Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: Advanced understanding of concepts in physical chemistry
Graduate students will acquire an advanced understanding of concepts in physical chemistry.

Related Measures

M 1: Physical chemistry course final exam
Assess performance in graduate level physical chemistry course through final exam
Source of Evidence: Academic direct measure of learning - other
Target:
75% of MS students will achieve a C or higher on the final exam in their required Physical Chemistry course (CHEM 4310G).

SLO 2: Advanced understanding of concepts of subdisciplines outside of physical chemistry
Graduate students will acquire an advanced understanding of concepts in a minimum of 2 subdisciplines outside of physical chemistry (Analytical, Biochemistry, Inorganic, Organic, Materials, Medicinal) through completion of graduate level coursework.

Related Measures

M 2: Successful completion of final exam
Assess performance in courses taken and ensure successful learning of material using final exam
Source of Evidence: Academic direct measure of learning - other
Target:
M.S. students will achieve a grade of C or higher on final exams in required coursework.

SLO 3: Chemical literature
Graduate students will be able to explain in technical written and oral formats an advanced understanding of a current topic in the chemical literature.

Related Measures

M 3: Graduate Seminar course
All graduate students will complete oral and written assignments in the required Graduate Seminar course.
Source of Evidence: Academic direct measure of learning - other
Target:
80% of students will demonstrate competency based on faculty committee evaluation of oral and written performance.

SLO 4: Student satisfaction
The department will maintain high graduate student satisfaction with the program.

Related Measures

M 4: Course evaluations
4000G and 6000-level graduate course evaluations.
Source of Evidence: Student satisfaction survey at end of the program
Target:
Student ratings of graduate courses will average at least 3 out of 5 for overall quality of course in student evaluations.

M 5: Exit survey
Exit survey
Source of Evidence: Exit interviews with grads/program completers
Target:
On the exit survey, at least 80% of non-thesis MS graduating students will agree or strongly agree with the statement: "Overall I was pleased with my graduate student experience at UNO."
**Related Measures**

**M 1: Research project**
All graduate students will complete a research project, requiring the collection and interpretation of data. This will result in the construction of a thesis, which will be orally defended in front of the thesis committee and public.

Source of Evidence: Project, either individual or group

**Target:**
80% of students will receive a majority vote of the thesis committee (appointed by the graduate school), which finds the work scientifically sound, noteworthy, and presented well in oral and written format. The target should be maintained until the department has the opportunity to see if this target will be consistently met, the Fall 2014 numbers were small.

**M 2: Abstract**
Graduate students will submit a minimum of one abstract to a peer-reviewed professional meeting or society.

Source of Evidence: Academic direct measure of learning - other

**Target:**
80% of students will have their peer-reviewed abstract accepted for presentation, either orally or as a poster, at a professional scientific meeting.

**M 3: Cumulative examinations**
Graduate students will demonstrate competence in their discipline via cumulative examinations.

Source of Evidence: Comprehensive/end-of-program subject matter exam

**Target:**
80% of students will pass three cumulative exams out of 9 attempts. Cumulative exam performance will be based on faculty committee evaluation.

**SLO 2: Physical chemistry & the subdisciplines**
Graduate students will acquire an advanced understanding of concepts in physical chemistry and a minimum of 2 subdisciplines outside of physical chemistry (Analytical, Biochemistry, Inorganic, Organic, Materials, Medicinal) through completion of graduate level coursework.

**Related Measures**

**M 4: Physical chemistry course final exam**
Assess performance in graduate level physical chemistry course using final exam.

Source of Evidence: Academic direct measure of learning - other

**Target:**
M.S. students will earn a grade of C or higher on their final exams in a required graduate level physical chemistry course.

**M 5: Successful completion of final exams**
Assess courses taken and ensure successful completion of final exams.

Source of Evidence: Academic direct measure of learning - other

**Target:**
M.S. students will achieve a grade of C or higher on final exams in required coursework.

**SLO 3: Competent instructors**
Graduate students will develop skills to be competent instructors of undergraduate students.

**Related Measures**

**M 6: Teacher assistant**
Graduate students will have the opportunity to serve as TAs for undergraduate courses.

Source of Evidence: Academic direct measure of learning - other

**Target:**
85% of the undergraduate students will achieve a C or better in their lab courses taught by TAs.

**M 7: Student evaluations**
Student evaluations of teaching assistants in general chemistry and organic chemistry labs.

Source of Evidence: Student course evaluations on learning gains made

**Target:**
Graduate students serving as TAs will receive positive ratings from 80% or higher of the students whom they have instructed.

**SLO 4: Chemical literature**
Graduate students will be able to explain in technical written and oral formats an advanced understanding of a current topic in the chemical literature.

**Related Measures**

**M 8: Graduate Seminar course**
All graduate students will complete oral and written assignments in the required Graduate Seminar course.

Source of Evidence: Academic direct measure of learning - other

**Target:**
80% of students will demonstrate competency based on faculty committee evaluation of oral and written performance.

**SLO 5: Student satisfaction**
The department will maintain high graduate student satisfaction with the program.
**Related Measures**

**M 9: Graduate course evaluations**
4000G and 6000-level graduate course evaluations.

Source of Evidence: Student satisfaction survey at end of the program

**Target:**
Student ratings of graduate courses will average at least 3 out of 5 for overall quality of course in student evaluations.

**M 10: Exit survey**
Exit survey

Source of Evidence: Exit interviews with grads/program completers

**Target:**
On the exit survey, at least 80% of thesis MS graduating students will agree or strongly agree with the statement: "Overall I was pleased with my graduate student experience at UNO."