

Core Assessment Reporting Form

Core Component Group: Natural Sciences

Department: Geography

Courses: GEOL 1610, GEOG 1710, ARCH 2800

Sections: All

Year: See attached pages

Exemplary Objectives for this Component Group	Outcome Measures (Measures of achievement of exemplary educational objectives. How did you measure performance on the exemplary objectives?)	Results (What do outcome measures show about the extent to which students are achieving exemplary educational objectives?)	Improvement (How will outcome results be used to improve student performance on the exemplary objectives?)
<p>1. To understand and apply method and appropriate technology to the study of natural sciences.</p> <p>2. To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.</p> <p>3. To identify and recognize the differences among competing scientific theories.</p>	<p>Through a series of meetings with the Science Assessment Subcommittee, we developed a set of essay questions addressing the exemplary objectives. Each semester we give these questions, closed book and closed notes, in all laboratory sections of GEOL 1610, GEOG 1710, and ARCH 2800.</p> <p>Lab instructors score the essay questions, typically on an integer scale of 1 to 3, using the following criteria: 3 = completely right, or missing something minor; 2 = right idea, but missing something important; 1 = wrong idea, but said something remotely relevant; 0 = left it blank, or answer was completely irrelevant.</p>	<p>The attached pages show some of the data, in the form of percent of students passing each question, that we have collected to date for the above courses. "Passing" implies a student got at least 60% of a question correct (that is, at least 2 points on a 3-point question).</p> <p>The data suggest that most of our students are grasping the exemplary educational objectives, with some room for improvement. On average, 86 % of students pass each question in GEOL 1610, 86% in GEOG 1710, and 81% in ARCH 2800.</p> <p>On the first trial in GEOL 1610, we lumped the scores for all</p>	<p>We revise lecture and lab curricula to emphasize areas with deficient student performance. For example, scores on Question E in GEOL 1610 and Question B in ARCH 2800 have been low relative to other questions in those courses.</p> <p>To address these trends, we are putting more emphasis on the role of technology in geologic discoveries, and how past archaeological studies have employed the scientific method.</p> <p>Scores were relatively high in the initial semester of measurement for our trial course, GEOL 1610. We believe there was a tendency to "teach to the test" early on.</p>

<p>4. To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values and public policies.</p>	<p>For each question, lab instructors provide a complete breakdown of scores to the appropriate faculty coordinator (GEOL 1610 = Hudak; GEOG 1710 = Williams; ARCH 2800 = Nagaoka). The faculty coordinator evaluates the data to determine the extent to which students are mastering the exemplary objectives. Faculty coordinators oversee the lecture and lab content of each course.</p>	<p>questions answered by each student into a composite score. However, the composite score didn't flesh out which specific objectives were not being learned. Thus in future semesters, we tabulated results for each question separately.</p>	<p>We have addressed this problem by weaving the exemplary objectives throughout the lecture and lab curricula. Thus, we revisit the objectives in different contexts through the duration of a semester.</p>
<p>5. To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.</p>	<p>Each semester, the sum total content of the essays given in a course cover at least three of the five exemplary objectives (per instructions given to the Science Assessment Subcommittee) and generally cover more than three.</p>		<p>We have experienced some minor problems with inconsistencies in scoring among lab instructors. Not everyone scores with the same rigor. To correct this problem, we intend to use example responses for practice scoring to work out inconsistencies.</p>