**The University of Washington Bothell Programs Relevant to Geoscience and Sustainability**

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Students at UW Bothell (UWB) looking for exposure to the geosciences and sustainability will find that most of the relevant courses, service learning, and research experiences are offered by the [School of Interdisciplinary Arts and Sciences](http://www.uwb.edu/ias) (IAS). IAS has a remarkably diverse faculty, 10 undergraduate degrees, and 3 Masters degrees. The IAS mission statement can be seen in the sidebar below. I was hired in 2006 to help design and deliver two new degrees – the [BA in Environmental Studies](http://www.uwb.edu/environmentalstudies) and the [BS in Environmental Science](http://www.uwb.edu/environmentalscience).

Building on the strengths of the faculty, we defined two tracks in both the BA Environmental Studies and BS in Environmental Science. Environmental Studies features tracks in Sustainability and Society and Conservation Science and Management. Environmental Science features tracks in Earth System Sciences and Conservation and Restoration Ecology.

The IAS Mission Statement [excerpt]

Interdisciplinary Arts and Sciences provides a rigorous liberal arts education that draws connections across academic disciplines and links classroom learning to practical experience across diverse fields.  As a faculty and staff, we inspire our students to engage creatively and ethically with the concerns of the region and the world.  We dedicate ourselves to integrative research, innovative and effective pedagogy, and dynamic curricula that prepare students for careers and lives in complex and changing environments.

Both degrees are designed for students who want to act critically and creatively in response to the environmental challenges facing the world today. Environmental Studies is more broadly interdisciplinary, teaching our students to integrate environmental knowledge across the natural and social sciences, as well as the arts and humanities.

Graduating Environmental Studies students develop careers in management, planning, advocacy, communications, and policy-making across a wide array of for-profit and not-for-profit organizations. They also pursue disciplinary and interdisciplinary graduate education in environmental fields that range across the arts, humanities, and social and natural sciences. Our Environmental Science graduates are best prepared to pursue jobs or graduate degrees related to restoration ecology, GIS, and water resource management.

Both degrees share several common pre-requisites and core requirements and curricular management is done by the same group of faculty. We get along quite well, share similar pedagogical philosophies, and are all very dedicated to teaching.

The design of our environmental degrees and our course offerings reflect the fact that most of our undergraduates transfer to UWB for their junior and senior years. Because we cannot assume students will be with us from their freshman year, and because most of the students work full time and have challenging scheduling constraints, *and* because of our culture of interdisciplinarity, we don’t have much in the way of “vertical scaffolding” in our environmental degrees. We offer relatively few 100 and 200 level courses in the geosciences or sustainability. All of our courses are open to students outside of our environmental majors and many of them are popular electives. Furthermore, even our majors don’t tend to march through a series of courses in a prescribed or desired order. As a consequence, our students come into our classes with a wide range of preparation and experiences. This, of course, can be a source of frustration when you are trying to develop some expertise in a knowledge area or set of skills. Fortunately, this drawback is countered by the fact that we generally have great students at UWB.

IAS offers an impressive array of sustainability focused and sustainability relevant courses, but they are not all taught by the full time, tenure track faculty. The diversity of instructors teaching these courses is great, but the courses are poorly coordinated. As the main instigator of curricular revision for the Sustainability and Society track of the Environmental Studies major, I am pushing for a curriculum built around a better defined set of [big ideas, learning outcomes, skills, and habits of mind](http://faculty.washington.edu/rturner1/Sustainability/Big_Ideas01.htm) rather than one built around the interests of a shifting faculty. My association with the [Curriculum for the Bioregion](http://www.evergreen.edu/washcenter/project.asp?pid=62) initiative has greatly influenced my thinking along these lines.

In IAS and our environmental programs our geoscience offerings are far fewer than our sustainability offerings. This is because we only have 2 geoscientists teaching here. My colleague Santiago Lopez is an environmental geographer, while I have a MS in geology and a PhD in marine science. Rather than offer a wide range of earth science courses, I decided to offer a narrower series of related courses that could give students some expertise in hydrogeology and water quality. In order to give our students critical field and laboratory experiences, I offer two different 2 credit field methods courses and two other 5 credit courses that meet once a week for 4 or 5 hours.

I feel good about our earth science offerings, but it is clear to everyone that we need to do more hiring to enhance the depth and breadth of our Earth System Science track of the Environmental Science degree and provide more geoscience learning opportunities for all IAS students. In the meantime, we are considering changes to the degree requirements to offer greater flexibility for our students.

Despite our challenges, our positives far outweigh our negatives. The faculty is innovative and inspiring, the students are energetic, our facilities are good, and our administration and staff are supportive. We engage as many students as we can in research, often in collaboration with community partners. I spent this afternoon with my students making measurements around a beaver dam on campus, so I’d say we have it pretty good here.