

# Career Connections

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## Environmental Science

### OBJECTIVES OF THE PROGRAM

The Environmental Science Career Connections program will help to guide you in making intentional academic, extracurricular, and vocational choices so that you can test your interests in and begin to prepare for a career in environmental science while studying at Hanover College. Participation in the program will help you to become educated in environmental science and still optimize your education experience through a broad liberal arts perspective. This program is not prescriptive and was designed to help you plan your educational trajectory so that you can link academics and co-curricular activities with your personal career goals and objectives.

Environmental science is a very diverse field, and no one job description will accurately describe the typical responsibilities, training, and focus of all environmental scientists. An environmental scientist has an interest in natural resources and often has formal training in geology, biology, and/or chemistry. He or she may have various job titles such as wildlife biologist, soil conservationist, hydrogeologist, land manager, wildlife technician or manager, game warden, environmental biologist or geologist, ecologist, or environmental impact assessor. Regardless of title, job description, or training, all environmental scientists need to have a mastery of several essential skills: report writing, presenting ideas and data, working as a contributing team member, and the ability to analyze, interpret, and evaluate data. Career opportunities can be found in both the government and public sectors. Environmental scientists often enjoy the benefits of working outdoors and the satisfaction of learning about and helping to conserve, protect, and manage natural resources.

The course of preparation you choose will depend on your particular interests and aspirations. Discussion and planning with your academic advisor and your Career Connections advisor (along with utilization of the Hanover College Career Center) will help you to construct your individual plan.

### RECOMMENDATIONS

#### Exploring Options

When initially exploring the environmental science career path, discuss your interests with one or more of the environmental science Career Connections advisors (a list can be obtained from the Career Center). Also, take advantage of the many resources available at the Career Center. Take advantage of the many books, periodicals, and pamphlets related to jobs and internships in the Career Resource Library; and obtain a list of Hanover alumni currently working in the field. Alumni may be able to give you an insider's view of the field and serve as professional contacts for possible shadowing (watching a professional in action), volunteer, or internship opportunities. Additionally, the Internet is a rich source of environmental science information; the Career Center can help you with your search via their Internet databases.

## **Academics**

### ***Choosing Your Major***

There is no single major you should choose if you are interested in developing your education toward pursuing a career in environmental science because the field is so diverse. In general, many degree programs in the liberal arts would be helpful to your preparation by providing skills and experience with critical thinking and communication. However, with a major in biology, chemistry, or geology you will receive vital scientific background that is necessary for advanced study and/or most technical and research-oriented positions. No matter your chosen major, you should remember that natural “environments” consist of many interacting variables that are not limited to any one area of study. It may serve you well to include a minor in one or more related disciplines to compliment your major program of study (such as a major in geology and a minor in chemistry or biology). Environmental science includes many possible disciplines, so rather than worrying about choosing the “right” major, it will serve you better to choose the major in which you are most interested, and then pursue co-curricular experiences and classes that compliment your major and career goals. Also, designing your own major to achieve your academic and career goals is possible.

### ***Coursework***

There are a number of other disciplines at Hanover that offer courses that may interest you and that would supplement a background in the natural sciences. These courses should not be considered as requirements for the career program. Instead, depending on your motivations and aspirations, these may benefit your long-term goals. Look them over, discuss them with your advisor, and consider taking several that best suit your purposes.

One or more courses in Anthropology (including ANTH 221, World Ethnographies and ANTH 232, Native North American Cultures)

One or more Communications courses (such as COM 320, Persuasive Communication)

One or more Economics courses (especially ECO 221, Environmental Economics)

MAT 217, Applied Statistics

PHI 164, Philosophical Perspectives on Nature

PHI 320, Concepts of Nature

PLS 321, Natural Resources Policy

PIS 213, Introduction to Public Policy

Introductory Biology, Geology, and Chemistry courses (depending on your major)

Natural World Sequence with Biology, Geology, and Chemistry (depending on major)

Additional courses in Math and Computer Science

All students at Hanover College are required to complete an independent study in order to graduate. The independent study permits *you* to design and implement a long-term project. When designing your independent study, identify an advisor with whom you can work on a project that focuses on your individual environmental science interests. Also, take advantage of the various venues available for presenting and publishing your research. When developing your independent study, do not forget to utilize on-campus funding resources such as the Rivers Institute.

## **Co-Curricular Activities**

Participation in co-curricular activities is an essential part of the college experience. Through participation you will have the opportunity to develop and hone such skills as time

management, communication, and working in teams. Also, co-curricular activities will help you to learn more about your particular career path and how well it matches you.

### ***On-Campus Activities***

On-campus opportunities for involvement abound. For example, you can hone your leadership and people skills by participating in Greek-life activities, developing an environmental studies theme house, or by serving as an officer in a club or in student government. You can explore your academic interests outside of the classroom by joining clubs such as the Geology Club, Tri-Beta (biology club), American Chemical Society, or the Outdoor Club. On-campus volunteer opportunities such as campus beautification (e.g., landscape design or nature trail maintenance and development) may also help you develop your environmental science interests.

### ***Off-Campus Activities***

Volunteer work in the local community will not only challenge and satisfy you, but it will also provide you with skills and personal contacts that may help you attain your career goals. Volunteer opportunities can be explored through a variety of local avenues including Clifty Falls State Park, Big Oaks National Wildlife Refuge, Hardy Lake, local environmental organizations such as the Oak Heritage Conservancy and The Nature Conservancy, and through participating in local community events. Non-local volunteer opportunities can be explored through government agencies, organizations such as the Youth Conservation Corps, or through city, county, state, and national parks.

### **Work Experience**

Work experience in the environmental science field will help you to develop necessary skills and identify your talents and interests. Additionally, deliberately choosing jobs related to environmental science will help you to better understand the field in which you hope to enter.

### ***On-Campus Jobs***

Various on-campus job opportunities exist. For example, you could take an active part in a scientific study and gain valuable field and laboratory skills by serving as a faculty research assistant. You could develop your communication, organization, and time management skills by becoming a lab assistant, and develop leadership skills as a resident assistant. Other opportunities include working in the animal care facilities or greenhouse or serving as a departmental assistant.

### ***Related Summer Jobs***

There are numerous opportunities for career-related summer jobs, and the Career Center is an excellent place to begin searching. Employment opportunities can be found in the private sector, in city, county, state, and national park systems, in state agencies (Indiana Department of Natural Resources), and in federal agencies (U.S. Army Corps of Engineers, Environmental Protection Agency). Also, the Career Center can possibly link you with alumni in the environmental science field. In the Hanover area, you could work on campus as a research technician, or you could work at Clifty Falls or Big Oaks National Wildlife Refuge. Be sure to begin your search early to give yourself plenty of time to explore the many available opportunities and to allow yourself enough time to prepare applications and related materials such as essays.

### ***Internships***

Internships can be an ideal avenue to simultaneously gain work experience and obtain academic credit. Hanover students have interned at Hayes Regional Arboretum, Hardy Lake,

Big Oaks National Wildlife Refuge, the Indianapolis Zoo, and the Cincinnati Zoo. Internships can be pursued during the academic year (e.g., Philadelphia Center) or during the summer. Again, the Career Center has a wide range of resources available for finding internships that are ideal for your interests. Additionally, internships are available through the Rivers Institute at Hanover College. Please note that all internships do not have to count for academic credit.

## **Further Education and Training**

Certain professions will require the acquisition of particular skills, permits, or licenses. For example, obtaining GIS/GPS training, laboratory and field instrument training, or hazardous waste handling certification will make you more competitive for various careers, summer jobs, and internships. Talk to your Career Connections advisor regarding opportunities (e.g., workshops and conferences) that will enable you to earn certification or training.

## **Graduate School**

You may want to seriously consider preparing for graduate school within a particular discipline. A Bachelor's Degree supplemented with co-curricular activities will permit you entry in the environmental science career field, but advancement and certain positions may require an advanced degree (Master's or Ph.D.). Requirements for admission to graduate programs vary among institutions so investigate coursework recommendations by visiting various schools' websites. A major in one of the natural sciences will most likely satisfy most or all requirements; discuss your coursework with your advisor so that you can best tailor your class choices with your particular interests. If you are interested in graduate studies, be sure to discuss the application process with your Career Connections advisor, academic advisor, and the Career Center.

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*(last revised June 2008)*