

Winona State University  
Geoscience Department  
Submitted by: Cathy Summa

WSU Geoscience: Not your average B.S.

Winona State University (WSU) is one of seven four-year universities within the Minnesota State College and University (MnSCU) system. WSU was founded in 1858 as the first normal school west of the Mississippi and is still recognized regionally for its teacher-preparation programs. WSU is a comprehensive college offering a traditional liberal-arts based curriculum to slightly over 8,000 full-time undergraduate students. WSU also offers small graduate programs in nursing, education, and English. WSU students come primarily from the Minnesota-Wisconsin area. Nearly 70% of the student body is female, and close to 60% of the student body are first-generation college students. Ethnic diversity is minimal.

The Geoscience Department is the smallest department (by faculty numbers) in the College of Science and Engineering. We are a faculty of four (two tenured – one male professor, one female associate; two untenured male assistant professors). Despite our small faculty, we serve more than 60 majors and about 10 minors. We offer four different degree paths within the major: a B.S. in traditional geology; a B.S. in environmental geoscience (an interdisciplinary program with Biology and Chemistry); a B.S. in Earth Science teaching (leading to licensure at grades 5-12); and a B.A. in geoscience. The B.A. track requires that students complete a minor or double major in another field and connect that field to geoscience via an internship or research project. All tracks except the traditional geology track require that students complete some type of independent research. Students in this track are strongly encouraged, through the advising process, to pursue research.

In fall 2004, the natural science departments in the college moved into a new laboratory facility which provided greatly increased space (although still below national averages) and, for the first time, dedicated space for student-faculty research. Faculty teach relatively heavy loads – 12 hours/semester – and are expected to supervise student research in addition to their teaching load. In addition to serving our majors, we teach large numbers of general-education students, and carry the second highest load within the college in this regard (behind only Biology, which has 13 full-time faculty).

In terms of departmental success, I can identify several things. Most importantly, it is the collection of activities that make us successful – no one of these alone would do the job for us at this institution:

- 1) Our ability to hire two new positions at the same time. We had lost one member of the department to the Dean's office and had a series of one-year appointments to fill that position for four years. When the senior member of the department announced he would retire, we were able to convince our administration to hire both positions. We attended the national GSA meeting for recruiting purposes and used that opportunity to sell the department on the new building and incredible opportunity to be a part of a "new" department. We were fortunate to hire two quality faculty, who share our commitment to a field-based curriculum.
- 2) We brought in an outside consultant (Heather Macdonald) to help us work through identifying departmental goals and curriculum revision toward the end of the first year of having our new faculty join the department. Although the senior members of the department knew we needed to redesign our programs, we wanted to be certain to include our newly hired colleagues, so we postponed that planning until they joined us. Bringing an external consultant to facilitate the process eased what might have otherwise been perceived as sticky or difficult points during the process. We have continued to make progress toward our mutually identified goals.
- 3) We work hard to make geoscience a visible part of a liberal-arts curriculum, making the department important to more than just generating FTE. We are actively involved in interdisciplinary offerings across campus. Project highlights include a long-term travel-study program to Costa Rica, in which students from Marketing, Tourism and Geoscience are collaborating to research and design a sustainable tourism plan for residents of a small beach community; we are designing a program in Ecuador, in which students will study the historical migration of communities in relation to natural disasters; we team teach a sequence of courses for elementary education majors that integrate topics in the natural sciences around

environmental issues; and we collaborate with colleagues in the dance program to design pieces based upon the geologic parameters of fluvial systems (focusing on the Mississippi River). Our courses are required in major programs across campus, including Environmental Science (Biology and Chemistry), Global Studies, Law and Society, Recreation, and Elementary Education. We have worked with colleagues in disciplines outside the College of Science to develop courses that meet the needs of their programs and that also satisfy general education requirements. In addition to academic programs, we have been very active and visible in university committee and political work. This gives us broad representation and, most importantly, builds awareness of campus politics so that we are able to respond in ways that consider more than departmental or even college positions.

- 4) We actively recruit students to the program and have designed our curriculum to allow students greater flexibility to connect geoscience to other disciplines that interest them. Our departmental advertising slogan is "WSU Geoscience: Not Your Average B.S." We engage with middle- and high-school students, classes and teachers whenever the opportunities arise, and encourage groups to visit our facilities.
- 5) We enjoy strong administrative support for our work. As our new facility was being designed, we were able to position ourselves prominently in high-traffic areas because, in part, we have demonstrated our commitment to outreach and community education. In an area where the nearest science museum is 2.5 hours away, we take this role seriously and have worked to make our displays relevant and accessible to the non-scientist. Additionally, we positioned ourselves to anticipate opportunity and are ready to respond rapidly when they arise. It probably doesn't hurt that both the College Dean and the University Academic Vice President are geologists by training, but we don't believe that factor alone accounts for our success. In fact, we often feel pressured (not by the administration) to over perform to make certain that there is no question of "favoritism".
- 6) We have worked to build strong community within the department. Our faculty group genuinely enjoys working together, we enjoy working with our students, and our students really enjoy one another. We have dedicated student collaborative workspace in the new facility, which is separate from the student research space. Our majors consider one another "family" and really look out for each other. The more seasoned students help guide the newer majors through the program. Like many geology departments, communal living on field trips helps foster this community, but we also actively work to bring that same camaraderie to the classroom and labs.