

Year Year 2

1. Identify the PLO your program assessed this academic year

A).An Ability to apply knowledge of mathematics, science and engineering.

2. Identify the artifact(s) (i.e. student work) that you used to assess the PLO.

[Papers, presentations, portfolios, test items, specific assignments, capstone

Rubrics-Scoring rubrics, oral presentation rubric, written presentation rubric, notebook assessment rubric, portfolio assessment rubric-Exam items, quizzes, project assignments, homework assignments, lab reports with scoring rubric, final design report with scoring rubric, notebooks, oral and written presentations, design report, electronic portfolio, and course survey

3. Identify the tools (e.g. rubrics, surveys, performance on standardized test questions) used to assess the artifact(s) (i.e. student work

Rubrics-Scoring rubrics, oral presentation rubric, written presentation rubric, notebook assessment rubric, portfolio assessment rubric

4. Explain the results of the assessment activities

Our benchmark was that 80% or more of student evidence would be at the Excellent, Good, or Acceptable levels. This particular benchmark was selected after seeing this percentage (80%) used in other program assessments found online (for example, Rochester Institute of Technology, California State University – Chico, etc) and after discussion and agreement of department faculty. In the eight courses that evaluated student achievement of SO (a), SO (c), and SO (e), students met this benchmark in all but EE 454 for SO (a). Please see results below.

5.Where applicable, outline the steps you will take to make improvements to the program based on the results of assessment activities identified in #3.

EE 343/343L – met benchmark that 80% or more of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 89% of student work was assessed at or above Acceptable. Indirect results from course surveys indicate that 93%-94% students rep

6. Are there any new resources needed to make program improvements? If so, please include the resources and provide justification for each in the Budget section of the Annual Report.

To support ENGINEERING CAPSTONE courses EE 449/449L and EE 454:•Additional real time computer systems (microcontrollers and SBC) and associated daughter boards, circuits and programming languages.•Additional support for electronic portfolios and a web

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C).An ability to design a system, component, or process to meet desired needs.

2. Identify the artifact(s) (i.e. student work) that you used to assess the PLO.

[Papers, presentations, portfolios, test items, specific assignments, capstone

Rubrics-Scoring rubrics, oral presentation rubric, written presentation rubric, notebook assessment rubric, portfolio assessment rubric-Exam items, quizzes, project assignments, homework assignments, lab reports with scoring rubric, final design report with scoring rubric, notebooks, oral and written presentations, design report, electronic portfolio, and course survey

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4. Explain the results of the assessment activities

Our benchmark was that 80% or more of student evidence would be at the Excellent, Good, or Acceptable levels. This particular benchmark was selected after seeing this percentage (80%) used in other program assessments found online (for example, Rochester Institute of Technology, California State University – Chico, etc) and after discussion and agreement of department faculty. In the eight courses that evaluated student achievement of SO (a), SO (c), and SO (e), students met this benchmark in all but EE 454 for SO (a). Please see results below. EE 241/241L - met benchmark that 80% or more of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 88% of student work was assessed at or above Acceptable. Indirect results from lecture course surveys indicate that 90% students reported they agreed or strongly agreed to statements related to the ability to design a system, component or process to meet desired needs in the lecture course. Indirect results from lab course surveys indicate that 88% students reported they agreed or strongly agreed to statements related to the ability to design a system, component or process to meet desired needs in the lab course. EE 343/343L – met benchmark that 80% or more of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 89% of student work was assessed at or above Acceptable. Indirect results from course surveys indicate that 96% students reported they agreed or strongly agreed to statements related to the ability to design a system, component or process to meet desired needs in this course. EE 344/344L – met benchmark that 80% or more of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 83% of student work was assessed at or above Acceptable. Indirect results from course surveys indicate that 81% students reported they agreed or strongly agreed to statements related to the ability to design a system, component or process to meet desired needs in this course. EE 449/449L- 88% of students met or exceeded expectations on this SLO via direct measurement, so this SLO met the 80% threshold. Students did not feel this outcome was met, however, as evidenced by their comments on the course evaluation forms. Students felt the focus on Project management and the focus on imbedded systems did not allow them to learn as much about engineering as they thought they should. EE 450 - met benchmark that 80% or more

of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 93% of student work was assessed at or above Acceptable. Indirect results from course surveys indicate that 100% students reported they agreed or strongly agreed to statements related to the ability to design a system, component or process to meet desired needs in this course. ECE 340 – met benchmark that 80% or more of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 94% of student work was assessed at or above Acceptable. Indirect results from course surveys indicate that 85% of students reported they agreed or strongly agreed to statements related to applying a knowledge of engineering in this course. EE 346 – met benchmark that 80% or more of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 94% of student work was assessed at or above Acceptable. Indirect results from course surveys indicate that 100% of students reported they agreed or strongly agreed to statements related to applying a knowledge of engineering in this course. EE 451 – met benchmark that 80% or more of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 87% of student work was assessed at or above Acceptable. Indirect results from course surveys indicate that 93% of students reported they agreed or strongly agreed to statements related to applying a knowledge of engineering in this course. EE 454 This SO was met with 85% of student work meeting or exceeding expectations. However, the comments regarding the delays contributed to the indirect evidence of student dissatisfaction with this course

5. Where applicable, outline the steps you will take to make improvements to the program based on the results of assessment activities identified in #3.

EE 241/241L – Faculty will continue to monitor student progress. EE 343/343L – Faculty will continue to monitor student progress, and plan to expand the design experience for the Juniors to give them more open ended design challenges. EE 344/344L – Faculty

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E).An ability to identify, formulate and solve engineering problems.

2. Identify the artifact(s) (i.e. student work) that you used to assess the PLO.

[Papers, presentations, portfolios, test items, specific assignments, capstone

Rubrics-Scoring rubrics, oral presentation rubric, written presentation rubric, notebook assessment rubric, portfolio assessment rubric-Exam items, quizzes, project assignments, homework assignments, lab reports with scoring rubric, final design report with scoring rubric, notebooks, oral and written presentations, design report, electronic portfolio, and course survey

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course.EE 346 – met benchmark that 80% or more of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 88% of student work was assessed at or above Acceptable. Indirect results from course surveys indicate that 100% of students reported they agreed or strongly agreed to statements related to applying a knowledge of engineering in this course.ENGR 350 - more than 95% of students showed work at the satisfactory or mastered levelEE 451 – met benchmark that 80% or more of student evidence would be at the Excellent-Good-Acceptable levels of rubric: 87% of student work was assessed at or above Acceptable. Indirect results from course surveys indicate that 95% of students reported they agreed or strongly agreed to statements related to applying a knowledge of engineering in this course.EE 454 This SO was met with 87% of student work meeting or exceeding expectations. However, the comments regarding the delays contributed to the indirect evidence of student dissatisfaction with this course.

5.Where applicable, outline the steps you will take to make improvements to the program based on the results of assessment activities identified in #3.

EE 343/343L – Faculty will continue to monitor student progress, and plan to expand the design experience for the Juniors to give them more open ended design challenges, and plan to improve assessment beyond that from lab report scoring rubric.EE 344/344

6. Are there any new resources needed to make program improvements? If so, please include the resources and provide justification for each in the Budget section of the Annual Report.

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