Central Washington University
Assessment of Student Learning
Department and Program Report

Please enter the appropriate information concerning your student learning assessment activities for this year.

Academic Year of Report: 2014/2015   College: College of the Sciences
Department: Geography   Program: Bachelor of Science

1. What student learning outcomes were assessed this year, and why?

In answering this question, please identify the specific student learning outcomes you assessed this year, reasons for assessing these outcomes, with the outcomes written in clear, measurable terms, and note how the outcomes are linked to department, college and university mission and goals.

We assessed six learning outcomes that are related to department and college goals and the themes of the university’s mission as indicated by the table below.

<table>
<thead>
<tr>
<th>Student Learning Outcomes (performance, knowledge, attitudes)</th>
<th>Related Program/Departmental Goals</th>
<th>Related College Goals</th>
<th>Related University Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students will demonstrate improved familiarity with the basic geography of the Earth, especially the distribution of countries, major cities, and key physical features.</td>
<td>1. Improve the ability of our students to observe and interpret the world around them in terms of its physical and cultural landscapes, and to articulate the powerful concept of place that is operative at many scales, from the local to the global.</td>
<td>I. Provide for an outstanding academic and student experience in the College of the Sciences.</td>
<td>I. Maintain and strengthen outstanding academic and student life…</td>
</tr>
<tr>
<td>2. Students will demonstrate improved familiarity with the discipline’s vocabulary, concepts and themes.</td>
<td>1. Improve the ability of our students to observe and interpret the world around them in terms of its physical and cultural landscapes, and to articulate the powerful concept of place that is operative at many scales, from the local to the global.</td>
<td>I. Provide for an outstanding academic and student experience in the College of the Sciences.</td>
<td>I. Maintain and strengthen outstanding academic and student life…</td>
</tr>
<tr>
<td>3. Students will be effectively prepared by the Department of Geography for future careers.</td>
<td>3. Provide students with the knowledge, skills, and attitudes to be successful in their chosen fields.</td>
<td>I. Provide for outstanding academic… experience…</td>
<td>I. Maintain and strengthen outstanding academic and student life …</td>
</tr>
<tr>
<td>4. Students will be able to effectively integrate ideas and information from human geography, physical geography, resource geography, regional geography, and techniques courses.</td>
<td>4. Maintain a teaching-learning facility and major program of study that expresses the integrative, synthesizing character of geography as a discipline.</td>
<td>I. Provide for outstanding academic… experience in the College of the Sciences.</td>
<td>I. Maintain and strengthen outstanding academic and student life …</td>
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<tr>
<td>5. Students will demonstrate a high level of understanding of the field techniques, laboratory</td>
<td>5. Augment regional expertise in scientific knowledge of earth systems and the relationships of</td>
<td>I. Provide for an outstanding academic and student experience in the College of the Sciences.</td>
<td>I. Maintain and strengthen outstanding academic and student life…</td>
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</tbody>
</table>
processing methods, and the interpretation and analysis of data required in applied approaches to environmental and resource geography.

| 6. Students will demonstrate a high level of knowledge concerning the application and interpretation of geotechniques including Geographic Information Systems (GIS), remote sensing systems, and/or quantitative methods. | 5. Augment regional expertise in scientific approaches to the development and application of geographic information systems, remote sensing, and other geotechniques. | V. Achieve regional and national prominence for the university. |

2. How were they assessed?

In answering these questions, please concisely describe the specific methods used in assessing student learning. Please also specify the population assessed, when the assessment took place, and the standard of mastery (criterion) against which you will compare your assessment results. If appropriate, please list survey or questionnaire response rate from total population.

A) What methods were used?

We mainly used our Capstone course, Geography 489, to assess these learning outcomes. All majors must take Geography 489 either in Fall or in Spring and usually do so in one of their final quarters on campus. As taught in AY14/15, the course included several elements well-suited for program assessment including:

Element 1. COMPREHENSIVE EXAM
At the end of the quarter, every student took an objective-type exam evaluating mastery of the core material in the five categories of introductory geography, as presented in the five foundation courses (GEOG 101 – World Regional Geography, 107 – Introduction to Physical Geography, 108 – Introduction to Human Geography, 203 – Maps & Cartography, and 250 – Natural Resource Conservation). The exam also covered the material presented in Geography 489.

Element 2. SELF ASSESSMENT ESSAY
A six-page assessment of the student’s individual program of study and what he or she did or did not get out of it. The first five pages corresponded more or less to each of the five required subfields of the major, and titled as such: Regional Geography; Physical Geography; Human Geography; Resource Geography; and Techniques in Geography. The last page provided the student’s overall assessment of the major.

Element 3. FIELD TRIP
The course included a field trip during which the students gave brief oral presentations with posters highlighting elements of the human, physical, and resource geography of Central Washington. The students selected the destinations so that they would complement one another and then did research in advance of presenting each site’s features and significance.

Element 4. EXIT INTERVIEW
Each student met with the Capstone instructor for an exit interview. The 15-20 minute exit interview had two main parts: first, a mock interview for a job or graduate school to which the student could
reasonably apply and second, a discussion of the student's experiences in the program. Each student brought to the meeting a hard copy printout of an actual job advertisement of graduate program description, along with a letter of application, and his or her résumé.

In addition to assessing Capstone students, we also tracked student performance in certain upper-level undergraduate courses to assess items 5 and 6 in the table above.

**B) Who was assessed?**

A total of 21 students took 489 Capstone in AY14/15, including 7 pursuing the Bachelor of Science. Additionally, all declared majors pursuing one of the two Bachelor of Science specializations were tracked in terms of grade performance in core courses and culminating experiences.

**C) When was it assessed?**

Geography 489 is a required course for all Geography majors and is taught twice a year (Fall and Spring). The specialization core courses taken by BS students are offered in every main quarter (Fall, Winter, and Spring). The culminating experience courses (GEOG 490 – Internship, GEOG 494 – Field Experience, or GEOG 496 – Independent Student for Environmental & Resource Geography specialization students; GEOG 417 – Advanced GIS for Geographic Information Science specialization students) are normally offered in Spring.

**3. What was learned?**

In answering this question, please report results in specific qualitative or quantitative terms, with the results linked to the outcomes you assessed, and compared to the standard of mastery (criterion) you noted above. Please also include a concise interpretation or analysis of the results.

The standard of mastery and results for each of the six learning outcomes are provided in the table below. The results are interpreted in the narrative following the table.

<table>
<thead>
<tr>
<th>Student Learning Outcomes (performance, knowledge, attitudes)</th>
<th>Standard of Mastery/Criterion of Achievement (How good does performance have to be?)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students will demonstrate improved familiarity with the basic geography of the Earth, especially the distribution of countries, major cities, and key physical features.</td>
<td><strong>Entrance</strong>: No standard of mastery for performance – testing at major entrance used to establish baseline for later assessment. <strong>Exit</strong>: Average student performance on the mapping section of the exam will be a score of 70% and at least 25 percentage points higher than the average score of students at admission to the major.</td>
<td>We did not begin implementing testing at major declaration until the current academic year. Among students pursuing the BS, the average score on the map section of exams administered in Fall 2014 and Spring 2015 was 70.6%.</td>
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<tr>
<td>2. Students will demonstrate improved familiarity with the discipline’s vocabulary, concepts and themes.</td>
<td><strong>Entrance</strong>: No standard of mastery for performance – testing at major entrance used to establish baseline for later assessment.</td>
<td>We did not begin implementing testing at major declaration until the current academic year.</td>
</tr>
</tbody>
</table>
Exit: Average student performance on the multiple choice conceptual section of the exam will be a score of 70% and at least 25 percentage points higher than the average score of students at admission to the major.

Among students pursuing the BS, the average score on the multiple choice section of exams administered in Fall 2014 and Spring 2015 was 71.2%.

### 3. Students will be effectively prepared by the Department of Geography for future careers.

Exit: At least 80 percent of students in Capstone will produce resumes that highlight at least 3 specific ways (specific courses, internships, significant assignments, skills learned during Geography coursework) in which their curriculum in Geography has prepared them their chosen careers.

Among the students pursuing the BS, approximately 86% had resumes that met the stated criterion.

### 4. Students will be able to effectively integrate ideas and information from human geography, physical geography, resource geography, regional geography, and techniques courses.

Exit: At least 80 percent of students will receive a score of 70% or better on the field trip/poster assignment.

Among the students pursuing the BS, 100% met the criterion.

### 5. Students will demonstrate a high level of understanding of the field techniques, laboratory processing methods, and the interpretation and analysis of data required in applied approaches to environmental and resource geography

Mid-career: At least 80 percent of students pursuing the Environment & Resource Geography specialization receive a grade of B or better in each specialization core course

Exit: At least 80 percent of students pursuing the Environment & Resource Geography specialization will receive a grade of B or better for the culminating experience project/assignment.

Among the students pursuing the BS ERG specialization, 54 percent met the stated criterion.

Among graduating students pursuing the BS ERG specialization, 100 percent met the stated criterion.

### 6. Students will demonstrate a high level of knowledge concerning the application and interpretation of geotechniques including Geographic Information Systems (GIS), remote sensing systems, and/or quantitative methods.

Mid-career: At least 80 percent of students pursuing the GIS specialization receive a grade of B or better in each specialization core course

Exit: At least 80 percent of students pursuing the GIS specialization will receive a grade of B or better for the culminating experience project/assignment.

Among the students pursuing the BS GIS specialization, 52 percent met the stated criterion.

Among graduating students pursuing the BS ERG specialization, 75 percent met the stated criterion. One student took a hardship withdrawal.

The results of the assessments conducted in Geography 489 in AY14/15 were broadly encouraging, though there are certainly areas where the department needs to do more. Generally, students displayed good communication (verbal and written) especially in the field trip/poster assignment, but fared much less well in demonstrating mastery of the material presented in core Geography courses.

The Geography Comprehensive Exam, developed in Spring 2013, synthesizes questions submitted by faculty across the department and reflects our consensus view of what students should know upon graduation. In AY14/15 the exam was modified in several ways, including the addition of a new section to better gauge student familiarity with the key features of the world’s physical geography. Students pursuing the BS had just over a 70 percent average on the expanded map section and about the same
average on the (also expanded) multiple choice section. Because the content of the exam was only stabilized in AY14/15, we did not begin administering the exam to newly declared majors (to get a baseline for evaluating the efficacy of our program) last year.

The Field Trip/Poster assignment showed that students generally have a good ability to prepare concise, well-designed posters and to present the results of their research in the field. Stops in the Fall 2014 Capstone Field Trip included Olmstead Place State Park (history of the farm, role in tourism), Twin City Foods (sourcing of raw materials, production, and markets for outputs), Wild Horse Renewable Energy Center (wind farm development and impacts), the Wildhorse Monument on I-90 (history, significance), and Wilson Creek at the fairgrounds (the creek’s physical features, historic and contemporary economic importance). Stops in the Spring 2015 Capstone Field Trip included the Anderson Hay & Grain plant (geography of hay sourcing and exports), the Northern Pacific Railroad depot in Ellensburg (history and efforts at redevelopment), Yakima Canyon (geomorphology, recreation & tourism), and the Yakima Training Center (history, ecology). The presentations at these sites were generally better than those of previous years, especially in the efficacy with which students integrated both human and physical geography dimensions of the selected sites.

Last year was the first in which we evaluated Capstone student resumes (to look for at least three ways in which students plan to draw on their geography backgrounds as they prepare to move on to the next stage of their careers). More than 80 percent of BS students had resumes in which Geography courses, the GIS certificate, geography-related internships, etc. were prominent among their qualifications. This share was substantially better than for students pursuing the BA.

4. What will the department or program do as a result of that information?
In answering this question, please note specific changes to your program as they affect student learning, and as they are related to results from the assessment process. If no changes are planned, please describe why no changes are needed. In addition, how will the department report the results and changes to internal and external constituents (e.g., advisory groups, newsletters, forums, etc.).

The results of the Comprehensive Exam, including the question-by-question performance figures, will be shared with all faculty members in the department so that those who teach in the relevant areas can adjust their instruction as appropriate to ensure that important material is well-covered.

We will continue to work on developing internship opportunities and other means of augmenting co-curricular/extra-curricular opportunities for our students.

We will provide a summary of the assessment results in the newsletter posted on our department website.

Last year was the first in which we assess BS students based on grades in particular courses. I subsequently learned that grades are viewed as a poor metric for program assessment and I can see why. The low scores that some BS students received in core courses (e.g., GEOG 309 – Quantitative Methods in Geography, which I taught in Winter 2015) were justified and reflect the rigor of our program. In the future, we will likely remove this criterion.
5. **What did the department or program do in response to last year’s assessment information?**

In answering this question, please describe any changes that have been made to improve student learning based on previous assessment results. Please also discuss any changes you have made to your assessment plan or assessment methods.

We have submitted curriculum changes including a bolstered introductory human geography course (formerly GEOG 108 Introduction to Human Geography; proposed change to GEOG 208 Our Human World) and a strengthened cartography/GIS sequence. These changes should address, respectively, some of the weakness observed in results on the Geography Comprehensive Exam and the lack of geography-related details in some students’ resumes.

We further improved the content and design of the Geography Comprehensive Exam. Now we are ready to begin requiring all newly declared majors to take the same test so that we can better determine how well our program is working.

6. **Questions or suggestions concerning Assessment of Student Learning at Central Washington University:**

None.