

2021-2022 Assessment Cycle

## Assessment Findings

### Program Assessment Accomplishments

No text specified

### Finding per Measure

#### BS Chemistry

PSLO 1 Chemical Knowledge

Students will be proficient in applying fundamental chemical principles, models, and theories

**Outcome: Students will be proficient in applying fundamental chemical principles, models, and theories**

▼ **Measure:** Course Grades  
*Program level Direct - Exam*

Details/Description:	Students take in-class and final exams for each course used to assess PSLO1. CH151, CH152, CH340
Acceptable Target:	75% of students will receive a grade of C or higher.

#### Findings for Course Grades

Summary of Findings:	Data for PSLO 1 will be collected in Fall 2022 and be reported in the odd academic year.
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Recommendations:

Reflections/Notes:

▼ **Measure:** National Exam  
*Program level Direct - Exam*

**Details/Description:** PSLO 1 will be assessed using Standardized National Exams for CH151, CH152, CH320, CH341, CH382,CH386.

**Acceptable Target:** 50% of students will score 40th percentile or higher in the national exams.

**Findings for National Exam**

**Summary of Findings:** Data for CH151, CH 152, CH 320 will be collected in Fall 2022  
Data for CH341 and CH 386 will be collected in Spring 2023  
Data for CH 382 will be collected in Fall 2024

Data for PSLO1 will be reported in the next odd academic year following collecting of data.

**Recommendations:**  
**Reflections/Notes:**

PSLO 2 Empirical Lab and Computation Skills  
Students will be proficient in safely conducting empirical labs, implementing calculations and computational methods, and evaluating data

**Outcome: Students will be proficient in safely conducting empirical labs, implementing calculations and computational methods, and evaluating data**

▼ **Measure:** Course Grades  
*Program level Direct - Exam*

Details/Description: This PSLO will be assessed based on grades of CH321, CH342, CH343, CH345, CH346, CH385

Acceptable Target: 75% of students will receive a course grade of C for those lab courses.

Findings for Course Grades

Summary of Findings: Data for CH321, CH342 will be collected in Fall 2022.  
Data for CH343, CH345, CH346 will be collected in Spring 2023.  
Data for CH385 will be collected in Spring 2024.

Data for PSLO 2 will be reported in the following odd academic year. after collecting data.

Recommendations:  
Reflections/Notes:

PSLO 3 Communication Skills  
Students will be proficient in evaluating and delivering oral and written scientific communications

**Outcome: Students will be proficient in evaluating and delivering oral and written scientific communications**

▼ **Measure:** Chemistry Seminar

### Program level Direct - Student Artifact

**Details/Description:** Students will complete a review of published article and participate in a faculty-led discussion. Students will give seminar presentation on published articles in communication with the seminar instructor.

**Acceptable Target:** 75% of students will receive a course average GPA of 3.0 or higher in CH391 (Chemistry Seminar). We didn't finish with preparing rubrics for this measure and the acceptable target will be modified as needed.

#### Supporting Attachments:

 Rubric for Written Presentation Final.pdf (Adobe Acrobat Document)

#### Findings for Chemistry Seminar

**Summary of Findings:** We are still working in developing rubrics for PSLO3. Data for PSLO 3 will be collected in Spring 2023 and be reported in the even academic year.

**Recommendations:**

**Reflections/Notes:**

#### ▼ **Measure:** Performance Assessment Program level Direct - Student Artifact

**Details/Description:** Students will conduct undergraduate research under the supervision of a faculty member and will submit a formal written report on their findings.

**Acceptable Target:** 75% percent of students will receive an average course GPA of 3.0 or higher in CH390 (Undergraduate Chemical Research).

We are currently working in developing rubric for this measure and the acceptable target will be modified accordingly.

#### Findings for Performance Assessment

**Summary of Findings:** We are still working in developing rubrics for PSLO3. Data for PSLO 3 will be collected in Spring 2023 and be reported in the even academic year.

**Recommendations:**  
**Reflections/Notes:**

#### PSLO 4 Professionalism

Students will be proficient in practicing inclusive collaboration, ethics, and professionalism

**Outcome: Students will be proficient in practicing inclusive collaboration, ethics, and professionalism**

▼ **Measure:** Ethics Paper  
*Program level Direct - Other*

**Details/Description:** Students will write ethics paper in CH391.

**Acceptable Target:** Students will receive a Pass/Fail grade. Pass grade will be awarded for students who follow the guidelines and complete the ethics paper.

**Supporting Attachments:**

[Ethics Paper Guidelines.pdf \(Adobe Acrobat Document\)](#)

Findings for Ethics Paper

Summary of Findings: Data for PSLO 4 will be collected in Spring 2023 and be reported in the even academic year.

Recommendations:

Reflections/Notes:

▼ **Measure:** Lab Experiments/Reports  
*Program level Direct - Student Artifact*

Details/Description: Students will collaborate as part of a team/group to solve chemical problems, collect data, discuss different views, and write reports with a diverse group of team members in CH151 group project.

Acceptable Target: Students will receive a score of 22 out of 30 or higher in the final project in CH151 lab.

Supporting Attachments:

 CH151 Group Project Rubric.pdf (Adobe Acrobat Document)

**Findings for Lab Experiments/Reports**

Summary of Findings: Data for this measure of PSLO 4 will be collected in Fall 2022 and be reported in the even academic year.

Recommendations:

Reflections/Notes:

## Overall Recommendations

Since we didn't start collecting data, there are no recommendations to make at this time.

## Overall Reflection

We made progress in reviewing the assessment for the BS in chemistry degree.

## Faculty Collaboration

The Chemistry faculty and staff involved in developing the mission statement starting from scratch. The chemistry faculty involved in:

- developing PSLOS
- identifying the measures, acceptable targets for each PSLOs.
- developing rubrics for some of the PSLOs that require rubric.
- series of meetings throughout the year to discuss/review the assessment of the BS in Chemistry program.

## Communication & Collaboration with Students

We discussed this in our meetings. Though, students are not involved in setting the target or expectations, they will be informed how those expectations/targets will be measured.

## Communication & Collaboration with External Stakeholders

Though we didn't involve external stakeholders, faculty reviewed the plan at the department's spring meetings (retreat from internal grant) and make recommendations. Faculty reviewed the current PSLOs, measures, and target levels and involve in developing rubrics.

## Communication & Collaboration with University

We held several meetings with the Director of Assessment, Dr. Hockett) to discuss the best strategy on how to develop a meaningful program assessment and also on Bloom's Taxonomy.

We also held meetings with CTEL representatives to have a better understanding of assessment.

We received an assessment grant in Fall 2021 that we used for meetings throughout the Spring 2022 semester and review the BS in chemistry program.

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