Proposal
Geog 100 Intro Physical Geography
Honors Lecture/Lab Hybrid
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Background/Primary Learning Outcome

Geog 100 is a survey course in physical geography. The overarching learning outcome is for students to better understand climate, ecosystems and landforms across the globe and why we see the patterns we do. For example, why are major deserts and rainforests located where they are? Why is the Midwestern U.S. suitable for large scale agriculture but New England is not? Why is the west coast of North America susceptible to earthquakes and not the east coast? To accomplish the primary learning outcome, The course covers concepts related to mapping the earth, the “why” behind temperature and precipitation patterns across the globe (which includes concepts of earth/sun relationships, meteorology and circulation of the atmosphere and ocean), the water and energy cycle, biogeography (the study of the distribution of organisms across the globe), and the basics of tectonic, glacial and erosional processes that sculpt the earth’s surface. In the last 10 years, the course has also included concepts related to climate change.

Proposed Hybrid Arrangement and Content

Geog 100 is a three-credit lecture course. Students register for the accompanying one-credit lab (Geog 100L) separately, but the lab material is designed to provide hands-on and more in-depth experience with some of the particularly important concepts from the lecture section.

Each semester, we offer both an on-line section and a classroom section of the lecture course. The classroom section typically has an enrollment of 120-140 students and is taught by either a tenure-track faculty member, instructor or ABD Ph.D. student. We offer 11-12 lab sections each semester, taught by graduate teaching assistants.

We propose a somewhat experimental hybrid arrangement for the Honors section of Geog 100/Geog 100L. Our proposal is that students in the honors lecture session meet with the regular lecture session and take the same exams as the students in the regular section. However, they would be required to also register for a special Honors section of Geog 100L, to be taught by a combination of a tenure track faculty member and a senior instructor. This will provide a 2-hour time period each week in which students interact in a small group setting with a highly knowledgeable instructor.

The lab meeting time will be used to augment and enhance the material in both the lecture and the lab section. In the small group setting, students will be challenged to engage with the combination of the lecture and lab material in different ways than are required in the regular lab and lecture sections. Several of the activities organized in this meeting time will contribute toward students’ grades in the Honors lecture section and some will contribute to their grades in the Honors lab section.
An example of an additional project that will be guided and supervised in the lab meeting time but will contribute toward the students’ grades in the lecture include:

Engaging in an individual, semester-long project focusing on a specific region of the U.S. or other part of the world. As different concepts are presented throughout the semester, the students would apply those concepts to quantify some characteristics of and better understand their selected region. These would include:

- the temperature and precipitation patterns the region and why they are the way they are
- the native vegetation in the region
- the impact of humans in the region, including changes in land cover, as evidenced from satellite images and other sources
- ways in which climate change is expected to impact the region
- major landforms and why they are there
- the ways in which physical geography impacts the culture and livelihoods of people in the region

In Geography this is known as a regional analysis. By focusing on one region of their own choosing throughout the semester, students will have more opportunity to synthesize the material presented and have a deeper understanding of the interaction among different factors. At the end of the semester, the pieces they have been working on (and receiving feedback on) throughout the semester would be assembled into a final synthesis report. One of our senior instructors has had experience leading/guiding this type of project for Geog 100 students.

In addition to the semester-long regional analysis, students will be challenged to engaging with and synthesize the concepts covered in the lecture and lab material in the context of complex decision-making. General education in the sciences in often done with the motivation that it is important to have an educated citizenry that can make balanced and thoughtful decisions on increasingly complex and technical issues. Yet our GenEd courses often involve simply delivering certain traditional concepts. In this part of the Honors experience, our goal will be to encourage students to thoughtfully “connect the dots” between content and complex, real-world issues. This would be done via guided discussion in the second hour of the lab, and possibly independent research and opportunities for written and oral presentation of results. In addition to the primary instructors, other faculty in the department would be brought in for topics that pertain to their area of research expertise. Some examples of discussion and research questions that would foster this type of thinking include:

- How will climate change impact the water cycle in the Pacific Northwest? What are the ramifications of these impacts in terms of water availability at different times of the year? How might this impact people and communities?
- Imagine you are in charge of a planning a special operations task in Iraq, Afghanistan or Pakistan. What will the climate be like at different times of the year. Why? What will the vegetation and landforms be like? Why? How would these factors impact your mission planning?
- The concepts learned in this class help one to understand why different types of renewable energy are more viable in some areas than others. Examine the western U.S. for example. Which types of renewable energy are most viable where, and why? How does geography impact the siting of facilities and transmission of energy from one place to another?