Assurance of Student Learning Reflection 2024-2025	
Ogden College of Science and Engineering	School of Engineering and Applied Sciences
Electrical Engineering program, #537	
Assessment coordinator: Mark Cambron	
Is this an online program? ☐ Yes ☒ No	Please make sure the Program Learning Outcomes listed match those in CourseLeaf. Indicate verification here ☒ Yes, they match! (If they don't match, explain on this page under **Evaluation)**

Instructions: For the 2024-25 assessment, we are asking you to reflect on the last three-year cycle rather than collect data. It's important to take time to look over the results from the last assessment cycle and really focus on a data-informed direction going forward. In collaboration with your assessment team and program faculty, review each submitted template from 2021-2024 and consider the following for each Program Learning Outcome, add your narrative to the template, and submit the draft to your ASL Rep by May 15, 2025.

Program Student Learning Outcome 1	
Program Student Learning Outcome	ABET EAC Outcome #1: Upon graduation our students have the ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
Evaluation	Using the last three assessment cycles, is this program learning outcome still relevant, or should it be changed? Based on the last three assessment cycles, the program learning outcome appears to remain relevant, as it aligns with core competencies consistently demonstrated by students. If it has recently changed, please explain. It has not changed. Other things to examine: Is the outcome measurable? Yes, Is it double or triple barreled? Does it include measurable verbs following Bloom's Taxonomy? Do you have the appropriate numbers of SLOs to measure regularly? Please consider choosing the most important. Yes, we have an appropriate number of ABET SLOs for regular assessment. We have seven SLOs.
Measurement Instruments	Are the measurement instruments actually measuring the outcome? Yes, Artifacts assessed in certain courses/sections and Senior Exit Surveys are the measurement instruments. If you change the SLO, is this still the best instrument to use? Yes,

Is this a direct or indirect measure? Direct

Is your artifact appropriate? Yes

If not, what other options are there? NA

Will the rise in the use of AI affect the assignment and measurement? At this moment we are doing well.

If there are rubrics, do they need to be altered to better fit the learning outcome? No

Does the rubric (if using) work or does it need to be adjusted? We are currently using a 4-point rubric (scores from 4 to 1) to evaluate the following categories: **Calculation, Define Problem, Identify Strategies,** and **Evaluate Potential Solutions.** So far, it is working well. The following criteria and rubric are used to assess student performance:

Student Learning Outcome 1: Upon graduation, our students have the ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.				
	Capstone	**Milestones**		**Benchmark**
	4	**3**	**2**	**1**
Calculation (Quantitative Literacy VALUE Rubric)	Calculations attempted are essentially all successful and sufficiently comprehensive to solve the problem. Calculations are also presented elegantly (clearly, concisely, etc.)	Calculations attempted are essentially all successful and sufficiently comprehensive to solve the problem.	Calculations attempted are either unsuccessful or represent only a portion of the calculations required to comprehensively solve the problem.	Calculations are attempted but are both unsuccessful and are not comprehensive.
Define Problem (Problem Solving VALUE Rubric)	Demonstrates the ability to construct a clear and insightful problem statement with evidence of all relevant contextual factors.	Demonstrates the ability to construct a problem statement with evidence of most relevant contextual factors, and problem statement is adequately detailed.	Begins to demonstrate the ability to construct a problem statement with evidence of most relevant contextual factors, but problem statement is superficial.	Demonstrates a limited ability in identifying a problem statement or related contextual factors.
Identify Strategies (Problem Solving VALUE Rubric)	Identifies multiple approaches for solving the problem that apply within a specific context.	Identifies multiple approaches for solving the problem, only some of which apply within a specific context.	Identifies only a single approach for solving the problem that does apply within a specific context.	Identifies one or more approaches for solving the problem that do not apply within a specific context.
Evaluate Potential Solutions (Problem Solving VALUE Rubric)	Evaluation of solutions is deep and elegant (for example, contains thorough and insightful explanation) and includes, deeply and thoroughly, all of the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	Evaluation of solutions is adequate (for example, contains thorough explanation) and includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	Evaluation of solutions is brief (for example, explanation lacks depth) and includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	Evaluation of solutions is superficial (for example, contains cursory, surface level explanation) and includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.

Criteria & Targets

At this time, we do not believe any changes are necessary regarding the level of performance achieved by students. The current performance target continues to be appropriate and sufficient. This benchmark has consistently been met in recent assessment cycles and has not been a point of concern during past ABET accreditation visits. In fact, during the most recent ABET review, no issues were raised related to either the performance level of students or the appropriateness of the target threshold. Therefore, we are confident that the current standard remains an effective indicator of student achievement for this learning outcome.

Results & Conclusion	**Results**: Are the results what was expected or not? What stood out in the assessment cycle over the past three years? Explain **Conclusions**: What worked? What didn't? Why do you think this? For example, maybe the content in one or more courses was modified; changed course sequence (detail modifications); changed admission criteria (detail modifications); changed instructional methodology (detail modifications); changed student advisement process (detail modifications); program suspended; changed textbooks; facility changed (e.g. classroom modifications); introduced new technology (e.g. smart classrooms, computer facilities, etc.); faculty hired to fill a particular content need; faculty instructional training; development of a more refined assessment tool. Student performance has been consistently acceptable over the past three years, based on rubric-based direct evaluations of student work. No programmatic adjustments have been deemed necessary at this time. The Electrical Engineering faculty will continue conducting program assessments on an annual basis to ensure ongoing evaluation of student performance. As required by the accrediting agency, ABET, the program remains committed to a process of continuous improvement through systematic assessment of student learning outcomes. This ongoing effort ensures that the program maintains high standards and continues to meet the expectations of both the institution and the profession. What our program is doing for this assessment is considered acceptable in the last ABET visit.
****IMPORTANT - Plans for Next Assessment Cycle**:	As we work hard to improve our assessment practices and make them more meaningful and effective, it's important each program craft a three-year plan for the following assessment cycle (2025-26, 2026-27, 2027-28) – this process assists in "closing the loop." For example, you may decide to: • collect a more appropriate artifact • create new program outcomes • adjust targets because they are consistently exceeded or not met • need to reconstruct your curriculum map • sequencing of classes might need to be adjusted, or additional class(es) provided Whatever your plan is, provide a narrative, in future tense, that indicates how you will approach future assessments. You will be expected to implement any needed changes before the next assessment cycle. This SLO will be assessed each academic year, with data from both terms, as part of the regular ABET program assessment activities. The assessment plan is revised constantly if needed when we do the assessment annually and the program currently has clear plan how this SLO will be assessed in coming years.

Program Student Learning Outcome 2	
Program Student Learning Outcome	ABET EAC Outcome #1: Upon graduation our students have the ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
Evaluation	Using the last three assessment cycles, is this program learning outcome still relevant, or should it be changed? Based on the last three assessment cycles, the program learning outcome appears to remain relevant, as it aligns with core competencies consistently demonstrated by students.

	If it has recently changed, please explain. It has not changed. Other things to examine: Is the outcome measurable? Yes, Is it double or triple barreled? Does it include measurable verbs following Bloom's Taxonomy? Do you have the appropriate numbers of SLOs to measure regularly? Please consider choosing the most important. Yes, we have an appropriate number of ABET SLOs for regular assessment. We have seven SLOs.
Measurement Instruments	Are the measurement instruments actually measuring the outcome? Yes, Artifacts assessed in certain courses/sections and Senior Exit Surveys are the measurement instruments. If you change the SLO, is this still the best instrument to use? Yes, Is this a direct or indirect measure? Direct Is your artifact appropriate? Yes If not, what other options are there? NA Will the rise in the use of AI affect the assignment and measurement? At this moment we are doing well. If there are rubrics, do they need to be altered to better fit the learning outcome? No Does the rubric (if using) work or does it need to be adjusted? We are currently using a 4-point rubric (scores from 4 to 1) to evaluate the following categories: **Acquiring Comptencies , Embracing Contradictions, 'Connecting, Synthesizing, Transforming' , Identify Strategies, Implement Solutions, and 'Indentifying specific project objectives, standards, and constraints based on general project reqts'.** So far, it is working well. The following criteria and rubric are used to assess student performance:

Student Learning Outcome 2: Upon graduation, our students have the ability to apply engineering design to produce solutions that meet specific needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

	Capstone	Milestones		Benchmark
	4	3	2	1
Acquiring Competencies (Creative Thinking VALUE Rubric)	Reflect: Evaluates creative process and product using domain-appropriate criteria.	Create: Creates an entirely new object, solution or idea that is appropriate to the domain.	Adapt: Successfully adapts an appropriate exemplar to his/her own specifications.	Model: Successfully reproduces an appropriate exemplar.
Solving Problems (Creative Thinking VALUE Rubric)	Not only develops a logical, consistent plan to solve problem, but recognizes consequences of solution and can articulate reason for choosing solution.	Having selected from among alternatives develops a logical, consistent plan to solve the problem.	Considers and rejects less acceptable approaches to solving problem.	Only a single approach is considered and is used to solve the problem.
Embracing Contradictions (Creative Thinking VALUE Rubric)	Integrates alternate, divergent, or contradictory perspectives or ideas fully.	Incorporates alternate, divergent, or contradictory perspectives or ideas in a exploratory way.	Includes (recognizes the value of) alternate, divergent, or contradictory perspectives or ideas in a small way.	Acknowledges (mentions in passing) alternate, divergent, or contradictory perspectives or ideas.
Connecting, Synthesizing, Transforming (Creative Thinking VALUE Rubric)	Transforms ideas or solutions into entirely new forms.	Synthesizes ideas or solutions into a coherent whole.	Connects ideas or solutions in novel ways.	Recognizes existing connections among ideas or solutions.
Implement Solutions (Problem Solving VALUE Rubric)	Implements the solution in a manner that addresses thoroughly and deeply multiple contextual factors of the problem.	Implements the solution in a manner that addresses multiple contextual factors of the problem in a surface manner.	Implements the solution in a manner that addresses the problem statement but ignores relevant contextual factors.	Implements the solution in a manner that does not directly address the problem statement.
Identifying specific project objectives, standards, and constraints based on general project requirements	All important objectives, standards, and constraints are identified and clearly implemented	Most important objectives, standards, and constraints are identified and implemented with minor deficiencies	Some objectives, standards, and constraints are identified with some deficiencies	Objectives, standards, and/or constraints not clearly identified or contain significant deficiencies

Criteria & Targets

Does Criteria for Success (level of performance students will have achieved for your program to have been successful--ex., students will have earned 4/5 for documentation and citation on capstone essays) need to be changed? No, we are doing okay.

What about targets?

If you have successfully made your targets consistently, consider a more challenging target.

At this time, we do not believe any changes are necessary regarding the level of performance achieved by students. The current performance target continues to be appropriate and sufficient. This benchmark has consistently been met in recent assessment cycles and has not been a point of concern during past ABET accreditation visits. In fact, during the most recent ABET review, no issues were raised related to either the performance level of students or the appropriateness of the target threshold. Therefore, we are confident that the current standard remains an effective indicator of student achievement for this learning outcome.

Results & Conclusion

Results: Are the results what was expected or not? What stood out in the assessment cycle over the past three years? Explain

Conclusions: What worked? What didn't? Why do you think this? For example, maybe the content in one or more courses was modified; changed course sequence (detail modifications); changed admission criteria (detail modifications); changed instructional methodology (detail modifications); changed student advisement process (detail modifications); program suspended; changed textbooks; facility changed (e.g.

	classroom modifications); introduced new technology (e.g. smart classrooms, computer facilities, etc.); faculty hired to fill a particular content need; faculty instructional training; development of a more refined assessment tool. Student performance has been consistently acceptable over the past three years, based on rubric-based direct evaluations of student work. No programmatic adjustments have been deemed necessary at this time. The Electrical Engineering faculty will continue conducting program assessments on an annual basis to ensure ongoing evaluation of student performance. As required by the accrediting agency, ABET, the program remains committed to a process of continuous improvement through systematic assessment of student learning outcomes. This ongoing effort ensures that the program maintains high standards and continues to meet the expectations of both the institution and the profession. What our program is doing for this assessment is considered acceptable in the last ABET visit.
****IMPORTANT - Plans for Next Assessment Cycle**:	As we work hard to improve our assessment practices and make them more meaningful and effective, it's important each program craft a three-year plan for the following assessment cycle (2025-26, 2026-27, 2027-28) – this process assists in "closing the loop." For example, you may decide to: • collect a more appropriate artifact • create new program outcomes • adjust targets because they are consistently exceeded or not met • need to reconstruct your curriculum map • sequencing of classes might need to be adjusted, or additional class(es) provided Whatever your plan is, provide a narrative, in future tense, that indicates how you will approach future assessments. You will be expected to implement any needed changes before the next assessment cycle. This SLO will be assessed each academic year, with data from both terms, as part of the regular ABET program assessment activities. The assessment plan is revised constantly if needed when we do the assessment annualy and the program currently has clear plan how this SLO will be assessed in coming years.

Program Student Learning Outcome 3	
Program Student Learning Outcome	ABET EAC Outcome #1: Upon graduation our students have the ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
Evaluation	Using the last three assessment cycles, is this program learning outcome still relevant, or should it be changed? Based on the last three assessment cycles, the program learning outcome appears to remain relevant, as it aligns with core competencies consistently demonstrated by students. If it has recently changed, please explain. It has not changed.. Other things to examine: Is the outcome measurable? Yes,

	Is it double or triple barreled? Does it include measurable verbs following Bloom's Taxonomy? Do you have the appropriate numbers of SLOs to measure regularly? Please consider choosing the most important. Yes, we have an appropriate number of ABET SLOs for regular assessment. We have seven SLOs.
Measurement Instruments	Are the measurement instruments actually measuring the outcome? Yes, Artifacts assessed in certain courses/sections and Senior Exit Surveys are the measurement instruments. If you change the SLO, is this still the best instrument to use? Yes, Is this a direct or indirect measure? Direct Is your artifact appropriate? Yes If not, what other options are there? NA Will the rise in the use of AI affect the assignment and measurement? At this moment we are doing well. If there are rubrics, do they need to be altered to better fit the learning outcome? No Does the rubric (if using) work or does it need to be adjusted? We are currently using a 4-point rubric (scores from 4 to 1) to evaluate the following categories: **Context of and Purpose for Writing, Content Development, Control of Syntax and Mechanics, Interpretation, and Content.** So far, it is working well. The following criteria and rubric are used to assess student performance:

Student Learning Outcome 3: Upon graduation, our students have the ability to communicate effectively with a range of audiences.				
Written Communication	**Capstone**	**Milestones**		**Benchmark**
	4	**3**	**2**	**1**
Context of and Purpose for Writing (Written Communication VALUE Rubric)	Demonstrates a thorough understanding of context, audience, and purpose that is responsive to the assigned task(s) and focuses all elements of the work.	Demonstrates adequate consideration of context, audience, and purpose and a clear focus on the assigned task(s) (e.g., the task aligns with audience, purpose, and context).	Demonstrates awareness of context, audience, purpose, and to the assigned tasks(s) (e.g., begins to show awareness of audience's perceptions and assumptions).	Demonstrates minimal attention to context, audience, purpose, and to the assigned tasks(s) (e.g., expectation of instructor or self as audience).
Content Development (Written Communication VALUE Rubric)	Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.	Uses appropriate, relevant, and compelling content to explore ideas within the context of the discipline and shape the whole work.	Uses appropriate and relevant content to develop and explore ideas through most of the work.	Uses appropriate and relevant content to develop simple ideas in some parts of the work.
Control of Syntax and Mechanics (Written Communication VALUE Rubric)	Uses graceful language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error free.	Uses straightforward language that generally conveys meaning to readers. The language in the portfolio has few errors.	Uses language that generally conveys meaning to readers with clarity, although writing may include some errors.	Uses language that sometimes impedes meaning because of errors in usage.
Interpretation (Quantitative Literacy VALUE Rubric)	Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information.	Provides accurate explanations of information presented in mathematical forms. *For instance, accurately explains the trend data shown in a graph.*	Provides somewhat accurate explanations of information presented in mathematical forms, but occasionally makes minor errors related to computations or units.	Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means.
Content	Technical/Professional information at an appropriate level for course, Key concepts and terms explained clearly. Research and/or analysis of topic clearly evident Reader gains significant new knowledge and insight	Technical/Professional information at an appropriate level for course, some concepts not completely clarified, research and/or analysis of topic generally evident. Reader gains some new knowledge and insight.	Technical/Professional information at a marginal level for course, many concepts unclear or not discussed. Reader gains little new knowledge or insight	Technical/Professional information unacceptable for course, most concepts unclear or not discussed, reader gains no new knowledge or insight

Criteria & Targets

Does Criteria for Success (level of performance students will have achieved for your program to have been successful--ex., students will have earned 4/5 for documentation and citation on capstone essays) need to be changed? No, we are doing okay.

What about targets?

If you have successfully made your targets consistently, consider a more challenging target.

At this time, we do not believe any changes are necessary regarding the level of performance achieved by students. The current performance target continues to be appropriate and sufficient. This benchmark has consistently been met in recent assessment cycles and has not been a point of concern during past ABET accreditation visits. In fact, during the most recent ABET review, no issues were raised related to either the performance level of students or the appropriateness of the target threshold. Therefore, we are confident that the current standard remains an effective indicator of student achievement for this learning outcome.

Results & Conclusion

Results: Are the results what was expected or not? What stood out in the assessment cycle over the past three years? Explain

	Conclusions: What worked? What didn't? Why do you think this? For example, maybe the content in one or more courses was modified; changed course sequence (detail modifications); changed admission criteria (detail modifications); changed instructional methodology (detail modifications); changed student advisement process (detail modifications); program suspended; changed textbooks; facility changed (e.g. classroom modifications); introduced new technology (e.g. smart classrooms, computer facilities, etc.); faculty hired to fill a particular content need; faculty instructional training; development of a more refined assessment tool. Student performance has been consistently acceptable over the past three years, based on rubric-based direct evaluations of student work. No programmatic adjustments have been deemed necessary at this time. The Electrical Engineering faculty will continue conducting program assessments on an annual basis to ensure ongoing evaluation of student performance. As required by the accrediting agency, ABET, the program remains committed to a process of continuous improvement through systematic assessment of student learning outcomes. This ongoing effort ensures that the program maintains high standards and continues to meet the expectations of both the institution and the profession. What our program is doing for this assessment is considered acceptable in the last ABET visit.
****IMPORTANT - Plans for Next Assessment Cycle**:	As we work hard to improve our assessment practices and make them more meaningful and effective, it's important each program craft a three-year plan for the following assessment cycle (2025-26, 2026-27, 2027-28) – this process assists in "closing the loop." For example, you may decide to: • collect a more appropriate artifact • create new program outcomes • adjust targets because they are consistently exceeded or not met • need to reconstruct your curriculum map • sequencing of classes might need to be adjusted, or additional class(es) provided Whatever your plan is, provide a narrative, in future tense, that indicates how you will approach future assessments. You will be expected to implement any needed changes before the next assessment cycle. This SLO will be assessed each academic year, with data from both terms, as part of the regular ABET program assessment activities. The assessment plan is revised constantly if needed when we do the assessment annualy and the program currently has clear plan how this SLO will be assessed in coming years.

Program Student Learning Outcome 4	
Program Student Learning Outcome	ABET EAC Outcome #1: Upon graduation our students have the ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
Evaluation	Using the last three assessment cycles, is this program learning outcome still relevant, or should it be changed? Based on the last three assessment cycles, the program learning outcome appears to remain relevant, as it aligns with core competencies consistently demonstrated by students.

	If it has recently changed, please explain. It has not changed. Other things to examine: Is the outcome measurable? Yes, Is it double or triple barreled? Does it include measurable verbs following Bloom's Taxonomy? Do you have the appropriate numbers of SLOs to measure regularly? Please consider choosing the most important. Yes, we have an appropriate number of ABET SLOs for regular assessment. We have seven SLOs.
Measurement Instruments	Are the measurement instruments actually measuring the outcome? Yes, Artifacts assessed in certain courses/sections and Senior Exit Surveys are the measurement instruments. If you change the SLO, is this still the best instrument to use? Yes, Is this a direct or indirect measure? Direct Is your artifact appropriate? Yes If not, what other options are there? NA Will the rise in the use of AI affect the assignment and measurement? At this moment we are doing well. If there are rubrics, do they need to be altered to better fit the learning outcome? No Does the rubric (if using) work or does it need to be adjusted? We are currently using a 4-point rubric (scores from 4 to 1) to evaluate the following categories: **Ethical Issue Recognition, Application of Ethical Perspectives/Concepts, Responsibility of Engineer, Cultural Impact of Solutions, Application of Appropriate.** So far, it is working well. The following criteria and rubric are used to assess student performance:

Student Learning Outcome 4: Upon graduation, our students have the ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts				
	Capstone	**Milestones**		**Benchmark**
	4	**3**	**2**	**1**
Ethical Issue Recognition (Ethical Reasoning VALUE Rubric)	Student can recognize ethical issues when presented in a complex, multilayered (gray) context AND can recognize crossrelationships among the issues.	Student can recognize ethical issues when issues are presented in a complex, multilayered (gray) context OR can grasp crossrelationships among the issues.	Student can recognize basic and obvious ethical issues and grasp (incompletely) the complexities or interrelationships among the issues.	Student can recognize basic and obvious ethical issues but fails to grasp complexity or interrelationships.
Application of Ethical Perspectives/Concepts (Ethical Reasoning VALUE Rubric)	Student can independently apply ethical perspectives/concepts to an ethical question, accurately, and is able to consider full implications of the application.	Student can independently (to a new example) apply ethical perspectives/ concepts to an ethical question, accurately, but does not consider the specific implications of the application.	Student can apply ethical perspectives/concepts to an ethical question, independently (to a new example) and the application is inaccurate.	Student can apply ethical perspectives/ concepts to an ethical question with support (using examples, in a class, in a group, or a fixed-choice setting) but is unable to apply ethical perspectives/concepts independently (to a new example.).
Responsibility of Engineer	Given a situation, clearly articulates the responsibilities of the engineer in a global and societal context with all major issues addressed	Given a situation, generally articulates the responsibilities of the engineer in a global and societal context with most major issues addressed	Given a situation, attempts to articulate the responsibilities of the engineer in a global and societal context but misses several key points	Has not grasped the role of a responsible engineer in a global society
Cultural Impact of Solutions	Clearly articulates the impact of engineering solutions in a global society	Can basically articulate the impact of engineering solutions in a global society	Has some ability to articulate the impact of engineering solutions in a global society	Cannot articulate the impact of engineering solutions in a global society
Application of appropriate code of ethics	Clear link of dilemma and resolution (s) to an appropriate code of ethics	Link between dilemma and final resolution to appropriate code of ethics	Superficial discussion of a code of ethics to dilemma and resolution	Code of ethic not incorporated into discussion of dilemma or resolution

Criteria & Targets

Does Criteria for Success (level of performance students will have achieved for your program to have been successful--ex., students will have earned 4/5 for documentation and citation on capstone essays) need to be changed? No, we are doing okay.

What about targets?

If you have successfully made your targets consistently, consider a more challenging target.

At this time, we do not believe any changes are necessary regarding the level of performance achieved by students. The current performance target continues to be appropriate and sufficient. This benchmark has consistently been met in recent assessment cycles and has not been a point of concern during past ABET accreditation visits. In fact, during the most recent ABET review, no issues were raised related to either the performance level of students or the appropriateness of the target threshold. Therefore, we are confident that the current standard remains an effective indicator of student achievement for this learning outcome.

Results & Conclusion

Results: Are the results what was expected or not? What stood out in the assessment cycle over the past three years? Explain

Conclusions: What worked? What didn't? Why do you think this? For example, maybe the content in one or more courses was modified; changed course sequence (detail modifications); changed admission criteria (detail modifications); changed instructional methodology (detail

	modifications); changed student advisement process (detail modifications); program suspended; changed textbooks; facility changed (e.g. classroom modifications); introduced new technology (e.g. smart classrooms, computer facilities, etc.); faculty hired to fill a particular content need; faculty instructional training; development of a more refined assessment tool. Student performance has been consistently acceptable over the past three years, based on rubric-based direct evaluations of student work. No programmatic adjustments have been deemed necessary at this time. The Electrical Engineering faculty will continue conducting program assessments on an annual basis to ensure ongoing evaluation of student performance. As required by the accrediting agency, ABET, the program remains committed to a process of continuous improvement through systematic assessment of student learning outcomes. This ongoing effort ensures that the program maintains high standards and continues to meet the expectations of both the institution and the profession. What our program is doing for this assessment is considered acceptable in the last ABET visit.
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Program Student Learning Outcome 5	
Program Student Learning Outcome	ABET EAC Outcome #1: Upon graduation our students have the ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
Evaluation	Using the last three assessment cycles, is this program learning outcome still relevant, or should it be changed? Based on the last three assessment cycles, the program learning outcome appears to remain relevant, as it aligns with core competencies consistently demonstrated by students. If it has recently changed, please explain. It has not changed. Other things to examine: Is the outcome measurable?

	Yes, Is it double or triple barreled? Does it include measurable verbs following Bloom's Taxonomy? Do you have the appropriate numbers of SLOs to measure regularly? Please consider choosing the most important. Yes, we have an appropriate number of ABET SLOs for regular assessment. We have seven SLOs.
Measurement Instruments	Are the measurement instruments actually measuring the outcome? Yes, Artifacts assessed in certain courses/sections and Senior Exit Surveys are the measurement instruments. If you change the SLO, is this still the best instrument to use? Yes, Is this a direct or indirect measure? Direct Is your artifact appropriate? Yes If not, what other options are there? NA Will the rise in the use of AI affect the assignment and measurement? At this moment we are doing well. If there are rubrics, do they need to be altered to better fit the learning outcome? No Does the rubric (if using) work or does it need to be adjusted? We are currently using a 4-point rubric (scores from 4 to 1) to evaluate the following categories: **Contributions to Team Meeting, Facilitates the Contributions of Team Members, Individual Contributions Contributions Outside of Team Meeetings, Fosters Constructive Team Climate, Responds to Conflict.** So far, it is working well. The following criteria and rubric are used to assess student performance:

Student Learning Outcome 5: Upon graduation, our students have the ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

	Capstone	Milestones		Benchmark
	4	3	2	1
Contributes to Team Meetings (Teamwork VALUE Rubric)	Helps the team move forward by articulating the merits of alternative ideas or proposals.	Offers alternative solutions or courses of action that build on the ideas of others.	Offers new suggestions to advance the work of the group.	Shares ideas but does not advance the work of the group.
Facilitates the Contributions of Team Members (Teamwork VALUE Rubric)	Engages team members in ways that facilitate their contributions to meetings by both constructively building upon or synthesizing the contributions of others as well as noticing when someone is not participating and inviting them to engage.	Engages team members in ways that facilitate their contributions to meetings by constructively building upon or synthesizing the contributions of others.	Engages team members in ways that facilitate their contributions to meetings by restating the views of other team members and/or asking questions for clarification.	Engages team members by taking turns and listening to others without interrupting.
Individual Contributions Outside of Team Meetings (Teamwork VALUE Rubric)	Completes all assigned tasks by deadline; work accomplished is thorough, comprehensive, and advances the project. Proactively helps other team members complete their assigned tasks to a similar level of excellence.	Completes all assigned tasks by deadline; work accomplished is thorough, comprehensive, and advances the project.	Completes all assigned tasks by deadline; work accomplished advances the project.	Completes all assigned tasks by deadline.
Fosters Constructive Team Climate (Teamwork VALUE Rubric)	Supports a constructive team climate by doing all of the following: • Treats team members respectfully by being polite and constructive in communication. • Uses positive vocal or written tone, facial expressions, and/or body language to convey a positive attitude about the team and its work. • Motivates teammates by expressing confidence about the importance of the task and the team's ability to accomplish it. • Provides assistance and/or encouragement to team members.	Supports a constructive team climate by doing any three of the following: • Treats team members respectfully by being polite and constructive in communication. • Uses positive vocal or written tone, facial expressions, and/or body language to convey a positive attitude about the team and its work. • Motivates teammates by expressing confidence about the importance of the task and the team's ability to accomplish it. • Provides assistance and/or encouragement to team members.	Supports a constructive team climate by doing any two of the following: • Treats team members respectfully by being polite and constructive in communication. • Uses positive vocal or written tone, facial expressions, and/or body language to convey a positive attitude about the team and its work. • Motivates teammates by expressing confidence about the importance of the task and the team's ability to accomplish it. • Provides assistance and/or encouragement to team members.	Supports a constructive team climate by doing any one of the following: • Treats team members respectfully by being polite and constructive in communication. • Uses positive vocal or written tone, facial expressions, and/or body language to convey a positive attitude about the team and its work. • Motivates teammates by expressing confidence about the importance of the task and the team's ability to accomplish it. • Provides assistance and/or encouragement to team members.
Responds to Conflict (Teamwork VALUE Rubric)	Addresses destructive conflict directly and constructively, helping to manage/resolve it in a way that strengthens overall team cohesiveness and future effectiveness.	Identifies and acknowledges conflict and stays engaged with it.	Redirecting focus toward common ground, toward task at hand (away from conflict).	Passively accepts alternate View points/ideas/opinions.

Criteria & Targets

Does Criteria for Success (level of performance students will have achieved for your program to have been successful--ex., students will have earned 4/5 for documentation and citation on capstone essays) need to be changed? No, we are doing okay.

What about targets?

If you have successfully made your targets consistently, consider a more challenging target.

At this time, we do not believe any changes are necessary regarding the level of performance achieved by students. The current performance target continues to be appropriate and sufficient. This benchmark has consistently been met in recent assessment cycles and has not been a point of concern during past ABET accreditation visits. In fact, during the most recent ABET review, no issues were raised related to either

	the performance level of students or the appropriateness of the target threshold. Therefore, we are confident that the current standard remains an effective indicator of student achievement for this learning outcome.
Results & Conclusion	**Results**: Are the results what was expected or not? What stood out in the assessment cycle over the past three years? Explain **Conclusions**: What worked? What didn't? Why do you think this? For example, maybe the content in one or more courses was modified; changed course sequence (detail modifications); changed admission criteria (detail modifications); changed instructional methodology (detail modifications); changed student advisement process (detail modifications); program suspended; changed textbooks; facility changed (e.g. classroom modifications); introduced new technology (e.g. smart classrooms, computer facilities, etc.); faculty hired to fill a particular content need; faculty instructional training; development of a more refined assessment tool. Student performance has been consistently acceptable over the past three years, based on rubric-based direct evaluations of student work. No programmatic adjustments have been deemed necessary at this time. The Electrical Engineering faculty will continue conducting program assessments on an annual basis to ensure ongoing evaluation of student performance. As required by the accrediting agency, ABET, the program remains committed to a process of continuous improvement through systematic assessment of student learning outcomes. This ongoing effort ensures that the program maintains high standards and continues to meet the expectations of both the institution and the profession. What our program is doing for this assessment is considered acceptable in the last ABET visit.
****IMPORTANT - Plans for Next Assessment Cycle**:	As we work hard to improve our assessment practices and make them more meaningful and effective, it's important each program craft a three-year plan for the following assessment cycle (2025-26, 2026-27, 2027-28) – this process assists in "closing the loop." For example, you may decide to: • collect a more appropriate artifact • create new program outcomes • adjust targets because they are consistently exceeded or not met • need to reconstruct your curriculum map • sequencing of classes might need to be adjusted, or additional class(es) provided Whatever your plan is, provide a narrative, in future tense, that indicates how you will approach future assessments. You will be expected to implement any needed changes before the next assessment cycle. This SLO will be assessed each academic year, with data from both terms, as part of the regular ABET program assessment activities. The assessment plan is revised constantly if needed when we do the assessment annualy and the program currently has clear plan how this SLO will be assessed in coming years.

Program Student Learning Outcome 6	
Program Student Learning Outcome	ABET EAC Outcome #1: Upon graduation our students have the ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

Evaluation	Using the last three assessment cycles, is this program learning outcome still relevant, or should it be changed? Based on the last three assessment cycles, the program learning outcome appears to remain relevant, as it aligns with core competencies consistently demonstrated by students. If it has recently changed, please explain. It has not changed. Other things to examine: Is the outcome measurable? Yes, Is it double or triple barreled? Does it include measurable verbs following Bloom's Taxonomy? Do you have the appropriate numbers of SLOs to measure regularly? Please consider choosing the most important. Yes, we have an appropriate number of ABET SLOs for regular assessment. We have seven SLOs.
Measurement Instruments	Are the measurement instruments actually measuring the outcome? Yes, Artifacts assessed in certain courses/sections and Senior Exit Surveys are the measurement instruments. If you change the SLO, is this still the best instrument to use? Yes, Is this a direct or indirect measure? Direct Is your artifact appropriate? Yes If not, what other options are there? NA Will the rise in the use of AI affect the assignment and measurement? At this moment we are doing well. If there are rubrics, do they need to be altered to better fit the learning outcome? No Does the rubric (if using) work or does it need to be adjusted? We are currently using a 4-point rubric (scores from 4 to 1) to evaluate the following categories: **Design Process, Conclusions, Compliance with Standards, Applications of Results, and Designing an Experiment.** So far, it is working well. The following criteria and rubric are used to assess student performance:

Student Learning Outcome 6: Upon graduation, our students have the ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions				
	Capstone	**Milestones**		**Benchmark**
	4	**3**	**2**	**1**
Design Process (Inquiry and Analysis VALUE Rubric)	All elements of the methodology or theoretical framework are skillfully developed. Appropriate methodology or theoretical frameworks may be synthesized from across disciplines or from relevant subdisciplines.	Critical elements of the methodology or theoretical framework are appropriately developed, however, more subtle elements are ignored or unaccounted for.	Critical elements of the methodology or theoretical framework are missing, incorrectly developed, or unfocused.	Inquiry design demonstrates a misunderstanding of the methodology or theoretical framework.
Conclusions (Inquiry and Analysis VALUE Rubric)	States a conclusion that is a logical extrapolation from the inquiry findings.	States a conclusion focused solely on the inquiry findings. The conclusion arises specifically from and responds specifically to the inquiry findings.	States a general conclusion that, because it is so general, also applies beyond the scope of the inquiry findings.	States an ambiguous, illogical, or unsupportable conclusion from inquiry findings.
Compliance with Standards	Test performed in full compliance with applicable standard	Test performed in general compliance with standard with only minor procedural error that does not completely invalidate the result	Test performed in general compliance with standard, but a procedural error resulted in faulty results	Test not performed in compliance with standard and results invalid
Application of Results	Results of experiment applied completely and accurately to the situation	Results applied generally/conceptually correct with only a minor error	Results applied generally/conceptually correct with a few errors	Results not applied correctly to the situation
Designing an experiment or experimental procedure	Students select and/or design all appropriate test(s) or process(es) to the situation at hand.	Students generally select and/or design the appropriate test(s) or process (es) to the situation at hand.	Students select or design some appropriate tests or processes, with a notable error or omission.	Students select or design some appropriate tests or processes, with significant errors or omissions.

Criteria & Targets

Does Criteria for Success (level of performance students will have achieved for your program to have been successful--ex., students will have earned 4/5 for documentation and citation on capstone essays) need to be changed? No, we are doing okay.

What about targets?

If you have successfully made your targets consistently, consider a more challenging target.

At this time, we do not believe any changes are necessary regarding the level of performance achieved by students. The current performance target continues to be appropriate and sufficient. This benchmark has consistently been met in recent assessment cycles and has not been a point of concern during past ABET accreditation visits. In fact, during the most recent ABET review, no issues were raised related to either the performance level of students or the appropriateness of the target threshold. Therefore, we are confident that the current standard remains an effective indicator of student achievement for this learning outcome.

Results & Conclusion	**Results**: Are the results what was expected or not? What stood out in the assessment cycle over the past three years? Explain **Conclusions**: What worked? What didn't? Why do you think this? For example, maybe the content in one or more courses was modified; changed course sequence (detail modifications); changed admission criteria (detail modifications); changed instructional methodology (detail modifications); changed student advisement process (detail modifications); program suspended; changed textbooks; facility changed (e.g. classroom modifications); introduced new technology (e.g. smart classrooms, computer facilities, etc.); faculty hired to fill a particular content need; faculty instructional training; development of a more refined assessment tool. Student performance has been consistently acceptable over the past three years, based on rubric-based direct evaluations of student work. No programmatic adjustments have been deemed necessary at this time. The Electrical Engineering faculty will continue conducting program assessments on an annual basis to ensure ongoing evaluation of student performance. As required by the accrediting agency, ABET, the program remains committed to a process of continuous improvement through systematic assessment of student learning outcomes. This ongoing effort ensures that the program maintains high standards and continues to meet the expectations of both the institution and the profession. What our program is doing for this assessment is considered acceptable in the last ABET visit.
****IMPORTANT - Plans for Next Assessment Cycle**:	As we work hard to improve our assessment practices and make them more meaningful and effective, it's important each program craft a three-year plan for the following assessment cycle (2025-26, 2026-27, 2027-28) – this process assists in "closing the loop." For example, you may decide to: • collect a more appropriate artifact • create new program outcomes • adjust targets because they are consistently exceeded or not met • need to reconstruct your curriculum map • sequencing of classes might need to be adjusted, or additional class(es) provided Whatever your plan is, provide a narrative, in future tense, that indicates how you will approach future assessments. You will be expected to implement any needed changes before the next assessment cycle. This SLO will be assessed each academic year, with data from both terms, as part of the regular ABET program assessment activities. The assessment plan is revised constantly if needed when we do the assessment annualy and the program currently has clear plan how this SLO will be assessed in coming years.

Program Student Learning Outcome 7	
Program Student Learning Outcome	ABET EAC Outcome #1: Upon graduation our students have the ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
Evaluation	Using the last three assessment cycles, is this program learning outcome still relevant, or should it be changed? Based on the last three assessment cycles, the program learning outcome appears to remain relevant, as it aligns with core competencies consistently demonstrated by students. If it has recently changed, please explain.

	It has not changed. Other things to examine: Is the outcome measurable? Yes, Is it double or triple barreled? Does it include measurable verbs following Bloom's Taxonomy? Do you have the appropriate numbers of SLOs to measure regularly? Please consider choosing the most important. Yes, we have an appropriate number of ABET SLOs for regular assessment. We have seven SLOs.
Measurement Instruments	Are the measurement instruments actually measuring the outcome? Yes, Artifacts assessed in certain courses/sections and Senior Exit Surveys are the measurement instruments. If you change the SLO, is this still the best instrument to use? Yes, Is this a direct or indirect measure? Direct Is your artifact appropriate? Yes If not, what other options are there? NA Will the rise in the use of AI affect the assignment and measurement? At this moment we are doing well. If there are rubrics, do they need to be altered to better fit the learning outcome? No Does the rubric (if using) work or does it need to be adjusted? We are currently using a 4-point rubric (scores from 4 to 1) to evaluate the following categories: **Independence,Transfer, and Initiative.** So far, it is working well. The following criteria and rubric are used to assess student performance:

Student Learning Outcome 7: Upon graduation, our students have the ability to acquire and apply new knowledge as needed, using appropriate learning strategies.				
	Capstone	**Milestones**		**Benchmark**
	4	**3**	**2**	**1**
Independence(Foundations and Skills for Lifelong Learning VALUE Rubric)	Educational interests and pursuits exist and flourish outside classroom requirements. Knowledge and/or experiences are pursued independently.	Beyond classroom requirements, pursues substantial, additional knowledge and/or actively pursues independent educational experiences.	Beyond classroom requirements, pursues additional knowledge and/or shows interest in pursuing independent educational experiences.	Begins to look beyond classroom requirements, showing interest in pursuing knowledge independently.
Transfer (Foundations and Skills for Lifelong Learning VALUE Rubric)	Makes explicit references to previous learning and applies in an innovative (new and creative) way that knowledge and those skills to demonstrate comprehension and performance in novel situations.	Makes references to previous learning and shows evidence of applying that knowledge and those skills to demonstrate comprehension and performance in novel situations.	Makes references to previous learning and attempts to apply that knowledge and those skills to demonstrate comprehension and performance in novel situations.	Makes vague references to previous learning but does not apply knowledge and skills to demonstrate comprehension and performance in novel situations.
Initiative(Foundations and Skills for Lifelong Learning VALUE Rubric)	Completes required work, generates and pursues opportunities to expand knowledge, skills, and abilities.	Completes required work, identifies and pursues opportunities to expand knowledge, skills, and abilities.	Completes required work and identifies opportunities to expand knowledge, skills, and abilities.	Completes required work.

Criteria & Targets

Does Criteria for Success (level of performance students will have achieved for your program to have been successful--ex., students will have earned 4/5 for documentation and citation on capstone essays) need to be changed? No, we are doing okay.

What about targets?

If you have successfully made your targets consistently, consider a more challenging target.

At this time, we do not believe any changes are necessary regarding the level of performance achieved by students. The current performance target continues to be appropriate and sufficient. This benchmark has consistently been met in recent assessment cycles and has not been a point of concern during past ABET accreditation visits. In fact, during the most recent ABET review, no issues were raised related to either the performance level of students or the appropriateness of the target threshold. Therefore, we are confident that the current standard remains an effective indicator of student achievement for this learning outcome.

Results & Conclusion

Results: Are the results what was expected or not? What stood out in the assessment cycle over the past three years? Explain

Conclusions: What worked? What didn't? Why do you think this? For example, maybe the content in one or more courses was modified; changed course sequence (detail modifications); changed admission criteria (detail modifications); changed instructional methodology (detail modifications); changed student advisement process (detail modifications); program suspended; changed textbooks; facility changed (e.g. classroom modifications); introduced new technology (e.g. smart classrooms, computer facilities, etc.); faculty hired to fill a particular content need; faculty instructional training; development of a more refined assessment tool.

	Student performance has been consistently acceptable over the past three years, based on rubric-based direct evaluations of student work. No programmatic adjustments have been deemed necessary at this time. The Electrical Engineering faculty will continue conducting program assessments on an annual basis to ensure ongoing evaluation of student performance. As required by the accrediting agency, ABET, the program remains committed to a process of continuous improvement through systematic assessment of student learning outcomes. This ongoing effort ensures that the program maintains high standards and continues to meet the expectations of both the institution and the profession. What our program is doing for this assessment is considered acceptable in the last ABET visit.
****IMPORTANT - Plans for Next Assessment Cycle**:	As we work hard to improve our assessment practices and make them more meaningful and effective, it's important each program craft a three-year plan for the following assessment cycle (2025-26, 2026-27, 2027-28) – this process assists in "closing the loop." For example, you may decide to: • collect a more appropriate artifact • create new program outcomes • adjust targets because they are consistently exceeded or not met • need to reconstruct your curriculum map • sequencing of classes might need to be adjusted, or additional class(es) provided Whatever your plan is, provide a narrative, in future tense, that indicates how you will approach future assessments. You will be expected to implement any needed changes before the next assessment cycle. This SLO will be assessed each academic year, with data from both terms, as part of the regular ABET program assessment activities. The assessment plan is revised constantly if needed when we do the assessment annualy and the program currently has clear plan how this SLO will be assessed in coming years.