO** you checked above and other information including how your specific PLOs are **explicitly** linked to the Sac State **BLGs/GLGs**:

**Competence in the Disciplines** : The ability to demonstrate the competencies and values listed below in at least one major field of study and to demonstrate informed understandings of other fields, drawing on the knowledge and skills of disciplines outside the major. --> Linked to Overall Disciplinary Knowledge PLO

**Intellectual and Practical Skills, Including**: inquiry and analysis, critical, philosophical, and creative thinking, written and oral communication, quantitative literacy, information literacy, teamwork and problem solving, practiced extensively across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance. --> Linked to Critical Thinking, Inquiry and Analysis, Problem Solving PLOs

**Personal and Social Responsibility, Including**: civic knowledge and engagement—local and global, intercultural knowledge and competence<sup>1</sup>, ethical reasoning and action, foundations and skills for lifelong learning anchored through active involvement with diverse communities and real-world challenges. --> Linked to Ethical Reasoning PLO

#### Q1.2.1.

Do you have rubrics for your PLOs?

- 1. Yes, for all PLOs
- 2. Yes, but for some PLOs
- 3. No rubrics for PLOs
- 🔘 4. N/A
- 5. Other, specify:

#### Q1.3.

Are your PLOs closely aligned with the mission of the university?

- 💿 1. Yes
- 🔘 2. No
- 🔘 3. Don't know

#### Q1.4.

Is your program externally accredited (other than through WASC Senior College and University Commission (WSCUC))?

- 🧿 1. Yes
- 2. No (skip to Q1.5)
- 3. Don't know (skip to Q1.5)

#### Q1.4.1.

If the answer to Q1.4 is **yes**, are your PLOs closely aligned with the mission/goals/outcomes of the accreditation agency?

- 💿 1. Yes
- 🔘 2. No
- O 3. Don't know

#### Q1.5.

Did your program use the **Degree Qualification Profile** ("DQP", see http://degreeprofile.org) to develop your PLO(s)?

- 🔘 1. Yes
- 2. No, but I know what the DQP is

3. No, I don't know what the DQP is

🔘 4. Don't know

#### Q1.6.

Did you use action verbs to make each PLO measurable?

- 💿 1. Yes
- 🔘 2. No
- 3. Don't know

(Remember: Save your progress)

## Section 2: Report One Learning Outcome in Detail

Question 2: Standard of Performance for the Selected PLO

#### Q2.1.

Select **OR** type in **ONE(1)** PLO here as an example to illustrate how you conducted assessment (be sure you *checked the correct box* for this PLO in Q1.1):

#### Ethical Reasoning

If your PLO is not listed, please enter it here:

#### Q2.1.1.

Please provide more background information about the **specific PLO** you've chosen in Q2.1.

Students learn about ethics in the context of civil engineering professional practice, and respond to an openended essay question about a recent ethical issue in the profession. The question prompts the students to discuss the ethics problem relative to ASCE's published ethics guidelines.

#### Q2.2.

Has the program developed or adopted *explicit program standards of performance/expectations* for this PLO? (e.g. "We expect 70% of our students to achieve at least a score of 3 or higher in all dimensions of the Written Communication VALUE rubric.")

- 🧿 1. Yes
- 🔘 2. No
- 3. Don't know
- 🔘 4. N/A

#### Q2.3.

Please 1) provide and/or attach the rubric(s) <u>AND</u> 2) the standards of performance/expectations that you have developed for *the selected PLO* here:

We expect 80% of our students to achieve a 3.0 or higher on the grading rubric for this assignment (see attached).

EthicsRubric.docx 14.09 KB

Q2.4. PLO	Q2.5. Stdrd	-	Please indicate where you have published the <b>PLO</b> , the <b>standard (stdrd)</b> of performance, and the <b>rubric</b> that was used to measure the PLO:
2			1. In <b>SOME</b> course syllabi/assignments in the program that address the PLO
<b>v</b>			2. In <b>ALL</b> course syllabi/assignments in the program that address the PLO
			3. In the student handbook/advising handbook
			4. In the university catalogue
			5. On the academic unit website or in newsletters
2		S	6. In the assessment or program review reports, plans, resources, or activities
2			7. In new course proposal forms in the department/college/university
			8. In the department/college/university's strategic plans and other planning documents
			9. In the department/college/university's budget plans and other resource allocation documents
			10. Other, specify:

## Question 3: Data Collection Methods and Evaluation of Data Quality for the Selected PLO

#### Q3.1.

Was assessment data/evidence **collected** for the selected PLO?

- 💿 1. Yes
- 2. No (skip to Q6)
- 3. Don't know (skip to Q6)
- 4. N/A (skip to Q6)

#### Q3.1.1.

How many assessment tools/methods/measures **in total** did you use to assess this PLO?

#### Q3.2.

Was the data **scored/evaluated** for this PLO?

- 💿 1. Yes
- 2. No (skip to Q6)
- 3. Don't know (skip to Q6)
- 4. N/A (skip to Q6)

## Q3.2.1.

Please describe how you collected the assessment data for the selected PLO. For example, in what course(s) or by what means were data collected:

1) A one-page essay response to a question on a current event in the civil engineering profession with ethical implications and/or a professional situation where the students and instructor could discuss how decisions made by the engineer(s) could be influenced by a better understanding of published ethical guidelines by the American Society of Civil Engineers (ASCE).

2) Data from a national exam taken by students in the program, with several multiple choice questions address ethics.

#### (Remember: Save your progress)

## Question 3A: Direct Measures (key assignments, projects, portfolios, etc.)

#### Q3.3.

Were direct measures (key assignments, projects, portfolios, course work, student tests, etc.) used to assess this PLO?

- 💿 1. Yes
- 2. No (skip to Q3.7)
- 3. Don't know (skip to Q3.7)

#### Q3.3.1.

Which of the following direct measures (key assignments, projects, portfolios, course work, student tests, etc.) were used? [**Check all that apply**]

- 1. Capstone project (e.g. theses, senior theses), courses, or experiences
- 2. Key assignments from required classes in the program
- 3. Key assignments from elective classes
- 4. Classroom based performance assessment such as simulations, comprehensive exams, or critiques
- 5. External performance assessments such as internships or other community-based projects
- 6. E-Portfolios
- 7. Other Portfolios
- 8. Other, specify:

#### Q3.3.2.

Please **1)** provide and/or attach the direct measure (key assignments, projects, portfolios, course work, student tests, etc.) you used to collect data, <u>THEN</u> **2)** explain here how it assesses the PLO:

The assignment is shown below. It addresses the ethics PLO by assessing the students understanding of the ASCE Code of Ethics, and applying it to the water contamination emergency in Flint Michigan.

In one page, and IN YOUR OWN WORDS, describe what you consider to be unethical actions taken by engineers in the Flint, Michigan water contamination crisis. Most importantly, describe which of the seven cannons of the ASCE Code of Ethics were violated (there might be more than one). Please follow the formatting standards listed below. The following webpages may be useful:

ASCE Code of Ethics: http://www.asce.org/code-of-ethics

A possible reference (many exist online): https://interestingengineering.com/series-terrible-decisions-madeengineers-flint-michigan

1 page1.5 line spacing 1 inch margins (top/bottom and left/right) Times New Roman 11.5 font Title of paper on top of 1st page Do not write your name on the essay

10 No file attached 10 No file attached

#### Q3.4.

What tool was used to evaluate the data?

- 1. No rubric is used to interpret the evidence (skip to Q3.4.4.)
- 2. Used rubric developed/modified by the faculty who teaches the class (skip to Q3.4.2.)
- 3. Used rubric developed/modified by a group of faculty (skip to Q3.4.2.)
- 4. Used rubric pilot-tested and refined by a group of faculty (skip to Q3.4.2.)
- 5. The VALUE rubric(s) (skip to Q3.4.2.)
- 6. Modified VALUE rubric(s) (skip to Q3.4.2.)
- 7. Used other means (Answer Q3.4.1.)

#### Q3.4.1.

If you used other means, which of the following measures was used? [Check all that apply]

- 2 1. National disciplinary exams or state/professional licensure exams (skip to Q3.4.4.)
- 2. General knowledge and skills measures (e.g. CLA, ETS PP, etc.) (skip to Q3.4.4.)
- 3. Other standardized knowledge and skill exams (e.g. ETC, GRE, etc.) (skip to Q3.4.4.)
- 4. Other, specify:

(skip to **Q3.4.4.**)

#### Q3.4.2.

Was the rubric aligned directly and explicitly with the PLO?

- 💿 1. Yes
- 🔘 2. No
- 3. Don't know
- 🔘 4. N/A

#### Q3.4.3.

Was the **direct measure** (e.g. assignment, thesis, etc.) aligned directly and explicitly with the rubric?

- 💿 1. Yes
- 🔘 2. No
- 🔘 3. Don't know

🔘 4. N/A

#### Q3.4.4.

Was the direct measure (e.g. assignment, thesis, etc.) aligned directly and explicitly with the PLO?

- 💿 1. Yes
- 🔘 2. No
- 3. Don't know
- 🔘 4. N/A

#### Q3.5.

Please enter the number (#) of faculty members who participated in planning the assessment data **collection** of the selected PLO?

2

#### Q3.5.1.

Please enter the number (#) of faculty members who participated in the **evaluation** of the assessment data for the selected PLO?

1

#### Q3.5.2.

**If** the data was evaluated by multiple scorers, was there a norming process (a procedure to make sure everyone was scoring similarly)?

🔘 1. Yes

🔘 2. No

3. Don't know

💿 4. N/A

#### Q3.6.

How did you select the sample of student work (papers, projects, portfolios, etc.)?

Scores from all students are reported.

#### Q3.6.1.

How did you **decide** how many samples of student work to review?

Scores from all students are reported.

#### Q3.6.2.

Please enter the number (#) of students that were in the class or program? 62

#### Q3.6.3.

Please enter the number (#) of samples of student work that you evaluated? 62

#### Q3.6.4.

Was the sample size of student work for the direct measure adequate?

- 💿 1. Yes
- 🔘 2. No
- O 3. Don't know

#### (Remember: Save your progress)

Question 3B: Indirect Measures (surveys, focus groups, interviews, etc.)

#### Q3.7.

Were indirect measures used to assess the PLO?

- 🔘 1. Yes
- 2. No (skip to Q3.8)
- 3. Don't Know (skip to Q3.8)

#### Q3.7.1.

Which of the following indirect measures were used? [Check all that apply]

- 1. National student surveys (e.g. NSSE)
- 2. University conducted student surveys (e.g. OIR)
- 3. College/department/program student surveys or focus groups
- 4. Alumni surveys, focus groups, or interviews
- 5. Employer surveys, focus groups, or interviews
- 6. Advisory board surveys, focus groups, or interviews
- 7. Other, specify:

#### Q3.7.1.1.

Please explain and attach the indirect measure you used to collect data:

**ID** No file attached **ID** No file attached

#### Q3.7.2.

If surveys were used, how was the sample size decided?

#### Q3.7.3.

If surveys were used, how did you **select** your sample:

#### Q3.7.4.

 $\ensuremath{\mathbf{If}}$  surveys were used, please enter the response rate:

# Question 3C: Other Measures (external benchmarking, licensing exams, standardized tests, etc.)

#### Q3.8.

Were external benchmarking data, such as licensing exams or standardized tests, used to assess the PLO?

- 🔘 1. Yes
- 🧿 2. No (skip to **Q3.8.2**)
- 3. Don't Know (skip to Q3.8.2)

#### Q3.8.1.

Which of the following measures was used? [Check all that apply]

- 1. National disciplinary exams or state/professional licensure exams
- 2. General knowledge and skills measures (e.g. CLA, ETS PP, etc.)
- 3. Other standardized knowledge and skill exams (e.g. ETC, GRE, etc.)
- 4. Other, specify:

#### Q3.8.2.

Were other measures used to assess the PLO?

- 🔘 1. Yes
- 2. No (skip to **Q4.1**)
- 3. Don't know (skip to Q4.1)

#### Q3.8.3.

If other measures were used, please specify:

No file attached
No file attached

## (Remember: Save your progress)

## Question 4: Data, Findings, and Conclusions

#### Q4.1.

Please provide tables and/or graphs to summarize the assessment data, findings, and conclusions for the selected PLO in **Q2.1** (see Appendix 12 in our <u>Feedback Packet Example</u>):

Most students did well on this assignment, with 90.3% scoring a 3.0 or higher on the assignment when graded against the assignment rubric.

n	EthicsAssignmentGrading.pdf	_	
U	EthicsAssignmentGrading.pdf 109.84 KB	10	No file attached

#### Q4.2.

Are students doing well and meeting the program standard? **If not**, how will the program work to improve student performance of the selected PLO?

Yes.

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#### Q4.3.

For the selected PLO, the student performance:

- 1. Exceeded expectation/standard
- 2. Met expectation/standard
- 3. Partially met expectation/standard
- 4. Did not meet expectation/standard

- 5. No expectation/standard has been specified
- 🔘 6. Don't know

## Question 4A: Alignment and Quality

#### Q4.4.

Did the data, including the direct measures, from all the different assessment tools/measures/methods directly align with the PLO?

- 💿 1. Yes
- 🔘 2. No
- 🔘 3. Don't know

#### Q4.5.

Were all the assessment tools/measures/methods that were used good measures of the PLO?

- 💿 1. Yes
- 🔘 2. No
- 🔘 3. Don't know

Question 5: Use of Assessment Data (Closing the Loop)

#### Q5.1.

As a result of the assessment effort and based on prior feedback from OAPA, do you anticipate **making any changes** for your program (e.g. course structure, course content, or modification of PLOs)?

🔘 1. Yes

- 2. No (skip to Q5.2)
- 3. Don't know (skip to **Q5.2**)

#### Q5.1.1.

Please describe what changes you plan to make in your program as a result of your assessment of this PLO.

#### Q5.1.2.

Do you have a plan to assess the *impact of the changes* that you anticipate making?

1. Yes, describe your plan:

#### 🔘 2. No

3. Don't know

## Q5.2.

Q5.2. To what extent did you apply <b>previous</b>	1.	2.	3.	4.	5.
<b>assessment results</b> collected through your program in the following areas?	Very Much	Quite a Bit	Some	Not at All	N/A
1. Improving specific courses	0	0	0	0	0
2. Modifying curriculum	0	0	0	0	0
3. Improving advising and mentoring	0	0	0	0	0
4. Revising learning outcomes/goals	0	0	0	0	0
5. Revising rubrics and/or expectations	0	0	0	0	0
6. Developing/updating assessment plan	0	0	0	0	0
7. Annual assessment reports	0	0	0	0	0
8. Program review	0	0	0	0	0
9. Prospective student and family information	0	0	0	0	0
10. Alumni communication	0	0	0	0	0
11. WSCUC accreditation (regional accreditation)	0	0	0	0	0
12. Program accreditation	0	0	0	0	0
13. External accountability reporting requirement	0	0	0	0	0
14. Trustee/Governing Board deliberations	0	0	0	0	0
15. Strategic planning	0	0	0	0	0
16. Institutional benchmarking	0	0	0	0	0
17. Academic policy development or modifications	0	0	0	0	0
18. Institutional improvement	0	0	0	0	0
19. Resource allocation and budgeting	0	0	0	0	0
20. New faculty hiring	0	0	0	0	0
21. Professional development for faculty and staff	0	0	0	0	0
22. Recruitment of new students	0	0	0	0	0
23. Other, specify:	0	0	0	0	0

#### Q5.2.1.

Please provide a detailed example of how you used the assessment data above:

<b>Q5.3.</b> To what extent did you apply <b>previous assessment feedback</b> from the Office of Academic Program Assessment in the following areas?	1. Very Much	2. Quite a bit	3. Some	4. Not at All	5. N/A
1. Program Learning Outcomes	0	0	0	0	0
2. Standards of Performance	0	0	0	0	0
3. Measures	0	0	0	0	0
4. Rubrics	0	0	0	0	0
5. Alignment	0	0	0	0	0
6. Data Collection	0	0	0	0	0
7. Data Analysis and Presentation	0	0	0	0	0
8. Use of Assessment Data	0	0	0	0	0
9. Other, please specify:	0	0	0	0	0

## Q5.3.1.

Please share with us an example of how you applied **previous feedback** from the Office of Academic Program Assessment in any of the areas above:

Used Appendices 12B.1-12C for guidance on how to present data clearly

(Remember: Save your progress)

## **Section 3: Report Other Assessment Activities**

Other Assessment Activities

Q6.

If your program/academic unit conducted assessment activities that are **not directly related to the PLOs** for this year (i.e. impacts of an advising center, etc.), please provide those activities and results here:

10 No file attached 10 No file attached

#### Q6.1.

Please explain how the assessment activities reported in **Q6** will be linked to any of your PLOs and/or PLO assessment in the future and to the mission, vision, and the strategic planning for the program and the university:

## Q7.

What PLO(s) do you plan to assess next year? [Check all that apply]

- 1. Critical Thinking
- 2. Information Literacy
- **3. Written Communication**
- **4. Oral Communication**
- 5. Quantitative Literacy
- 6. Inquiry and Analysis
- 7. Creative Thinking
- 8. Reading
- 💈 9. Team Work
- 10. Problem Solving
- 11. Civic Knowledge and Engagement
- 2 12. Intercultural Knowledge, Competency, and Perspectives
- 13. Ethical Reasoning
- 14. Foundations and Skills for Lifelong Learning
- 15. Global Learning and Perspectives
- 16. Integrative and Applied Learning
- 17. Overall Competencies for GE Knowledge
- 18. Overall Disciplinary Knowledge
- 19. Professionalism
- 20. Other, specify any PLOs not included above:

#### Q8.

Please explain how this year's assessment activities help you address recommendations from your department's last program review?

**Q9.** Please attach any additional files here:

No file attached	No file attached
No file attached	No file attached

#### Q9.1.

If you have attached **any** files to this form, please list **every** attached file here:

## Section 4: Background Information about the Program

## Program Information (Required)

Program:

(If you typed in your program name at the beginning, please skip to **Q11**)

#### Q10.

Program/Concentration Name: [skip if program name is already selected or appears above] BS Civil Engineering

#### Q11.

Report Author(s): Benjamin Fell

#### Q11.1.

Department Chair/Program Director: Benjamin Fell

#### Q11.2.

Assessment Coordinator: None

#### Q12.

Department/Division/Program of Academic Unit (select):

Civil Engineering

#### Q13.

College:

College of Engineering and Computer Science

#### Q14.

What is the total enrollment (#) for Academic Unit during assessment (see Departmental Fact Book): 760

#### Q15.

Program Type:

- 1. Undergraduate baccalaureate major
- 2. Credential
- 🔘 3. Master's Degree
- 4. Doctorate (Ph.D./Ed.D./Ed.S./D.P.T./etc.)
- 5. Other, specify:

#### Q16. Number of undergraduate degree programs the academic unit has?

1

Q16.1. List all the names:

Bachelors of Science in Civil Engineering

**Q16.2.** How many concentrations appear on the diploma for this undergraduate program?

Q17. Number of master's degree programs the academic unit has?

1

Q17.1. List all the names:

Masters of Science in Civil Engineering

**Q17.2.** How many concentrations appear on the diploma for this master's program?

Q18. Number of credential programs the academic unit has?

0

**Q18.1.** List all the names:

Q19. Number of doctorate degree programs the academic unit has?

0

Q19.1. List all the names:

When was your Assessment Plan	1.	2.	3.	4.	5.	6.	7.	8.
	Before 2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	No Plan	Don't know
Q20. Developed?	0	0	0	0	0	0	0	0
Q20.1. Last updated?	0	0	0	0	0	0	0	0

#### Q20.2. (Required)

Please obtain and attach your latest assessment plan:

**No file attached** 

#### Q21.

Has your program developed a curriculum map?

- 💿 1. Yes
- 🔘 2. No
- 🔘 3. Don't know

#### Q21.1.

Please obtain and attach your latest curriculum map:

```
flowchart_tableformat_update_Aug2018.pdf
121.28 KB
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#### Q22.

Has your program indicated explicitly in the curriculum map where assessment of student learning occurs?

💿 1. Yes

- 🔘 2. No
- 🔘 3. Don't know

#### Q23.

Does your program have a capstone class? • 1. Yes, specify:

CE 190: Civil Engineering Senior Project

🔘 2. No

🔘 3. Don't know

### Q23.1.

Does your program have a capstone project(s)?

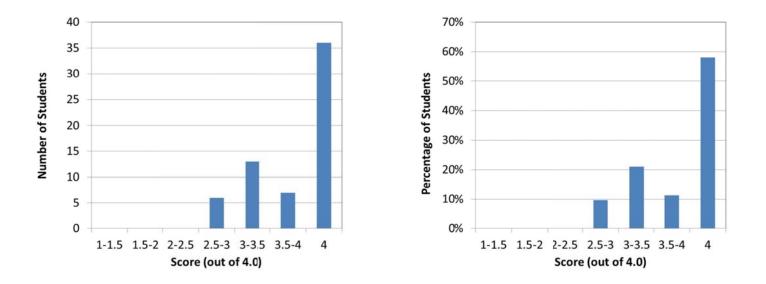
- 🧿 1. Yes
- 🔘 2. No
- 3. Don't know

## (Remember: Save your progress)

Save When Completed!

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	Assessment Score						
Performance Indicator	4	3	2	1			
Demonstrates understanding of role of ethics in professional practice	Refers to three or more elements of the ASCE Code of Ethics	Refers to two elements of the ASCE Code of Ethics	Refers to one elements of the ASCE Code of Ethics	Refers to zero or one element of the ASCE Code of Ethics			
Assesses an engineer's responsibility for public health and safety	Provides three or more clear, relevant, and logical examples	Provides two clear, relevant, and logical examples	Provides one clear, relevant, and logical examples	Provides zero or one clear, relevant, and logical example			
Weighs how an engineer's actions affect other professionals	Presents relevant and appropriate content exhibiting creativity and free thought	Presents acceptable, but limited, well- explained content	Presents content lacking in quantity and quality; concepts not well explained	Does not present meaningful content			
Weighs how an engineer's actions affect his/her career	Presents relevant and appropriate content exhibiting creativity and free thought	Presents acceptable, but limited, well- explained content	Presents content lacking in quantity and quality; concepts not well explained	Does not present meaningful content			



Score Range	Count	Percentage	Score	Count equal to or above score	Percentage equal to or above score	
≥ 1, < 1.5	0	0.0%	≥1	62	100.0%	
≥ 1.5, < 2	0	0.0%	≥ 1.5	62	100.0%	
≥ 2, < 2.5	0	0.0%	≥ 2	62	100.0%	
≥ 2.5, < 3	6	9.7%	≥ 2.5	62	100.0%	Standard of
≥ 3, < 3.5	13	21.0%	≥ <b>3</b>	56	90.3% —	Performance
≥ 3.5, < 4	7	11.3%	≥ 3.5	43	69.4%	Goal: 80%
4	36	58.1%	≥ 4.0	36	58.1%	

## Department of Civil Engineering – California State University, Sacramento

