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Course Outcomes Guide

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Directions: Please complete this form to document your progress toward improving student learning. For each item, indicate your progress and your anticipated next steps. Thank you!

Course/Program Title: **CHM 107**   **Date: June 2017**
                                            Kitchen Chemistry

Course/Program Team: **Nancy Thorpe**

Expected Learning Outcomes
   1. Identify and apply the fundamental concepts and methods of chemistry while exploring the chemistry of cooking.
   2. Organize and evaluate numerical measurements using dimensional analysis to setup and solve problems.
   3. Communicate chemical information using chemical nomenclature, formulas, equations, and proper writing skills.
   4. Use technology to make laboratory measurements and analyze and present data.
   5. Work collaboratively with others to accomplish a task.
   6. Access, process, analyze and synthesize scientific information.

Assessment (How do or will students demonstrate achievement of each outcome? Please attach a copy of your assessment electronically.)
   1. Regular exams with combination of multiple-choice, short answer, problem solving and essay.
   2. Online homework assignments.
   3. Cooking projects using the scientific method with a grading rubric.
   4. Written laboratory reports with a grading rubric.
   5. Written laboratory mid-term and final exams.
   6. Written final exam.

Validation (What methods have you used or will you use to validate your assessment?)
This was the first year this course was taught so there is not much to compare to. I will look for data from similar courses taught elsewhere for a comparison. One thing to consider for the future is using and ACS exam for the final exam.

Results (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)
The scores for the final exam and the course for the Fall and Spring semesters seem to be consistent. The course is too new to determine any true results. Our weakest areas seem to be in problem-solving, the use of dimensional analysis, chemical nomenclature, and equation writing.

Follow Up: (How have you used or how will you use the data to improve student learning?)
The general education assessment was used for this course. The results are fairly consistent with our CHM101 student scores. It is too soon for collecting data to make an analysis now.
The use of an online laboratory instead of a regular working laboratory is being considered for this course.

Budget Justification (What resources are necessary to improve student learning?)
Possibly using ACS exams in the future.

Science Gen Ed Course __ CHM107 – Kitchen Chemistry

General Education Outcomes for Science	Explain how your course achieves each outcome
Relate a basic core of scientific principles to an open-ended framework	Problem-based homework assignments Problem solving on exams Common final exam Inquiry-based group work Cooking projects
Demonstrate observational and analytical skills in a structured situation	Problem-based homework assignments Various worksheets Inquiry-based group work Quiz and test questions for both lecture and laboratory Laboratory work Final exam Cooking projects
Formulate conclusions based on observations and information	Written laboratory report with post lab questions Inquiry-based group work reports Quiz and exam questions for both lecture and laboratory Various worksheets Cooking projects
Use technology to access scientific information, generate and analyze empirical data, and solve problems	Use of Moodle for course assignments On-line homework system Use of various websites for gathering information or practice Graphing Use of various electronic equipment in laboratory, such as balances and spectrophotometers

Course: CHM 107   SLOA Data   Faculty Team: N. Thorpe

	FA 2016	SP 2017	FA 2017	SP 2018	FA 2018	SP 2019
# Active students	10	10				
%W						
*% walk-away Fs No final exam/grade = F	0	20				
% Success (A,B,C)						
Mean Lab Score	80.1	65.6				
Common Comprehensive Final Exam Score	74.4	73.7				
Gen Ed Assessment	73.3	76.3				
Item Analysis **Weakest Content Areas**						

*% Walk-away Fs = Did not take the final exam and received a grade of F.

Content Areas