

2015-2016 Annual Assessment Report Template

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Report: BS Mechanical Engineering

Question 1: Program Learning Outcomes

Q1.1.

Which of the following Program Learning Outcomes (PLOs) and Sac State Baccalaureate Learning Goals (BLGs) **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 and Competency
- ☒ 13. Ethical Reasoning
- ☒ 14. Foundations and Skills for Lifelong Learning
- ☐ 15. Global Learning
- ☐ 16. Integrative and Applied Learning
- ☐ 17. Overall Competencies for GE Knowledge
- ☒ 18. Overall Competencies in the Major/Discipline
- ☐ 19. Other, specify any assessed PLOs not included above:

- a.
- b.
- c.

Q1.2.

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

The University Mission and the BLGs inform the BS ME Program Educational Objectives. The mission of providing a transformative learning experience "by preparing students for leadership, service and success" and the BLGs, including competency in the major discipline and significant breadth and depth in an integrative manner are consistent with all of the specific BS ME PEOs.

The BS ME program has twelve specific PLOs. These are closely aligned with the University Mission, the BLGs, the BS ME PEOs, the ABET student outcomes and with the other programs in the College of Engineering and Computer Science. The specific student outcomes are;

- a. An ability to apply knowledge of mathematics, science, and engineering
- b. An ability to design and conduct experiments, as well as to analyze and interpret data
- c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- d. An ability to function on multidisciplinary teams
- f. An understanding of professional and ethical responsibility
- g. **An ability to communicate effectively** (both written and oral)
- h. A broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- i. A recognition of the need for, and an ability to engage in, life-long learning
- j. A knowledge of contemporary issues
- k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

By preparing students to utilize "a foundation in engineering and science to engage in successful careers in mechanical engineering or other fields to the benefit of society", to "become effective participants or leaders in innovation and multidisciplinary collaboration to address global technical, social, and industrial issues", and to engage in "career and professional development through self-study, continuing education, or graduate studies in engineering or other professional fields" the BS ME program offers students the opportunities to create a career that realizes their highest aspirations. Students are educated to be able to conduct engineering work (analysis and design) in a professionally responsible and ethical manner, and to be able to communicate the results of their work to all stakeholders.

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:

Undo

Q1.3.

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

- ☒ 1. Yes
- ☐ 2. No
- ☐ 3. Don't know

Undo

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**)

Undo

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
- ☐ 3. Don't know

Undo

Q1.5.

Did your program use the *Degree Qualification Profile* (DQP) 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

Undo

Q1.6.

Did you use action verbs to make each PLO measurable?

- ☒ 1. Yes
- ☐ 2. No
- ☐ 3. Don't know

Undo

(**Remember:** Save your progress)

Question 2: Standard of Performance for the Selected PLO

Q2.1.

Select **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):

Oral Communication

Q2.1.1.

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

Four performance indicators are evaluated to measure

Outcome g. An ability to communicate effectively (oral)

1. Devise an organized presentation
2. Apply appropriate language
3. Deliver content effectively
4. Develop visual materials which effectively support narrative (e.g. slides)

This PLO is evaluated in courses throughout the curriculum from the first year to the culminating experience

Q2.2.

Has the program developed or adopted **explicit** standards of performance for this PLO?

- ☒ 1. Yes
- ☐ 2. No
- ☐ 3. Don't know
- ☐ 4. N/A

Undo

Q2.3.

Please **provide the rubric(s)** and **standards of performance** that you have developed for this PLO here or in the appendix.



Student Outcome Rubric.docx
12.55 KB



Click here to attach a file

Q2.4. | Q2.5. | Q2.6.

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

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**)

Undo

Q3.1.1.

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

2

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**)

Undo

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:

Presentations were assessed in a high junior (ME 138) and low senior level (ME 190) course.

A sample of 82 students in ME 138 (60% of the cohort) was assessed. This percent of the sample that demonstrated proficient or above work on each indicators was as follows: Indicator 1 - 88%; Indicator 2 - 86%; Indicator 3 - 95%; Indicator 4 - 88%

A sample of 81 students in ME 190 (52% of the cohort) was assessed. The percent of the sample that demonstrated proficient or above work on each of the indicators was as follows: Indicator 1 - 90%; Indicator 2 - 88%; Indicator 3 - 87%; Indicator 4 - 90%

(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**)

Undo

Q3.3.1.

Which of the following direct measures 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 **explain** and **attach** the direct measure you used to collect data:

Presentations of semester projects were assessed in ME 138.

Presentations at the end of the design portion of the 2 semester senior project (ME 190-ME191) were assessed at the formal presentation attended by students, faculty and industry colleagues

 [Click here to attach a file](#)

 [Click here to attach a file](#)

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.**)

Undo

Q3.4.1.

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

- ☐ 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

Undo

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

Undo

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

Undo

Q3.5.

How many faculty members participated in planning the assessment data **collection** of the selected PLO?

10

Q3.5.1.

How many faculty members participated in the **evaluation** of the assessment data for the selected PLO?

5

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

Undo

Q3.6.

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

All presentations for multiple sections of the courses were evaluated. More than 50% of the presentations were evaluated.

Q3.6.1.

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

We wanted to have a large representation of work so that we could determine if there was consistency in the program. We evaluated all students in selected sections so we would get a representative population and assess over 50% of the work.

Q3.6.2.

How many students were in the class or program?

approximately 90

Q3.6.3.

How many samples of student work did you evaluate?
approximately 180

Q3.6.4.

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

- ☒ 1. Yes
☐ 2. No
☐ 3. Don't know

Undo

(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**)

Undo


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:

 Click here to attach a file

 Click here to attach a file

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.

If surveys were used, what was 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**)

Undo

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**)

Undo

Q3.8.3.

If other measures were used, please specify:

 Click here to attach a file

 Click here to attach a file

(Remember: Save your progress)

Question 4: Data, Findings, and Conclusions

Q4.1.

Please provide simple tables and/or graphs to summarize the assessment data, findings, and conclusions for the selected PLO for **Q2.1**:

The students are meeting the PLO target



Outcome g (oral).docx
13.07 KB



Click here to attach a file

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. We will continue to expect this level of success to ensure graduates professional success



Click here to attach a file



Click here to attach a file

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

Undo

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

Undo

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

Undo

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**)

Undo

Q5.1.1.

Please describe *what changes* you plan to make in your program as a result of your assessment of this PLO. Include a description of how you plan to assess the impact of these changes.

Q5.1.2.

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

- ☐ 1. Yes
☐ 2. No
☐ 3. Don't know

Undo

Q5.2.

How have the assessment data from the last annual assessment been used so far? [**Check all that apply**]

Undo 1-12

Undo 12-23

	1. Very Much	2. Quite a Bit	3. Some	4. Not at All	5. N/A
1. Improving specific courses	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Modifying curriculum	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Improving advising and mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
4. Revising learning outcomes/goals	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Revising rubrics and/or expectations	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Developing/updating assessment plan	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Annual assessment reports	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Program review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
9. Prospective student and family information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
10. Alumni communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
11. WSCUC accreditation (regional accreditation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
12. Program accreditation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. External accountability reporting requirement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
14. Trustee/Governing Board deliberations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
15. Strategic planning	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Institutional benchmarking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
17. Academic policy development or modifications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
18. Institutional improvement	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Resource allocation and budgeting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
20. New faculty hiring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
21. Professional development for faculty and staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
22. Recruitment of new students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

23. Other, specify:

Q5.2.1.

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


We use these data to ensure program quality and for program improvement. The assessment process is used to create the self-study for our ABET accreditation.


(Remember: Save your progress)

Additional Assessment Activities

Q6.

Many academic units have collected assessment data on aspect of their program *that are not related to the PLOs* (i.e. impacts of an advising center, etc.). **If** your program/academic unit has collected data on program *elements*, please briefly report your results here:

 Click here to attach a file

 Click here to attach a file

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
- ☐ 12. Intercultural Knowledge and Competency
- ☐ 13. Ethical Reasoning
- ☐ 14. Foundations and Skills for Lifelong Learning
- ☐ 15. Global Learning
- ☐ 16. Integrative and Applied Learning
- ☐ 17. Overall Competencies for GE Knowledge
- ☐ 18. Overall Competencies in the Major/Discipline
- ☐ 19. Other, specify any PLOs not included above:


a.


b.


c.

Q8. Please attach any additional files here:

 Click here to attach a file

 Click here to attach a file

 Click here to attach a file

 Click here to attach a file

Q8.1.

Have you attached any files to this form? If yes, please list every attached file here:

Student Outcome Rubric

Outcome g (oral)

BS ME Assessment plan

Curriculum map to PLOs

Program Information (Required)**P1.**

Program/Concentration Name(s): [by degree]

BS Mechanical Engineering

P1.1.

Program/Concentration Name(s): [by department]

Mechanical Engineering BS

P2.

Report Author(s):

Susan L. Holl

P2.1.

Department Chair/Program Director:

Susan L. Holl

P2.2.

Assessment Coordinator:

P3.

Department/Division/Program of Academic Unit

Mechanical Eng.

P4.

College:

College of Engineering and Computer Science

P5.

Total enrollment for Academic Unit during assessment semester (see Departmental Fact Book):

789 (according to Fact Book for 2

P6.

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:

P7. Number of **undergraduate degree programs** the academic unit has?

1

P7.1. List all the names:

BS Mechanical Engineering

P7.2. How many concentrations appear on the diploma for this undergraduate program?

0

P8. Number of **master's degree programs** the academic unit has?

1

P8.1. List all the names:

MS Mechanical Engineering

P8.2. How many concentrations appear on the diploma for this master's program?

0

P9. Number of **credential programs** the academic unit has?

0

P9.1. List all the names:**P10.** Number of **doctorate degree programs** the academic unit has?

0

P10.1. List all the names:When was your **assessment plan...**

Undo

1.
Before
2010-112.
2011-123.
2012-134.
2013-145.
2014-156.
No Plan7.
Don't
know**P11.** developed?

P11.1. last updated?

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
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P11.3.

Please attach your latest **assessment plan**:BS ME assessment plan .docx
15.51 KB

P12.

Has your program developed a **curriculum map**?

- ☒ 1. Yes
☐ 2. No
☐ 3. Don't know

P12.1.

Please attach your latest **curriculum map**:Curriculum map to PLOs.docx
14.12 KB

P13.

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

- ☒ 1. Yes
☐ 2. No
☐ 3. Don't know

P14.

Does your program have a capstone class?

- ☒ 1. Yes, indicate: ME 190/ME 191
☐ 2. No
☐ 3. Don't know

P14.1.

Does your program have **any** capstone project?

- ☒ 1. Yes
☐ 2. No
☐ 3. Don't know

(Remember: Save your progress)

Student Outcome: (g) An ability to communicate effectively (oral)

Performance Indicator	Exemplary (Outstanding)	Satisfactory (Proficient)	Developing (Apprentice)	Unsatisfactory (Novice)
<i>Devise an organized presentation</i>	Presentation organization in a clear and consistent that was appropriate for subject matter	Organization was appropriate, but presentation of details lacked clarity	Organization was mostly appropriate, but presentation of details lacked clarity	Lacked overall (global) organization and lacked detailed-level organization
<i>Apply appropriate language</i>	Language is unambiguous, correct for subject matter, enhance presentation, and appropriate for audience	Language is mostly unambiguous, correct terminology, enhance presentation, considers audience	Language is often ambiguous, mostly correct terminology, clear, misses audience	Language is ambiguous, incorrect terminology, confusing, does not consider audience
<i>Deliver content effectively</i>	Mannerisms, smoothness, pace and tone make presentation compelling, speaker appears polished and confident	Mannerisms, smoothness, pace and tone make the presentation interesting, and speaker appears comfortable	Mannerisms, smoothness, pace and tone make the presentation understandable, and speaker appears tentative	Mannerisms, smoothness, pace and tone detract from the understandability of the presentation, speaker appears uncomfortable
<i>Develop visual materials which effectively support oral delivery (e.g., slides)</i>	Visual materials are clear in content and visual presentation; materials integrated seamlessly into presentation	Visual materials are mostly clear in content and visual presentation with some exceptions; materials consistently referenced by speaker	Visual materials are mostly clear in content and visual presentation; materials regularly referenced by speaker	Visual materials are unclear in content and visual presentation; materials not integrated well with presentation

Table 4 – 8 Outcome g. <i>An ability to communicate effectively (oral)</i>						
Performance Indicator	Educational Strategies	Methods of Assessment	Where Data Collected	Length of Assessment Cycle	Year/Semester of Data Collection	Target for Performance (% students Proficient)
<i>1.Devise an organized presentation</i>	E 6, E 45, E 110, ME 105, ME 108, ME 116, ME 117, ME 171, ME 172, ME 180, ME 126, ME 128, ME 190, ME 191	Faculty Evaluation	ME 138, ME 190	3 years	2012, 2015	80%
		Senior Survey	Exit Interview			
<i>2.Apply appropriate language</i>	E 6, E 45, E 110, ME 105, ME 108, ME 116, ME 117, ME 171, ME 172, ME 180, ME 126, ME 128, ME 190, ME 191	Faculty Evaluation	ME 138, ME 190	3 years	2012, 2015	80%
		Senior Survey	Exit Interview			
<i>3.Deliver content effectively</i>	E 6, E 45, E 110, ME 105, ME 108, ME 116, ME 117, ME 171, ME 172, ME 180, ME 126, ME 128, ME 190, ME 191	Faculty Evaluation	ME 138, ME 190	3 years	2012, 2015	80%
		Senior Survey	Exit Interview			
<i>4.Develop visual materials which effectively support narrative (e.g., slides)</i>	E 6, E 45, E 110, ME 105, ME 108, ME 116, ME 117, ME 171, ME 172, ME 180, ME 126, ME 128, ME 190, ME 191	Faculty Evaluation	ME 138, ME 190	3 years	2012, 2015	80%
		Senior Survey	Exit Interview			
		Senior Survey	Exit Interview			

A sample of 82 students in ME 138 (60% of the 2014-15 cohort) were assessed. This represents 2 of the 4 sections. The percent of the sample that demonstrated each indicator at the proficient or above level were as follows: Indicator 1 – 88%; Indicator 2 – 86%; Indicator 3 – 95%; Indicator 4 – 88%;

A sample of 81 students in ME 190 (52% of 2014-15 cohort) were assessed. This represents 2 of 4 sections. The percent of the sample that demonstrated each indicator at the proficient or above level were as follows:

Indicator 1 – 90%; Indicator 2 – 88%; Indicator 3 – 87%; Indicator 4 – 90%;

The assessment plan was developed in 2008 to focus on the key areas. The plan utilized direct and indirect assessment methods to evaluate the learning outcomes at the course level. The assessment plan to evaluate student learning outcomes and programmatic objectives was reviewed after the ABET visit in 2009, updated in 2010, revised in 2012, and revised again in 2015 to utilize more updated PLOs, PEOs and to utilize more appropriate rubrics.

Methods

Table 3-3 shows the relationship between assessment methods and student outcomes.

Table 3-3: Assessment Procedures versus Student Outcomes.

Assessment Procedure	Student Outcomes										
	a	b	c	d	e	f	g	h	i	j	k
Graduating Senior Survey	x	x	x	x	x	x	x	x	x	x	x
Alumni Survey	x	x	x	x	x	x	x	x	x	x	x
Writing/Documentation Reviews			x				x				x
Pass Rate on FE Exam	x				x						
Targeted Surveys	x	x	x	x	x	x	x	x	x	x	x
Targeted Courses	x	x	x	x	x	x	x	x	x	x	x
Senior Project Presentation Evaluation	x	x	x		x		x				
Employer Surveys	x	x	x	x	x	x	x			x	x
Interviews with Employers						x	x	x		x	

The student outcomes are assessed using a variety of methods. The direct assessment methods include:

1. Evaluation of project documentation for the senior project classes.
Senior project reports for ME 190 and ME 191 are evaluated using a standardized rubric. The reports are evaluated for composition, technical content, and completeness. In addition, the design drawing packages within the senior project reports are evaluated.
2. Evaluation of senior project presentations.
The Senior Project Showcase is held every semester. At the Showcase the ME 190 students present their project designs with a poster display and the ME 191 students present their hardware and test results. All ME 190 and ME 191 groups have a formal presentation. The senior project presentations are evaluated by students, faculty and industry representatives. The evaluations are based on content, presentation material, and teamwork.
3. Evaluation of technical competence using targeted assignments in key classes.
Student outcomes are evaluated at multiple places in the curriculum. Evaluations are used to ensure that student outcomes are mastered at the time of graduation.
4. Data from the FE exam.

Indirect assessment methods include:

1. Graduating senior, industry, and alumni surveys.
2. Targeted surveys of students at different levels of the program.
3. Interviews with local employers.

Faculty Assessment

Faculty assess student work by traditional means including grading homework, exams, lab reports, term papers, project reports (both oral and written), and classroom participation. Students must earn a C- grade or better in all major courses. A standard 4.0 grade scale is used (A= 4.0) with a C grade described in the CSUS catalog as: *Satisfactory achievement of the course objectives. The student is now prepared for advanced work or study.* Students must earn a grade point average of 2.0 or better in four categories:

- All upper division courses in the major
- All CSUS coursework
- General Education
- All coursework

College Evaluation of Faculty Teaching

Each faculty is also evaluated each term as part of the College of Engineering and Computer Science “Teaching Effectiveness” survey. These results are primarily used in the Retention, Tenure and Promotion process, and also provide feedback to faculty regarding student perception of their teaching effectiveness and areas for improvement. After the results have been compiled, the individual comments and scores, and the department average score are provided to the faculty member. Each faculty member is encouraged to review the material and strive for improvement in teaching effectiveness.

College Level Assessment

The Mechanical Engineering Department collaborates on assessment issues with faculty from other departments within the college. A College Assessment Committee was established to coordinate assessment activities across the College. These activities include: writing and presentation assessment between departments; cooperation on developing rubrics for evaluating different outcomes; methods for assessing ethics; and coordinating assessment through the use of outside agencies. Appendix E shows the writing rubric developed by the college assessment committee and the questions asked as part of the ethics assessment.

Table 3-2. Courses Contributing to Program Student Outcomes

ABET Learning Outcome	E 6	ME 37	E 30	E 45	E 17	E11 0	E11 2	ME 116	ME 105	ME 108	E12 4	E13 2	ME 117	ME 138	ME 171	ME 180	ME 172	ME 126	ME 128	ME 190	ME 191
a	I	I	D	D	D	D	D	D	D	D	D	M	D	D	D	D/M	D/M	M	M	M	M
b	-	-	-	D	-	I	-	-	-	-	-	D	-	-	-	D/M	-	-	M	-	M
c	I	I	-	-	-	-	I	I	I	-	D	D	D	-	D	-	D/M	-	-	D/M	M
d	I	I	D	I	-	I	-	D	I	-	-	-	D	-	D	D/M	-	M	M	D/M	M
e	I	-	D	I	D	D	D	D	D	D	D	D	D	D	D	D/M	D/M	M	M	M	M
f	-	-	-	I	-	-	I	-	I	D	D	I	D	-	-	D/M	-	-	-	D	D
g	I	-	D	I	-	I	D	D	I	D	-	D	D	-	D	D/M	D/M	D/M	M	D	M
h	-	-	-	-	-	-	-	-	-	D	-	-	-	-	-	-	-	D	-	D	M
i	-	-	I	I	-	I	D	D	I	D	D	D	D	-	-	D/M	D/M	-	-	D	D
j	-	-	-	-	-	-	D	-	-	D	-	I	-	-	-	-	-	M	-	D/M	M
k	I	-	I	I	-	-	D	D	D	D	D	M	D	D	D	D/M	D/M	M	M	M	M

I = Introduced, D = Developed and Practiced with feedback,

M = Demonstrated as Mastery level appropriate for graduation