



Program: BS in Chemistry	Completed By: David W. Ball
Department: Chemistry	Date: May 31, 2007/Revised June 1, 2007

Goal 1: Provide students with a sound background in the core areas of chemistry

Outcomes	Research Methods	Findings	Review	Actions
Performance in standardized exams compiled by the American Chemical Society Examinations Institute	Instructors of terminal courses of sequence courses are required to administer a nationally-researched standardized examination for comparison to national norms.	See Attachment 1.		Faculty receive copies of the attached table with a cover memorandum expressing concern about our students' performance versus the national norm, where necessary.



Goal 2: Students should have effective oral and written communication skills in the discipline.				
Outcomes	Research Methods	Findings	Review	Actions
Performance in Student Colloquium, CHM 472, is used as a measure of students' oral communication skills.	Students of the course are evaluated using a rubric developed by the instructor. The rubrics used for CHM 472 are given in Attachment 2. Students have the opportunity to give a second oral presentation, based on feedback on previous performance.	Grades ranged from A – B, suggesting that the students performed well based on the given rubrics. See Attachment 2 for rubrics.		Recommend continuation of present process.
Performance in Physical Chemistry Lab, CHM 466 and 467; Instrumental Analysis Lab, CHM 416; and Chemical Information, CHM 401, are used as a measure of students' written communication skills.	Instructors of the courses judge the quality of the students' writing samples and provide feedback, as per requirements for WAC courses.	Physical Chemistry Lab I (CHM 466) was not offered this academic year.		The Associate Chair (Undergraduate) is working with instructor(s) of CHM 466/467 to ensure that the requirements for WAC courses, including appropriate emphasis on writing, are met.



Cleveland State University

Attachment 1: Comparison of Standardized Exam Scores for CSU Courses, National Average

Course	CSU Exam Average (Instructor initials)	National Average*
CHM 261 Gen. Chem. I	28.6 (SD) 32.2 (SD) 36.3 (JJM) 40.7 (DB)	41.2
CHM 262 Gen. Chem. II	30.2 (VG) 35.7 (SS) 29.0 (SD) 31.4 (JJM) 35.3 (YX) 34.1 (JS) 33.9 (DB)	40.7
CHM 322 P. Chem. II	20.9 (VG)	30.4
CHM 331 Org. Chem. I	29.0 (RS)	not normed yet
CHM 332 Org. Chem. II	31.4 (TK) 36.6 (TK) 28.4 (XLS) 37.0 (JM)	38.5
CHM 402 Biochemistry	28.8 (MK)	35.4
CHM 411 Inorg. Chem.	not administered	

*Available from the ACS Examinations Institute.



Peer Evaluation of Presentations

Attachment 2: Rubric for assessing oral communication skills in CHM 472.

I. Materials

A. *Organization*

1. Amount of materials
2. Interesting?
3. Good opening?
4. Good conclusion?

B. *Visual aids*

1. Legible?
2. Color
3. Understandable?
4. Spelling

II. Presentation

A. *Diction*

1. Voice level
2. Emphasis (not monotonous)
3. Pronunciation

B. *Eye contact*

C. *Body language*

D. *Gestures*

E. *Duration*

F. *Clarity*

G. *Position of Speaker*

H. *Rapport with Audience*

I. *Personality*