



Annual Assessment Report for Academic Programs

The University Assessment Team advocates for the enhancement of student learning through purposeful, meaningful, and feasible student-outcomes assessment practices. The Assessment Team seeks to collaborate with programs, departments, and units to ensure that effective assessment of student learning occurs across the University. To assist in meeting this goal, the Team requests that you complete this Annual Assessment Report form to document student learning in your program. A PDF version of this completed form will be posted to the Academic Affairs Assessment website. Please note that this Annual Assessment Report form should only be completed after you have an Assessment Plan for Academic Programs forms on file with the University Assessment Team. The plan is completed once and only updated when revisions have been made to components of the plan.

1. **Degree Level and Program Name:** Bachelor of Architectural Engineering
2. **College/School:** College of Engineering & Science
3. **Assessment Overview** - Briefly share how student learning outcomes assessment is conducted within your program/department (e.g. number of outcomes, examples of assignments used, and frequency of assessment).

The program has 7 student learning outcomes aligned with the current Accreditation Board for Engineering and Technology (ABET) standards. Assessments are done yearly for every course offering and are based on homework, essays, projects, lab reports, exams, class presentations.

The assessment is two-fold: course offerings and program-level. Course assessments are summarized in worksheets that include the course outcomes, degree to which those outcomes are met, adjustments for next offerings if needed.

After the end of each academic year, the department members develop a program-level assessment document that incorporates the results of the individual course assessment worksheets.

4. **Student Learning Outcomes & Benchmarks** -Which student learning outcome(s) from the assessment plan filed with the University Assessment Team is/are being reported on in this report? Include the corresponding benchmark(s) for each outcome.

The Program has 7 Student Learning Outcomes, defined by ABET

SLO 1. An ability to identify, formulate and solve complex engineering problems by applying principles of Engineering, science and mathematics.

SLO 2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental and economic factors.

SLO 3. An ability to communicate effectively with a range of audiences.

SLO 4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solution in global, economic, environmental and societal context.

SLO 5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goal, plan tasks and meet objectives.

SLO 6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use



engineering judgement to draw conclusions.

SLO 7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

To have a successful program, the minimum percentage distribution of students achieving each level is:

- Very High Level of Achievement (5) = 1% of the students.
- High Level of Achievement (4) = 49% of the students.
- Acceptable High Level of Achievement (3) = 40% of the students.
- Low Level of Achievement (2) = 10% of the students.
- Not Achieved (1) = 0% of the students.

If the class average falls in the Very High Level of Achievement range = (5), the outcome rating is "Satisfied"

If the class average falls in the High Level of Achievement range = (4), the outcome rating is "Mostly Satisfied"

If the class average falls in the Acceptable High Level of Achievement range = (3), the outcome rating is "Partly/Somewhat Satisfied"

If the class average falls in the Low Level of Achievement range = (2), the outcome rating is "Needs Improvement"

If the class average falls in the Not Achieved range = (1), the outcome rating is "NOT Satisfied"

The benchmark is that 90% (=1%+39%+40%) of the students achieve "Partly/Somewhat Satisfied" or higher. This corresponds to 3 out of 5 on a numerical scale or higher.

An example of how a SLO is assessed: Let's look at:

"Ability to identify, formulate and solve complex Architectural Engineering problems"

-- Very High Level of Achievement = 5: Able to extract relevant engineering data from a "word problem." Able to formulate a process to reach a solution, to solve it, and gives realistic answers. Apparent self-correction.

-- High Level of Achievement = 4: Able to extract all relevant engineering data from a "word problem." Has a formulated solution process but has trouble applying principles. A solution is reached.

-- Acceptable High Level of Achievement = 3: Able to extract all relevant engineering data from a "word problem." Does not have a formulated solution process, but randomly applies principles until a solution is reached

-- Low Level of Achievement = 2: Able to extract some engineering data from a "word problem," but gets distracted with irrelevant information. Reaches solution that is not valid given data.

-- Not Achieved = 1: Not able to extract relevant engineering data from a "word problem."

For more information, see these files in the OneDrive folder:

[https://udmercy0-](https://udmercy0-my.sharepoint.com/:w:/r/personal/hobackas_udmercy_edu/_layouts/15/Doc.aspx?sourcedoc=%7B29E2F77B-BB73-4C49-B803-F4E2566EF11C%7D&file=Bachelor%2BAE%2Boutcomes%2025.docx&action=default&mobileredirect=true)

[my.sharepoint.com/:w:/r/personal/hobackas_udmercy_edu/_layouts/15/Doc.aspx?sourcedoc=%7B29E2F77B-BB73-4C49-B803-](https://udmercy0-my.sharepoint.com/:w:/r/personal/hobackas_udmercy_edu/_layouts/15/Doc.aspx?sourcedoc=%7B29E2F77B-BB73-4C49-B803-F4E2566EF11C%7D&file=Bachelor%2BAE%2Boutcomes%2025.docx&action=default&mobileredirect=true)

[F4E2566EF11C%7D&file=Bachelor%2BAE%2Boutcomes%2025.docx&action=default&mobileredirect=true](https://udmercy0-my.sharepoint.com/:w:/r/personal/hobackas_udmercy_edu/_layouts/15/Doc.aspx?sourcedoc=%7B29E2F77B-BB73-4C49-B803-F4E2566EF11C%7D&file=Bachelor%2BAE%2Boutcomes%2025.docx&action=default&mobileredirect=true)



5. **Institutional Outcomes** - For which institutional outcome(s) do the reported student learning outcome(s) align?

SLO Outcome Alignment	Institutional Outcome
Yes	I. Jesuit & Mercy Values
Yes	II. Diversity & Cultural Awareness
Yes	III. Critical Thinking & Problem Solving
Yes	IV. Communication
Yes	V. Professionalism
Yes	VI. Lifelong Learning

6. **Assessment Period:** Select the academic year for which you are reporting results (i.e. when data were collected):
2024-2025

7. **Program Assessment Results** -Briefly summarize the assessment results and how they relate to benchmark(s).

The Bachelor of Architectural Engineering program is fully accredited and has received the maximum accreditation term of six years, with the highest evaluation ratings.

The assessment is based primarily on the capstone course (AENG 4100). All student outcomes were met to a high level of expectation as defined above (4) which exceeds the benchmarks.

AENG 4100 Capstone Design conducts several assessments including review by an external jury panel of professionals. Examples include coursework (homework, essays, projects, lab reports, exams), national exams, employer surveys, and student surveys. Each outcome has numerous metrics.

The external jury for the capstone course had many positive comments, such as from one jury member who said that the students “explained scope and design goals for the building - including design life, sustainability, and inclusive bathroom design. Showed design assumptions for wind, snow, live, and dead loads. Showed building costs, including maintenance.” Overall, the jury rated the student work as "Mostly Satisfied."

All 7 student outcomes were met to a high level of expectation as defined above (4) which exceeds the benchmarks.

8. **Planned Actions and/or Actions Taken in Response to Assessment Results** - Briefly summarize how you are using the assessment results to enhance student learning and improve program quality.

In the capstone design project AENGR 4100, students are assigned to project teams based on their stated interests. However, survey responses indicated that some students worked on capstone design projects that do not strongly align with their interests. To address this concern, faculty will continue to solicit student input and adjust project topics and team assignments as appropriate.