

# Assessment of Student Learning Plan (ASLP): Chemistry

2015-16 Academic Year

## A. College, Department, Date

College \_\_\_\_\_ CSTH \_\_\_\_\_  
Department \_\_\_\_\_ Chemistry \_\_\_\_\_  
Date \_\_\_\_\_ June 25, 16 \_\_\_\_\_

## B. Contact Person for the Assessment Plan

Name and title \_\_\_\_\_ Caryn Prudenté, Professor and Department Chair

## C. Degree Program

Name of Degree Program \_\_\_\_\_ Chemistry \_\_\_\_\_

## D. Assessment of Student Learning: Program Assessment

### Step 1: Identify the Student Learning Outcomes (SLO's)

a. Do you have your student learning outcomes published on your department's website? No

i. If yes, please indicate the url: \_\_\_\_\_

ii. If no, please list 3-5 of the most important student learning outcomes for your program. **What will students know by the end of your program?**

1. Students will have firm foundation in the fundamentals and application of current chemical and scientific theories.
2. Students will be able to design, carry out, record and analyze the results of chemical experiment.
3. Students will be able to use modern instrumentation and classical laboratory techniques, to design experiments, and to properly record the results of their experiments.
4. Students will be able to identify and solve chemical problems and explore new areas of research.
5. Students can use modern library searching and retrieval methods to obtain information about a topic, chemical, chemical technique, or an issue relating to chemistry.

- b. Please identify **which of your student learning outcome(s) were assessed this past academic year.** (One or more of the outcomes and corresponding assessment plans could come from your department's CORE Course Blueprint(s). **All of the outcomes listed in part D were assessed this year.**
- c. Do you have a **matrix or curriculum map** showing when your student learning outcomes are assessed and in which courses? **No**

### **Step 2: Assessment Methods Selected and Implemented**

- a. Identify which direct measures (other than course grades), that were used to determine whether students achieved the stated learning outcomes for the degree. **Exam grades, evaluation of weekly laboratory notebooks, instrument proficiency exam, and graded assignments that require students to perform literature searches, design an experiment, and execute procedures to solve a problem or identify unknowns. Students are also delivering scientific presentations in several classes.**
- b. Briefly describe when you implemented the assessment activity, and if a scoring rubric was used to evaluate the expected level of student achievement. (This information may be shown on your curriculum map). **Typically most faculty administer 3-4 exams per semester in each chemistry course. Laboratory work is assessed weekly, and rubrics are sometimes used. Specifics: Outcome 1 was assessed in the spring semester in CHY 115 and CHY 253 – students in these classes take 3 exams during the semester and the American Chemical Societies (ACS) standardized exam in the appropriate topic. The ACS exams are cumulative and test student knowledge gained over the entire academic year (113 and 115, and 251 and 253) Outcome 2 is assessed weekly, both fall and spring, by evaluating notes recorded in student's laboratory notebooks and pre-laboratory quizzes. Outcome 3 was assessed in the fall through an instrument proficiency exam. Each student must demonstrate that they can operate certain instruments and correctly interpret the data obtained.**

### **Step 3: Using the Assessment results to Improve Student Learning**

- a. Briefly describe your unit's process of reviewing the program assessment results (i.e. annual process by faculty committee, etc). **Discussed at Department meetings.**
- b. What changes have been or will be made to improve student learning, as a result of using the program assessment results? **A) Prerequisites have been changed from a C- or better to a C or better to insure that students are properly prepared before moving on to higher level courses. B) A mandatory 50 minute recitation has been**

added to CHY 113. C) Adaptation of on-line homework in CHY 251 and 253, which provides instant feedback to students.

c. Date of most recent program review/self-study? **Spring 2015**

**F. Community Engagement Activities in your departmental curriculum:**

a. Does your department have a student learning outcome that is related to any community engagement activities? If so, please state the outcome.

**1. Able to communicate the results of their work to chemists and non-chemists**

**2. Find gainful employment in industry or government, be accepted at graduate or professional schools, or find employment in school systems as instructors or administrators.**

b. Please indicate what community engagement activities are included in your program's curriculum, and whether the activities are required or optional for students in your major.

<u>Community Engagement Activity</u>	<u>Included</u>	<u>Required/Optional</u>	
Student Research (related to a community-based problem)	<u>_X_</u>	R	<b>O</b>
Student-Faculty Community Research Project	<u>_X_</u>	R	<b>O</b>
Internship, or a Field Experience	<u>_X_</u>	R	<b>O</b>
Independent Study (community-related project)	<u>___</u>	R	O
Capstone Course (community-related project)	<u>_X_</u>	R	<b>O</b>
Service-Learning (course-based)	<u>___</u>	R	O
Study Abroad, or an International Program	<u>___</u>	R	O
Interdisciplinary Collaborative Project (community related)	<u>___</u>	R	O
Student Leadership Activities (related to a team project)	<u>_X_</u>	R	<b>O</b>
Students/Faculty Community Leadership (advisory boards, committees, conference presentations)	<u>___</u>	R	O
Other Activities (not mentioned above):			

c. Please list any courses (i.e. EDU 400) that have a community engagement activity in your program.

Entry-level courses:

Mid-level courses: CHY 233

Upper-level courses: CHY 385 and 470