

Campus Assessment of Student Learning Outcomes

Unit Name: Chemistry / Physics / Astronomy Assessment Summary Fall 2010-Spring 2011

What are the student learning outcomes in your unit?

1. Students will achieve a solid foundation in all fields of chemistry
2. Students will design and perform chemical experiments and will learn to comprehend and produce scientific writing in chemistry
3. Students will learn to critically evaluate scientific findings and be competent in scientific and quantitative reasoning
4. Students in introductory courses (C101/C121) will understand the two basic components of the scientific method: theory and experimentation.

Which outcome did you assess this academic year?

Outcome 4

How did you assess their skills before, during and / or at the end of the semester / academic year?

1. A department committee was formed and chaired by Linda Wozniewski to determine the best assessment method.
2. Questions were embedded in midterm and final exams.
3. Data was compiled.
4. The data will be used to assess the effectiveness of outcome 4 and to improve the metrics associated with outcome 4.

Please summarize the data you have collected this semester / academic year.

Percent of students correctly answering questions on the two outcomes.

The outcomes are:

1. Demonstrate the ability to identify and explain how scientific theories are formulated, tested, and validated.
2. Demonstrate the ability to integrate and apply scientific methods which include defining parameters of problem, seeking relevant information, subjecting proposed solutions to rigorous testing, and drawing conclusions based on the process.

Semester/Course	Overall	Outcome 1	Outcome 2
<i>C101 Fall 2010</i>	53%	71%	16%
C121 Fall 2010	37%	83%	16%
C101 Spring 2011	55%	75%	35%
C121 Spring 2011	35%	46%	34%

Please describe any programmatic changes you have made or are planning to make based on the data you have collected.

- Instructors have focused their teaching on the scientific method, stressing it much more.
- Instructors are using On-Course for forums and chat rooms
- We are using different approaches to assess the outcomes.
 - Short questions
 - Multiple choice questions with justification
 - Problems solving
- The idea of using CPR in the classes to teach and assess the outcomes is being explored
- The idea of using On-Course to facilitate group projects using the scientific method are being explored
- The idea of using an internet assignment is being explored

****Note:** Please use this template to provide the responses to the prompts above.**