

Annual Academic Assessment Report
Bachelor of Science in Chemical Engineering (BSChE)
AY 2024-2025

Student Learning Outcomes:

At the time of graduation, students obtain the following outcomes in support of the program's educational objective to prepare the students to enter the professional practice of engineering:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply the engineering design process to produce solutions that meet specified needs with consideration for public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an 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.
5. an 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.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Assessment and Evaluation: AY 2024-2025

The faculty of the Ralph E. Martin Department of Chemical Engineering evaluate Student Learning Outcome assessment data at its annual fall faculty meeting, to be held August 13, 2025. The results of the analysis include the following:

- **Outcome 1:**
 - The ABET Student Outcome Self-Assessment Summary and Faculty Course Evaluations for Fall 2024 and Spring 2025 identified no problems in the students' ability to meet this Student Outcome (SO) at the desired target level. Student confidence in this area increased as the students matriculated through the curriculum.
- **Outcome 2:**
 - The ABET Student Outcome Self-Assessment Summary and Faculty Course Evaluations for Fall 2024 and Spring 2025 identified no problems in the students' ability to meet this SO at the desired target level. Consideration of all factors was included in the assessment. Student confidence in this area increased as the students matriculated through the curriculum.

- Student performance quizzes from CHEG 32303 and CHEG 44403 also demonstrated competence in this area.
- **Outcome 3:**
 - The ABET Student Outcome Self-Assessment Summary and Faculty Course Evaluations for Fall 2024 and Spring 2025 identified no problems in the students' ability to meet this SO at the desired target level. Audiences have been defined by the program as peers and the public. Student confidence in this area increased as the students matriculated through the curriculum.
 - Student performance quizzes from CHEG 21103 and CHEG 44403 also demonstrated competence in this area.
- **Outcome 4:**
 - The ABET Student Outcome Self-Assessment Summary and Faculty Course Evaluations for Fall 2024 and Spring 2025 identified no problems in the students' ability to meet this SO at the desired target level. All contexts were included in the assessment. Student confidence in this area increased as the students matriculated through the curriculum.
 - Student performance quizzes from CHEG 21103, CHEG 32303 and CHEG 43302 also demonstrated competence in this area.
- **Outcome 5:**
 - The ABET Student Outcome Self-Assessment Summary and Faculty Course Evaluations for Fall 2024 and Spring 2025 identified no problems in the students' ability to meet this SO at the desired target level. Student confidence in this area increased as the students matriculated through the curriculum.
 - Student performance quizzes from CHEG 32303, CHEG 43302 and CHEG 44403 also demonstrated competence in this area.
- **Outcome 6:**
 - The ABET Student Outcome Self-Assessment Summary and Faculty Course Evaluations for Fall 2024 and Spring 2025 identified no problems in the students' ability to meet this SO at the desired target level. Student confidence in this area increased as the students matriculated through the curriculum.
 - Student performance quizzes from CHEG 32303 and CHEG 43302 also demonstrated competence in this area.
- **Outcome 7:**
 - The ABET Student Outcome Self-Assessment Summary and Faculty Course Evaluations for Fall 2024 and Spring 2025 identified no problems in the students' ability to meet this SO at the desired target level. Student confidence in this area increased as the students matriculated through the curriculum.
 - Student performance quizzes from CHEG 21103, CHEG 43302 and CHEG 44403 also demonstrated competence in this area.

Changes to the Degree Program – Planned or Considered

The assessment and evaluation process did not identify any needed changes to the BSChE degree program. However, the faculty voted on 5/7/2024 to remove CHEM 38103 from the eight-semester degree program and replace CHEM 38103 with an advanced science/advanced chemical engineering elective. The degree program is currently under further review by the Undergraduate Studies Committee. After review and approval by the faculty, implementation of the revised degree plan is expected in Fall 2026.

Changes to the Assessment Process – Planned or Completed

There are no changes to the BSChE assessment process planned or considered based on the assessment and evaluation process.