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 B.S. program in chemistry is to educate students at the undergraduate level and provide opportunities for students to engage in research.

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

SLO 1: General chemistry content
Students will demonstrate proficiency in general chemistry content.

Related Measures

M 1: Mastering Chemistry assignments
Scores on Mastering Chemistry assignments in CHEM 1018.
Source of Evidence: Standardized test of subject matter knowledge
Target: Students will perform 80th percentile compared to national performance on Mastering Chemistry assignments.
Finding (2013-14) - Target: Met
Students exceeded the 80th percentile on Mastering Chemistry assignments compared to national data. Data provided by Dr. Skip Gallagher, instructor of record for General Chemistry.
Related Action Plans (by Established cycle, then alpha):
More Detailed Findings
Report more detailed findings. Examine if our students have improved over time in addition to reporting the percentile.
Established in Cycle: 2013-14
Implementation Status: Planned
Priority: Low
Relationships (Measure | Outcome/Objective):
Measure: Mastering Chemistry assignments | Outcome/Objective: General chemistry content
Implementation Description: Dr. Gallagher will be asked to provide more detailed findings from the Mastering Chemistry data.
Projected Completion Date: 06/2014
Responsible Person/Group: Dr. Skip Gallagher
Additional Resources: None

M 2: ETS Major Field Test
ETS Major Field Test - Chemistry Completed in final semester of degree program.
Source of Evidence: Standardized test of subject matter knowledge
Target: Students will perform in the 80th percentile or better on the nationally normed ETS Major Field Test in Chemistry.
Finding (2013-14) - Target: Not Met
The Department of Chemistry was not able to administer this examination in the Fall term due to logistical difficulties. For the Spring 2014 and following terms, all graduating BS in chemistry students will be required to enroll in CHEM 4000 where they will take this examination. The department administered the ETS Major Field Test for the first time in Spring 2014. 7 students are graduating with a B.S. in Chemistry, and all 7 of these students took the examination. 0% of students scored in the 80th percentile or higher on the exam. Using the most recent nation data available from ETS (June 2013) a student needs to score 163 to be in the 80th percentile. The test is scored from 120-200. Our students scored as follows: (1) 158 (72nd percentile) (1) 149 (55th percentile) (1) 144 (44th percentile) (1) 143 (42nd percentile) (2) 141 (35th percentile) (1) 129 (7th percentile).
Related Action Plans (by Established cycle, then alpha):
Add Review to CHEM 4000
CHEM 4000 is a 0 credit hour course. Graduating students enroll in this course in order to register for and take the ETS Major Field Test in chemistry. The goal of students scoring in the 80th percentile or higher was not met. We will revise this goal down to the 70th percentile.
Established in Cycle: 2013-14
Implementation Status: Planned
Priority: High
Relationships (Measure | Outcome/Objective):
Measure: ETS Major Field Test | Outcome/Objective: General chemistry content
Implementation Description: The Department of Chemistry will offer an optional review session prior to the examination so that students can review concepts from lower-level courses.
CHEM 4000 has been created to ensure that graduating BS students will take this examination. Scores will be reported when available, timeline for scoring is currently unknown as Spring 2014 will be the first semester that students will take the ETS Major Field test in Chemistry.

**Established in Cycle:** 2013-14  
**Implementation Status:** In-Progress  
**Priority:** High

**Relationships (Measure | Outcome/Objective):**  
<table>
<thead>
<tr>
<th>Measure</th>
<th>Outcome/Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETS Major Field Test</td>
<td>General chemistry content</td>
</tr>
</tbody>
</table>

**Implementation Description:** Administer exam and report data.

**Projected Completion Date:** 08/2014  
**Responsible Person/Group:** Dr. Matthew Tarr  
**Additional Resources:** Support from University Testing Services would be helpful. They were not able to assist with proctoring/administering the examination in Fall 2013 when asked to assist.

---

**SLO 2: Multi-disciplinary teams**  
Students demonstrate ability to work effectively in multi-disciplinary teams.

**Related Measures**

**M 3: Teamwork assessment rubric**  
Students will be assessed on teamwork skills in lab settings (CHEM 2025 and 3027) in which they work on specific lab assignments in small groups. Assessment will be based on collaboration skills and demonstration of competence in team efforts using standardized rubric.

**Source of Evidence:** Academic direct measure of learning - other

**Target:** 80% of students will score satisfactory or above on the rubric.

**Finding (2013-14) - Target: Met**  
In CHEM 2025, at least 80% of students demonstrated satisfactory collaboration skills, meeting the target. CHEM 3027 is a Spring course offering, so no data are available for that course in this reporting cycle.

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

**Report Data for CHEM 3027**  
CHEM 2025 was used to evaluate collaboration in Fall 2013. As CHEM 3027 is the course offered in the Spring, data for collaboration in this course will be reported.

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

**Relationships (Measure | Outcome/Objective):**  
<table>
<thead>
<tr>
<th>Measure</th>
<th>Outcome/Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamwork assessment rubric</td>
<td>Multi-disciplinary teams</td>
</tr>
</tbody>
</table>

**Implementation Description:** Utilize rubric that was developed for CHEM 3025 in CHEM 3027 and report data on collaboration.

**Projected Completion Date:** 06/2014  
**Responsible Person/Group:** Dr. Matthew Tarr and Graduate Assistants who will interact with and observe students.  
**Additional Resources:** None

---

**SLO 3: Independent research**  
Students are able to conduct independent research and are savvy consumers of published research.

**Related Measures**

**M 6: Oral and written competence**  
Jury judge oral and written competence of undergraduates as part of CHEM 3094.

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

**Target:** 80% of the students will achieve a B or better on their presentations and papers.

**Finding (2013-14) - Target: Met**  
7 out of 7 (100%) students achieved a B or higher on their presentations and papers. 6 students received As, 1 student received a B. Target has been exceeded for Fall 2013. For Spring 2014, 8 out of 10 students (80%) achieved a B or higher on their presentations and papers. 8 students received As, 2 students received Cs. Target was met in Spring 2014.

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

**Increase Target**  
Increase the target to 100% of students earning a B for the next assessment cycle.

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

**Relationships (Measure | Outcome/Objective):**  
<table>
<thead>
<tr>
<th>Measure</th>
<th>Outcome/Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral and written competence</td>
<td>Independent research</td>
</tr>
</tbody>
</table>

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

**Projected Completion Date:** 06/2014  
**Responsible Person/Group:** Lindsey Jakiel (Chemistry Programs Coordinator)
**SLO 4: Preparation for graduate programs**

Students will be prepared to enter graduate programs in chemistry or related areas of study.

**Related Measures**

**M 7: BS graduates enrolling in graduate programs**

Review the number of BS graduates enrolling in M.S. and Ph.D. programs in chemistry and related sciences.

Source of Evidence: Alumni survey or tracking of alumni achievements

**Target:**
At least 30% of BS graduates enroll in graduate programs in chemistry and related sciences within two years of graduation.

**Finding (2013-14) - Target: Not Met**

5 students graduated with a BS in chemistry in Fall 2013. 4 of the 5 students completed an exit survey. Of the 4 students who completed the survey, 1 (25%) plans to enroll in a graduate program in chemistry or a related field. Data for alumni (graduates from past 2 years) has not been collected at this time.

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

**Add Survey Item**

An an item to the undergraduate exit survey asking students about their perceived preparedness for graduate programs. The item was added for Spring 2014.

**Established in Cycle:** 2013-14

**Implementation Status:** Planned

**Priority:** Medium

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

Measure: BS graduates enrolling in graduate programs | Outcome/Objective: Preparation for graduate programs

**Implementation Description:** The Department of Chemistry will request a meeting with Alumni Affairs to attempt to update contact information for program alumni. The Office of Institutional Research may also be asked for assistance again.

**Projected Completion Date:** 08/2014

**Responsible Person/Group:** Dr. Matthew Tarr and Lindsey Jakiel (Chemistry Programs Coordinator)

**Additional Resources:** Support and assistance from Alumni Affairs.

**M 8: Exit survey**

Students will complete exit surveys and will be asked about their 1) overall satisfaction with their program experience 2) perceived level of preparedness for advanced study.

Source of Evidence: Exit interviews with grads/program completers

**Target:**
At least 80% of BS graduates into graduate programs will indicate that they feel prepared for advanced student in chemistry or related sciences

**Finding (2013-14) - Target: Partially Met**

Preparedness for advanced study was not an item on this exit survey. It will be added as an item for Spring 2014. Two items were added to address preparedness for graduate school. The first new item was: "Whether or not you plan to attend graduate school for advanced study in chemistry, please indicate how prepared you feel for advanced study." Students could select one of the following responses: Not at all prepared, Somewhat prepared, Adequately prepared, Very prepared, Extremely prepared. These responses would indicate preparedness: Adequately prepared, Very prepared, Extremely prepared. Of 7 B.S. graduates, 4 completed the exit survey. Here are their responses: (3) Very prepared, (1) Extremely prepared. 100% of respondents felt prepared for advanced study in chemistry. The second new item was: "Whether or not you plan to attend graduate or professional school, indicate how prepared you feel for the graduate/professional school application process. (e.g., taking the GRE, understanding the application timeline, writing a statement of purpose, etc.)." Students could select one of the following responses: Not at all prepared, Somewhat prepared, Adequately prepared, Very prepared, Extremely prepared. These responses would indicate preparedness: Adequately prepared, Very prepared, Extremely prepared. Of 7 B.S. graduates, 4 completed the exit survey. Here are their responses: (2) Not at all prepared, (1) Somewhat prepared, (1) Adequately prepared. Only 25% of respondents (n = 1) reported being prepared to go through the graduate school application process. Students report having the content knowledge, but not the procedural knowledge needed to pursue advanced study in chemistry.

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

**Add Survey Item**

An an item to the undergraduate exit survey asking students about their perceived preparedness for graduate studies. The item was added for Spring 2014.

**Established in Cycle:** 2013-14

**Implementation Status:** Planned

**Priority:** Medium

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

Measure: Exit survey | Outcome/Objective: Preparation for graduate programs

**Implementation Description:** Add a question to the survey and send to graduating undergraduates by mid-April.

**Projected Completion Date:** 03/2014

**Responsible Person/Group:** Lindsey Jakiel (Chemistry Programs Coordinator)
SLO 5: Student satisfaction
The department will maintain high student satisfaction with the program.

Related Measures

M 8: Exit survey
Students will complete exit surveys and will be asked about their 1) overall satisfaction with their program experience 2) perceived level of preparedness for advanced study.

Source of Evidence: Exit interviews with grads/program completers

Target:
At least 80% of students rank their program experience as satisfactory or better.

Finding (2013-14) - Target: Partially Met
4 of 5 graduating students took the exit survey. Only 3 students responded to the item: "Overall, how would you rate your experience with the Department of Chemistry?" The scaling used for responses to this item was: Very Poor, Poor, Fair, Good, Very Good. A response of "Fair" would indicate that the program experience was satisfactory. Of the 3 respondents, one marked that their experience was Good, and 2 marked that it was Very Good. 100% of the respondents indicated that their program experience was satisfactory or better, however, the respondents only represent 60% of the BS graduates. Target is marked as partially met, because 100% of graduates need to respond to the exit survey. In Spring 2014, 4 of 7 graduating students took the survey, only 2 responded to this item. 1 marked their experience as Good, and 1 as Very Good. Response rates still need to be improved.

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

Improve Survey Response Rates
CHEM 4000 is now a required course for graduating undergraduates. As a part of this course, students will be required to take the Exit Survey as well as the ETS Major Field Test in Chemistry. Implementation of CHEM 4000 in Spring 2014 will enable the Department to get more student responses.

Established in Cycle: 2013-14
Implementation Status: In-Progress
Priority: Medium

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

Implementation Description: Students are enrolled in CHEM 4000 this semester.
Projected Completion Date: 05/2014
Responsible Person/Group: Dr. Matthew Tarr & Lindsey Jakiel (Chemistry Programs Coordinator)

M 9: Student course evaluations.
Student course evaluations.

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

Target:
All concentration level and elective courses required of the degree will achieve at least 2.8 out of 5.0 for overall quality of course.

Finding (2013-14) - Target: Not Reported This Cycle
At the time of reporting, university course evaluations have not been scored. As of May 15, 2014 course evaluations for Fall 2013 have not been scored and returned to the department. Spring 2014 course evaluations have been submitted to the Testing Center for scoring.

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

Report Data When Available
When data from course evaluations are available from the university's testing services office, they will be reported for this item. It is expected that these data will be available in mid to late January.

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

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

Implementation Description: Enter data when available.
Projected Completion Date: 02/2014
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: Data from testing services.

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

Add Review to CHEM 4000
CHEM 4000 is a 0 credit-hour course. Graduating students enroll in this course in order to register for and take the ETS Major Field Test in chemistry. The goal of students scoring in the 80th percentile or higher was not met. We will revise this goal down to the 70th percentile.

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

Relationships (Measure | Outcome/Objective):
Measure: ETS Major Field Test | Outcome/Objective: General chemistry content

Implementation Description: The Department of Chemistry will offer an optional review session prior to the examination so that students can review concepts from lower-level courses.
Add Survey Item
An an item to the undergraduate exit survey asking students about their perceived preparedness for graduate studies. The item was added for Spring 2014.

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

Relationships (Measure | Outcome/Objective):
Measure: Exit survey | Outcome/Objective: Preparation for graduate programs

Implementation Description: Add a question to the survey and send to graduating undergraduates by mid-April.
Projected Completion Date: 03/2014
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None

Administer Exam
CHEM 4000 has been created to ensure that graduating BS students will take this examination. Scores will be reported when available, timeline for scoring is currently unknown as Spring 2014 will be the first semester that students will take the ETS Major Field test in Chemistry.

Established in Cycle: 2013-14
Implementation Status: In-Progress
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: ETS Major Field Test | Outcome/Objective: General chemistry content

Implementation Description: Administer exam and report data.
Projected Completion Date: 08/2014
Responsible Person/Group: Dr. Matthew Tarr
Additional Resources: Support from University Testing Services would be helpful. They were not able to assist with proctoring/administering the examination in Fall 2013 when asked to assist.

BS Graduate School Enrollment
In order to track if BS graduates are enrolling in graduate programs in Chemistry or related sciences, the Department of Chemistry will require data from Alumni Affairs to reach out to program alumni. A survey can be sent to alumni, if alumni email addresses are made available. An online form for alumni to report their activities has been created and was sent out in the Summer 2013 department e-newsletter. However, alumni contact information is incomplete. Many graduates are missing from the records the department received. The Office of Institutional Research provided campus email address for program alumni, but not all alumni choose to continue using their campus email accounts after graduation.

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

Relationships (Measure | Outcome/Objective):
Measure: BS graduates enrolling in graduate programs | Outcome/Objective: Preparation for graduate programs

Implementation Description: The Department of Chemistry will request a meeting with Alumni Affairs to attempt to update contact information for program alumni. The Office of Institutional Research may also be asked for assistance again.
Projected Completion Date: 08/2014
Responsible Person/Group: Dr. Matthew Tarr and Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: Support and assistance from Alumni Affairs.

Improve Survey Response Rates
CHEM 4000 is now a required course for graduating undergraduates. As a part of this course, students will be required to take the Exit Survey as well as the ETS Major Field Test in Chemistry. Implementation of CHEM 4000 in Spring 2014 will enable the Department to get more student responses.

Established in Cycle: 2013-14
Implementation Status: In-Progress
Priority: Medium

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

Implementation Description: Students are enrolled in CHEM 4000 this semester.
Projected Completion Date: 05/2014
Responsible Person/Group: Dr. Matthew Tarr & Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None

Increase Target
Increase the target to 100% of students earning a B for the next assessment cycle.

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

Relationships (Measure | Outcome/Objective):
Measure: Oral and written competence | Outcome/Objective: Independent research

Implementation Description: Update target for next assessment cycle.
Projected Completion Date: 06/2014
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: None
More Detailed Findings
Report more detailed findings. Examine if our students have improved over time in addition to reporting the percentile.

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

Relationships (Measure | Outcome/Objective):
Measure: Mastering Chemistry assignments | Outcome/Objective: General chemistry content

Implementation Description: Dr. Gallagher will be asked to provide more detailed findings from the Mastering Chemistry data.
Projected Completion Date: 06/2014
Responsible Person/Group: Dr. Skip Gallagher
Additional Resources: None

Report Data for CHEM 3027
CHEM 2025 was used to evaluate collaboration in Fall 2013. As CHEM 3027 is the course offered in the Spring, data for collaboration in this course will be reported.

Established in Cycle: 2013-14
Implementation Status: In-Progress
Priority: Medium

Relationships (Measure | Outcome/Objective):
Measure: Teamwork assessment rubric | Outcome/Objective: Multi-disciplinary teams

Implementation Description: Utilize rubric that was developed for CHEM 3025 in CHEM 3027 and report data on collaboration.
Projected Completion Date: 06/2014
Responsible Person/Group: Dr. Matthew Tarr and Graduate Assistants who will interact with an observer students.
Additional Resources: None

Report Data When Available
When data from course evaluations are available from the university's testing services office, they will be reported for this item. It is expected that these data will be available in mid to late January.

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

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

Implementation Description: Enter data when available.
Projected Completion Date: 02/2014
Responsible Person/Group: Lindsey Jakiel (Chemistry Programs Coordinator)
Additional Resources: Data from testing services.