Mission / Purpose
The mission of the Department of Chemistry at the University of New Orleans is to educate students at the bachelors, masters, and doctoral levels, to produce meaningful high quality research, and to provide service to internal and external constituents. The mission of the Ph.D. program in chemistry is to educate students at the graduate level including thorough training in chemical research endeavors.

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. candidate 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.

Finding (2013-14) - Target: Met
100% of Ph.D. students received a majority vote. Target (of 80%) was exceeded.

Related Action Plans (by Established cycle, then alpha):

Maintain Target
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,

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Low

Relationships (Measure | Outcome/Objective):
Measure: Research project | Outcome/Objective: Advanced understanding of concepts in area of specialty

Implementation Description: Maintain target for next assessment cycle.
Projected Completion Date: 06/2014
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None

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.

Finding (2013-14) - Target: Not Met
2 of 4 graduating students (50%) reported having their peer-reviewed abstract accepted for presentation, either orally or as a poster, at a professional scientific meeting.

Related Action Plans (by Established cycle, then alpha):

Abstracts and Presentations
A more comprehensive method of tracking abstracts and presentations is needed. There is also a need for a plan to acquire funding for graduate student travel so that students may attend meetings when they have accepted presentations.

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Medium

Relationships (Measure | Outcome/Objective):
Measure: Abstract | Outcome/Objective: Advanced understanding of concepts in area of specialty

Implementation Description: Developing tracking and funding procedures.
Projected Completion Date: 07/2014
Responsible Person/Group: Dr. Mark Trudell (Graduate Program Coordinator), Dr. Matthew Tarr
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.

**Finding (2013-14) - Target: Met**
100% of students have passed cumulative exams. Target has been exceeded.

**Related Action Plans (by Established cycle, then alpha):**

**Maintain Target**
- 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.
- **Established in Cycle:** 2013-14
- **Implementation Status:** Planned
- **Priority:** Low

**Relationships (Measure | Outcome/Objective):**
- **Measure:** Cumulative examinations | **Outcome/Objective:** Advanced understanding of concepts in area of specialty

**Implementation Description:** Maintain target.

**Responsible Person/Group:** Lindsey Jakiel (Chemistry Programs Coordinator)

**Additional Resources:** None

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.

**Finding (2013-14) - Target: Met**
100% of students passed their general examinations. Target has been exceeded.

**Related Action Plans (by Established cycle, then alpha):**

**Maintain Target**
- 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.
- **Established in Cycle:** 2013-14
- **Implementation Status:** Planned
- **Priority:** Low

**Relationships (Measure | Outcome/Objective):**
- **Measure:** General Examination | **Outcome/Objective:** Advanced understanding of concepts in area of specialty

**Implementation Description:** Maintain target.

**Projected Completion Date:** 06/2014

**Responsible Person/Group:** Lindsey Jakiel (Chemistry Programs Coordinator)

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
Asses 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 mean scores of 75% or higher on the final exam in a required graduate physical chemistry course.

**Finding (2013-14) - Target: Met**
There were 2 thesis MS students enrolled in CHEM 4310G in Fall 2013. 1 student received a final exam score of 75% or higher. 1 student did not. 50% of thesis MS students received a score of 75% or higher. The mean score was 80.75%. The target was exceeded per the way it is written. This target should be revised in future IE plans for clarity. Note: PhD students receive a thesis MS en route to their PhD.

**Related Action Plans (by Established cycle, then alpha):**

**Adjust Language in Target**
- Change the language in the target for clarity. Adjust to read "C or higher" rather than 75% as some professors may elect to grade final examinations on a curve.
- **Established in Cycle:** 2013-14
- **Implementation Status:** Planned
- **Priority:** Low

**Relationships (Measure | Outcome/Objective):**
**Measure:** Physical chemistry course final exam  |  **Outcome/Objective:** Graduate level coursework

**Implementation Description:** Adjust language in the target for the next assessment cycle.

**Projected Completion Date:** 06/2014

**Responsible Person/Group:** Lindsey Jakiel (Chemistry Programs Coordinator)

**Additional Resources:** None

**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 mean scores of 75% or higher on final exams in required coursework.

**Finding (2013-14) - Target: Partially Met**
3 PhD students were enrolled in CHEM 4110G. 100% of the students achieved over a 75% on the final exam in this course. The mean score was 88.5%. 3 PhD students were enrolled in CHEM 4410G. 33.3% of the students achieved over a 75% on the final exam in this course. The mean score was 59.3%. 1 PhD student was enrolled in CHEM 4510G. This student earned over 75%, so 100% of students in that course met the target. There is no mean since there was only one student. Note: PhD students earn a thesis MS en route to their PhD.

**Related Action Plans (by Established cycle, then alpha):**

**Adjust Final Examination Target**
The previously listed target was that Ph.D. students will achieve mean scores of 75% or higher on final exams in required coursework. This target should be adjusted. As many faculty members grade examinations on a curve, it would be more appropriate to have the target read "Ph.D. students will achieve a grade of C or higher on final exams in required coursework."

**Established in Cycle:** 2013-14

**Implementation Status:** Planned

**Priority:** Medium

**Relationships (Measure | Outcome/Objective):**

**Measure:** Assess courses using final exam  |  **Outcome/Objective:** Graduate level coursework

**Implementation Description:** Adjust target for next assessment cycle.

**Responsible Person/Group:** Lindsey Jakiel (Chemistry Programs Coordinator)

**Additional Resources:** None

**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:**
80% of the undergraduate students will achieve a C or better in their lab courses taught by TAs.

**Finding (2013-14) - Target: Met**
In CHEM 1007 (General Chemistry I) 82.7% of undergraduate students achieved a C or better. In CHEM 1008 (General Chemistry II) 82.3% of undergraduate students achieved a C or better. In CHEM 2017 (Organic Chemistry I) 96.8% of undergraduate students achieved a C or better. In CHEM 2018 (Organic Chemistry II) 92.5% of undergraduate students achieved a C or better. In CHEM 2025 (Quantitative Analysis) 85.7% of undergraduate students achieved a C or better. For all lab courses taught by TAs, the targets have been exceeded.

**Related Action Plans (by Established cycle, then alpha):**

**Increase Target**
Increase target to 85% as target was exceeded. A target of 85% will still require an improvement for General Chemistry and will allow the department to determine if exceeding 80% is a trend for other courses.

**Established in Cycle:** 2013-14

**Implementation Status:** Planned

**Priority:** Low

**Relationships (Measure | Outcome/Objective):**

**Measure:** Teacher assistant  |  **Outcome/Objective:** Competent instructors

**Implementation Description:** Increase target for next assessment cycle.

**Projected Completion Date:** 06/2014

**Responsible Person/Group:** Lindsey Jakiel (Chemistry Programs Coordinator)

**Additional Resources:** None

**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.

**Finding (2013-14) - Target: Not Reported This Cycle**
Data have been collected, but not yet analyzed. Data will be available in mid to late January.

**Related Action Plans (by Established cycle, then alpha):**
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.

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

Finding (2013-14) - Target: Not Met
3 out of 4 students (75%) passed their seminar course demonstrating competency based on faculty committee evaluation of oral and written performance. Target was not met.

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Medium

Relationships (Measure | Outcome/Objective):
Measure: Graduate Seminar course | Outcome/Objective: Chemical literature

Implementation Description: Maintain target for next assessment cycle.
Responsible Person/Group: Dr. Matthew Tarr

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

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

Finding (2013-14) - Target: Not Reported This Cycle
University course evaluation scores were not available at the time these data were reported.

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Medium

Relationships (Measure | Outcome/Objective):
Measure: Course evaluations | Outcome/Objective: Student satisfaction

Implementation Description: Report data when available.
Projected Completion Date: 03/2015
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: Data from testing services.

M 11: Exit survey
Exit survey

Target:
The overall program ratings on exit surveys will indicate an average 80% satisfaction.
Finding (2013-14) - Target: Not Met
3 of 4 graduating PhD students completed the exit survey. On the exit survey, there was an item "Overall I was pleased with my graduate student experience at UNO." Likert scale responses were used for this item. 1 student "Neither Agreed Nor Disagreed" with the statement. 2 students "Agreed" with the statement. Of the respondents to the exit survey, 66.7% rated the overall program as satisfactory. The target was not met.

Related Action Plans (by Established cycle, then alpha):

Assess Student Perceptions of PhD Program After 1st Year
Instead of only surveying PhD students when they are graduation, assess their program experiences with a survey at the end of their first year. This will enable the department to address student concerns while students are still enrolled in their graduate program.
Established in Cycle: 2013-14
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
- Measure: Exit survey | Outcome/Objective: Student satisfaction

Implementation Description: Develop and administer a survey at the end of the first year of student enrollment in the PhD program
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None

Details of Action Plans for This Cycle (by Established cycle, then alpha)

Abstracts and Presentations
A more comprehensive method of tracking abstracts and presentations is needed. There is also a need for a plan to acquire funding for graduate student travel so that students may attend meetings when they have accepted presentations.
Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Medium

Relationships (Measure | Outcome/Objective):
- Measure: Abstract | Outcome/Objective: Advanced understanding of concepts in area of specialty

Implementation Description: Developing tracking and funding procedures.
Projected Completion Date: 07/2014
Responsible Person/Group: Dr. Mark Trudell (Graduate Program Coordinator), Dr. Matthew Tarr (Department Chair)
Additional Resources: Funding for graduate student travel.
Budget Amount Requested: $10,000.00 (recurring)

Adjust Final Examination Target
The previously listed target was that Ph.D. students will achieve mean scores of 75% or higher on final exams in required coursework. This target should be adjusted. As many faculty members grade examinations on a curve, it would be more appropriate to have the target read "Ph.D. students will achieve a grade of C or higher on final exams in required coursework."
Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Medium

Relationships (Measure | Outcome/Objective):
- Measure: Assess courses using final exam | Outcome/Objective: Graduate level coursework

Implementation Description: Adjust target for next assessment cycle.
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None

Adjust Language in Target
Change the language in the target for clarity. Adjust to read "C or higher" rather than 75% as some professors may elect to grade final examinations on a curve.
Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Low

Relationships (Measure | Outcome/Objective):
- Measure: Physical chemistry course final exam | Outcome/Objective: Graduate level coursework

Implementation Description: Adjust language in the target for the next assessment cycle.
Projected Completion Date: 06/2014
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None

Assess Student Perceptions of PhD Program After 1st Year
Instead of only surveying PhD students when they are graduation, assess their program experiences with a survey at the end of their first year. This will enable the department to address student concerns while students are still enrolled in their graduate program.
Established in Cycle: 2013-14
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
- Measure: Exit survey | Outcome/Objective: Student satisfaction

Implementation Description: Develop and administer a survey at the end of the first year of student enrollment in the PhD program
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)

Additional Resources: None

Increase Target
Increase target to 85% as target was exceeded. A target of 85% will still require an improvement for General Chemistry and will allow the Department to determine if exceeding 80% is a trend for other courses.

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Low

Relationships (Measure | Outcome/Objective):
  Measure: Teacher assistant | Outcome/Objective: Competent instructors

Implementation Description: Increase target for next assessment cycle.
Projected Completion Date: 06/2014
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None

Maintain Target
As the 80% target was not met, this target should be maintained. Additional support should be provided to graduate students so that the 80% target can be met.

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Medium

Relationships (Measure | Outcome/Objective):
  Measure: Graduate Seminar course | Outcome/Objective: Chemical literature

Implementation Description: Maintain target for next assessment cycle.
Responsible Person/Group: Dr. Matthew Tarr

Maintain Target
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,

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Low

Relationships (Measure | Outcome/Objective):
  Measure: Research project | Outcome/Objective: Advanced understanding of concepts in area of specialty

Implementation Description: Maintain target for next assessment cycle.
Projected Completion Date: 06/2014
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None

Maintain Target
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.

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Low

Relationships (Measure | Outcome/Objective):
  Measure: Cumulative examinations | Outcome/Objective: Advanced understanding of concepts in area of specialty

Implementation Description: Maintain target.
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None

Maintain Target
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.

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Low

Relationships (Measure | Outcome/Objective):
  Measure: General Examination | Outcome/Objective: Advanced understanding of concepts in area of specialty

Implementation Description: Maintain target.
Projected Completion Date: 06/2014
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)

Report Data When Available
Findings will be entered when available. Paper TA evaluations were given to students. These evaluations are currently being entered and reports will be run during the Spring 2014 term on Fall 2013 data.

Established in Cycle: 2013-14
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
  Measure: Evaluations of TAs | Outcome/Objective: Competent instructors

Implementation Description: Report findings when available.
Projected Completion Date: 03/2014
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<tr>
<th><strong>Responsible Person/Group:</strong></th>
<th>Lindsey Jakiel (Chemistry Programs Coordinator)</th>
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<tr>
<td><strong>Additional Resources:</strong></td>
<td>None</td>
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**Report Data When Available**

When available from testing services, course evaluation data will be reported.

- **Established in Cycle:** 2013-14
- **Implementation Status:** Planned
- **Priority:** Medium

**Relationships (Measure | Outcome/Objective):**
- **Measure:** Course evaluations
- **Outcome/Objective:** Student satisfaction

**Implementation Description:** Report data when available.

**Projected Completion Date:** 03/2015

**Responsible Person/Group:** Lindsey Jakiel (Chemistry Programs Coordinator)

**Additional Resources:** Data from testing services.