CHEMISTRY
Core Competencies

Learning Outcome:
Critical Thinking: Students will be able to examine, critique and synthesize information in order to arrive at reasoned conclusions.

Outcome Measure:
ETS Proficiency Profile Exam

Criteria for Success (how do you judge if the students have met your standards):
70% of the students will be marginal or proficient at Level 2 Reading/Critical Thinking.

Aligned with DQP Learning Areas (circle one or more but not all five):

1. Specialized Knowledge
2. Broad Integrative Knowledge
3. Intellectual Skills/Core Competencies
4. Applied and Collaborative Learning, and
5. Civic and Global Learning

Longitudinal Data:

	Percentage of Students Marginal or Proficient					
	2012-13	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
ETS Proficiency Profile Level 2 Critical Thinking	**100.0%**	**84.6%**	**87.5%**	**92.0%**	**96.4%**	**88.2%**

Conclusions Drawn from Data:
The criteria for success have been met for the six past academic years. Students are able to examine, critique and synthesize information in order to arrive at reasoned conclusions.

Changes to be Made Based on Data:
No changes to program.

Rubric Used
No rubric. We use the ETS Proficiency Profile test results.

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Learning Outcome:
Written: Students will be able to effectively express ideas and information to others through written communication.

Outcome Measure:
ETS Proficiency Profile Exam

Criteria for Success (how do you judge if the students have met your standards):
80% of the students will be marginal or proficient at Level 2 Writing.

Aligned with DQP Learning Areas (circle one or more but not all five):

1. Specialized Knowledge
2. Broad Integrative Knowledge
3. Intellectual Skills/Core Competencies
4. Applied and Collaborative Learning, and
5. Civic and Global Learning

Longitudinal Data:

	Percentage of Students Marginal or Proficient					
	2012-13	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
ETS Proficiency Profile Level 2 Writing	**100.0%**	**76.9%**	**83.3%**	**96.0%**	**89.3%**	**85.0%**

Conclusions Drawn from Data:
The criteria for success were met in all years except for 2013-14, when 76.9% of the students were marginal or proficient at Level 2 Writing, just below the 80% criteria for success. Overall, students are able to effectively express ideas and information to others through written communication.

Changes to be Made Based on Data:
No changes to program.

Rubric Used
No rubric. We use the ETS Proficiency Profile test results.

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Learning Outcome:
Quantitative Reasoning: Students will be able to solve problems that are quantitative in nature.

Outcome Measure:
ETS Proficiency Profile Exam

Outcome Measure:
ETS Proficiency Profile Exam

Criteria for Success (how do you judge if the students have met your standards):
90% of the students will be marginal or proficient at Level 2 Math.

Aligned with DQP Learning Areas (circle one or more but not all five):

1. Specialized Knowledge
2. Broad Integrative Knowledge
3. Intellectual Skills/Core Competencies
4. Applied and Collaborative Learning, and
5. Civic and Global Learning

Longitudinal Data:

	Percentage of Students Marginal or Proficient					
	2012-13	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**
ETS Proficiency Profile Level 2 Math	**100.0%**	**84.6%**	**91.7%**	**100.0%**	**100.0%**	**92.5%**

Conclusions Drawn from Data:
The criteria for success were met in all years except for 2013-14, when 84.6% of the students were marginal or proficient at Level 2 Math. Overall, students are able to solve problems that are quantitative in nature.

Changes to be Made Based on Data:
No changes to program.

Rubric Used
No rubric. We use the ETS Proficiency Profile test results.

Chemistry Department Assessment of Core Competencies: Oral Communication

Learning Outcome: Students will develop oral communication skills.

Outcome Measure: Chemistry Research Study Presentation in Chemistry Seminar (CHE495).

Criteria for Success: At least 80% of students will have an average score of 3 or higher.

Longitudinal Data:

% students with average score of 3.0 or higher	2018, n=13	2017, n=18	2016, n=12	2015, n=10
Oral Communication	100%	100%	83.3%	100%

Conclusions Drawn from Data: The criteria for success were met in 2015, 2016, 2017, and 2018. Students are successful in oral communication.

Changes to be Made Based on Data: No changes are necessary.

Rubric Used: See below.

Chemistry Department Assessment of Core Competencies: Information Literacy

Learning Outcome: Students will develop information literacy skills.

Outcome Measure: Chemistry Research Study Presentation in Chemistry Seminar (CHE495 Spring 2016 - 2018) and Chemistry Ethics Paper in Chemistry Seminar (CHE495 Spring 2015).

Criteria for Success (if applicable): At least 80% of students will have an average score of 3 or higher.

Longitudinal Data:

% students with average score of 3.0 or higher	2018, n=13	2017, n=18	2016, n=12	2015, n=10
Information Literacy	84.6%	100%	91.7%	80%

Conclusions Drawn from Data: The criteria for success were met in 2015, 2016, 2017, and 2018. Students are successful in information literacy.

Changes to be Made Based on Data: No changes are necessary.

Rubric Used: See below.

CHE 495 rubrics (Oral Communication and Information Literacy)

	Outstanding	High satisfactory	Low satisfactory	unsatisfactory
Command of background material	• Clearly knows material and key facts by memory • Expands on PPT slides • Content and language appropriate for audience	• Clearly knows key facts with a few memory slips • Some expansion on PPT slides • Partial audience adaptation of content	• Read some information; knows some facts from memory • No expansion on PPT slide content • little audience adaptation of content	• Read sentence from slides • Dependent on notes • Lack audience adaptation of content
Organization	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is clearly and consistently observable and is skillful and makes the content of the presentation cohesive.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is clearly and consistently observable within the presentation	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is intermittently observable within the presentation.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is not observable within the presentation.

Delivery	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation compelling, and speaker appears polished and confident.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation interesting, and speaker appears comfortable.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation understandable, and speaker appears tentative.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) detract from the understandability of the presentation, and speaker appears uncomfortable.
Use Information Effectively to Accomplish a specific purpose	Communicates, organizes and synthesizes information from sources to fully achieve a specific purpose, with clarity and depth	Communicates, organizes and synthesizes information from sources. Intended purpose is achieved.	Communicates and organizes information from sources. The information is not yet synthesized, so the intended purpose is not fully achieved.	Communicates information from sources. The information is fragmented and/or used inappropriately (misquoted, taken out of context, or incorrectly paraphrased, etc.), so the intended purpose is not achieved.
Determine the Extent of Information	Effectively defines the scope of the research question or thesis. Effectively determines key concepts. Types of information (sources) selected directly relate to concepts or answer research question.	Defines the scope of the research question or thesis completely. Can determine key concepts. Types of information (sources) selected relate to concepts or answer research question.	Defines the scope of the research question or thesis incompletely (parts are missing, remains too broad or too narrow, etc.). Can determine key concepts. Types of information (sources) selected partially relate to concepts or answer research question.	Has difficulty defining the scope of the research question or thesis. Has difficulty determining key concepts. Types of information (sources) selected do not relate to concepts or answer research question.