

Contact: Diana Gonzalez

**REQUEST FOR A NEW PROGRAM AT THE UNIVERSITY OF NORTHERN IOWA:
BACHELOR OF ARTS PROGRAM IN ENVIRONMENTAL SCIENCE**

Action Requested: Consider approval of the request by the University of Northern Iowa to establish a new Bachelor of Arts Program in Environmental Science in the College of Humanities, Arts, and Sciences.

Executive Summary: The proposed program will offer new opportunities for students to acquire skills and knowledge in the growing field of environmental science. This proposal was reviewed by the Board Office and the Council of Provosts and is recommended for approval. No concerns were raised when it was presented to the Iowa Coordinating Council for Post-High School Education. The proposed program addresses the Board of Regents Strategic Plan priorities to “provide educational excellence and impact as well as economic development and vitality” and Goal #8 – “Iowa’s public universities and special schools shall be increasingly efficient and productive.”

Background:

- ◇ **Description of program.** The proposed program will provide students with the tools necessary to assess and evaluate environmental issues in various capacities. There will be three emphasis areas, as well as general environmental studies, available to students. The three areas are air quality, hydrology, and geosciences. Each of these is also included in the general environmental track. Upon completion of the proposed program, students will be able to: (1) use the appropriate tools to measure the level of environmental hazards in the air, water, and/or land; (2) communicate environmental issues to the public and private sectors in a clear and concise method; (3) provide appropriate recommendations to the public and private sectors to address environmental issues; and (4) provide knowledge to the public and private sectors on environmental regulations and requirements.
- ◇ **Need for proposed program.** Both student and workforce demand for preparation in this field support the justification for the proposed program.
- ◇ **Relationship to existing programs at UNI.** The proposed program is not similar to any program currently available at the University. While it will make use of all courses currently available in the Earth Science undergraduate program, it will require environmental science content not required in the Earth Science program.
- ◇ **Duplication.** The proposed program is available at a number of institutions of higher education in the state, including Iowa State University, University of Iowa, Drake University, Grinnell College, William Penn University, and 13 others. The most significant difference between the proposed program and others in the state is its emphasis on a physical earth system, rather than the biological-physical interactions. Students in the proposed program will be required to take only one biology course because the proposed program will provide an emphasis on the physical environment.

The University of Iowa offers BA and BS programs in Environmental Sciences with four different tracks – Biosciences, Chemical Sciences, Geosciences, and Hydrosience. The tracks include biology courses as requirements and electives. There are no air quality programs at the undergraduate level and only a few courses on air quality studies in SUI's Environmental Engineering Program.

ISU offers a Bachelor of Science Program in Environmental Science through the College of Agriculture and Life Sciences and BS and BA Program in Environmental Science through the College of Liberal Arts and Sciences. ISU's program includes both biology and chemistry requirements and are centered on the human-environment interactions while the proposed program will be centered on earth science courses.

- ◇ Student demand. The Department of Earth Science has indicated increased student interest in environmental-based areas. The Office of Academic Advising has developed special advising materials directing students expressing interest in environmental sciences to Earth Science programs. One source of students is likely to be current Earth Science majors, as well as new students with an interest in geology or the environment. Students currently majoring in biology, chemistry, biochemistry, geography, or physics may be interested in adding the proposed program as a second major.
- ◇ Unique features. The Department of Earth Science currently includes courses, laboratories, research programs, and faculty with an emphasis on the environment. These factors make it possible to provide a program that allows students to study the quality of the earth, air, and water with the support necessary for individualized attention.
- ◇ Resources. The Department of Earth Science currently has five faculty members who will contribute to the program. A search for an Environmental Geologist to replace a position vacated by a resignation was successfully completed in Spring 2013. Current laboratory facilities include the Environmental Hydrology and Hydrogeology laboratory, STORM (Meteorology) facilities, and mineralogy laboratories in the department. Existing equipment includes a x-ray fluorescent system, petrographic microscopes, sonic detection and ranging equipment (SODAR), light detection and ranging equipment (LIDAR), temperature profiler, weather station, well-sites on campus, continuous stream flow monitoring equipment, and water quality field testing equipment.
- ◇ Cost. The University projects that no significant new funding will be required to implement the program. Coursework in the proposed program is currently being offered and other instructional resources are already available. Limited one-time costs will be incurred to revise communication material, such as websites, catalog, and information/advising sheets, and to develop new promotional materials. However, if the proposed program grows beyond the projected enrollment after seven years, a new faculty line will be requested from the University. The estimated cost would be \$70,000 in salary and fringe benefits for a new assistant professor.
- ◇ Projected enrollment. The projected enrollment is five students in Year 1, increasing to 20 students by Year 7. The department also anticipates up to five non-majors enrolled in coursework of the proposed program.

Workforce Need/Demand. The current estimates for employment of individuals in geosciences indicate growth at both the state and national levels. The U.S. Department of Labor Statistics has indicated that “employment of environmental scientists and specialists is expected to grow by 19% from 2010 to 2020 which is as fast as the average for all occupations. The Department of Iowa Workforce Development projects employment growth of 21% between 2008 and 2018 for environmental scientists and specialists.

Heightened public interest in the hazards facing the environment, as well as the increasing demands placed on the environment by population growth, is expected to spur demand for environmental scientists and specialists. Most employment growth for environmental scientists and specialists is projected to be in private consulting firms that help clients monitor and manage environmental concerns and comply with regulations.

- ◇ Articulation Agreements. It is likely that articulation agreements will be developed with the community colleges that offer associate degree programs in the field of environmental science, including Kirkwood Community College, North Iowa Area Community College, and Hawkeye Community College.
- ◇ Link to institutional strategic plan. The proposed program will support the following goals in UNI’s Strategic Plan: Identify, support, and promote undergraduate programs that raise the profile of the institution; provide broad-based education that inspires critical thinking, creativity, openness to new ideas, and student responsibility for their learning; expand the university culture of community-engagement to increase the depth and breadth of participation; increase community-based research and technology transfer; provide faculty and staff development to support service learning; and increase service-learning opportunities and community-engagement in existing UNI courses.
- ◇ Date of implementation. The proposed program will become effective upon approval by the Board of Regents and will be included in the University’s General Catalog. New students will be admitted for the entering class of Fall 2013.