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

SLO 1: Advanced understanding of concepts in area of specialty
Graduate students will acquire an advanced understanding of concepts in areas related to their dissertation research and area of specialty.

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 dissertation, which will be orally defended in front of the dissertation committee and public.

Source of Evidence: Senior thesis or culminating major project

Target:
80% of Ph.D. candidates will receive a majority vote of the dissertation committee, appointed by the graduate school, will find the work scientifically sound, noteworthy, and presented well in oral and written format. As the number of students graduating (and defending) in the Fall was small, this target should be maintained until a larger number of students have defended to determine if this target will be consistently met or exceeded.

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

Source of Evidence: Academic indirect indicator 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 or society.

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. Maintain target for Spring 2014 to determine if the target will be consistently exceeded. If it is also exceeded in Spring 2014, then it may be appropriate to increase the target.

M 4: General Examination
Graduate students will demonstrate oral and written technical competence in their discipline via the general exam.

Source of Evidence: Academic direct measure of learning - other

Target:
80% of students will pass the general exam by showing technical competence in oral and written formats as judged by majority vote of the dissertation committee. Maintain target for Spring 2014 to determine if the target will be consistently exceeded. If it is also exceeded in Spring 2014, then it may be appropriate to increase the target.

SLO 2: Graduate level coursework
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 5: 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:
Ph.D. students will achieve final examination grades of C or higher on the final exam in a required graduate physical chemistry course.

M 6: Assess courses using final exam
Assess courses taken and ensure successful completion using final exam

Source of Evidence: Academic indirect indicator of learning - other

Target:
Ph.D. 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 7: Teacher assistant
Graduate students will serve as effective TAs for undergraduate courses.

Source of Evidence: Academic indirect indicator of learning - other
**Target:**

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

**M 8: Evaluations of TAs**

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 9: 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.

**Other Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans**

**O/O 5: Student satisfaction**

Students will express a high level of satisfaction with the program

**Related Measures**

**M 10: Course evaluations**

Course evaluations

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

**Target:**

80% of students will rate concentration level and elective courses at least 3 out of 5 for overall quality

**M 11: Exit survey**

Exit survey

**Source of Evidence:** Exit interviews with grads/program completers

**Target:**

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