Introduction

Environmental scientists study the effects of humans, industry, production, and other sources of pollution on nature and the environment. Many of these professionals also do advocacy work, trying to curb as much environmental damage to nature, wildlife, and people as possible. They constantly attempt to come up with an approach to living, creating, and producing that is new, conservation-friendly, and appealing to the public.

An important goal of environmental science professionals is to find new ways to conserve and to improve the ways humans use energy and natural resources. For example, environmental scientists were the first to encourage recycling, solar power, and the development of hybrid cars. Through their work, environmental scientists convey hope and commitment to a public that is increasingly conscious of the interdependent relationship between man and nature. So, in this respect, the efforts of environmental science professionals are certainly not just scientific. In fact, the field of environmental science is also an influential force in politics and law.

Functional Skill Set for Environmental Science Majors

- Active Learning
- Extensive listening skills
- Control Precision
- Excellent Short hand note taking skills
- Critical Thinking Skills
- Overall concern for the Environment
- Knowledge of Environmental Systems and their processes
- Ability to conduct and clearly explain scientific research
- Proficiency in problem solving and decision making
- Acute spatial and form perception
Related Career Titles for Environmental Science Majors

- Agronomist
- Anthropologist
- Aquatic Ecologist
- Astronomer
- Botanist
- Chemical Technician
- Chemist
- Conservation Officer
- Ecologist
- Educator
- Environmental Scientist
- Environmental Technician
- Epidemiologist
- Farm/ Ranch Manager
- Fish & Game Warden
- Forester
- Forestry Technician
- Geographer
- Geologist
- Geophysicist
- Horticulturist
- Hydrographer
- Hydrologist
- Laboratory Technician
- Landscape Architect
- Life Scientist
- Marine Biologist
- Meteorologist
- Mineralogist
- Naturalist
- Nematologist
- Oceanographer
- Paleontologist
- Park Naturalist
- Park Police
- Park Ranger
- Plant Geneticist
- Public Utilities
- Rancher
- Range Manager
- Recreation Leader
- Seed Analyst
- Seismologist
- Sociologist
- Soil Conservationist
- Soil Scientist
- Surveyor
- Taxonomist
- Tree Nursery Manager
- Urban/ City Planner
- Virologist
- Wildlife Manager
- Zoo Planner
Some Organizations that Typically Employ Environmental Science Majors:

- Agricultural Organizations
- Airports
- Architecture Firms
- Biological Science Organizations
- City/Regional Planning Dept.
- College or University
- Conservation Organization
- Consulting Firms
- Cruise lines
- Dept. of Transportation
- Education Field
- Environmental Activist Organizations
- Environmental Education Programs
- Farming and Cultivating Organizations
- Fisheries
- General Contractors
- Government Agencies
- Health Department
- Land Development
- Meteorology Organizations
- Mining Operations
- Paper Industry
- Paper Mining Companies
- Private Laboratories
- Public Utilities
- Public Park and Forestry Organizations
- Ranches
- Scientific Firms
- State or National Parks
- Timber Industry
- Utility Company
- Wildlife Preserves

Professional Organizations and Associations for Environmental Science Majors:

The Association of Environmental Health and Sciences
www.aehs.com

The American Association for the Advancement of Science
www.aaas.org

National Association of Environmental Professionals
www.naep.org

Society of Environmental Toxicology and Chemistry
www.setac.org

Revised 12-7-10
## ENVIRONMENTAL STUDIES/SCIENCE

### What can I do with this major?

<table>
<thead>
<tr>
<th>AREAS</th>
<th>EMPLOYERS</th>
<th>STRATEGIES</th>
</tr>
</thead>
</table>
| **SOIL SCIENCE**  
Soil and Water Conservation  
Land Use Planning  
Waste Disposal  
Environmental Compliance  
Reclamation of Contaminated Lands  
Landfill Operation and Monitoring  
Agrichemical Management  
Fertilizer Technology  
Agricultural Production  
Research  
Education | Government agencies including:  
US Environmental Protection Agency  
Natural Resource Conservation Services  
USDA Forest Service  
US Department of Health and Human Services  
State farm bureaus  
Environmental research laboratories  
Agricultural or environmental consultant firms  
Privately owned farms and ranches  
Universities | Maintain knowledge of current environmental issues including policy, conservation, and industry trends.  
Develop acute observational skills.  
Stay current on technology used in natural resource management including software, geographical information systems, and global positioning systems.  
Seek related experience through co-ops, internships, or part-time jobs in area of interest.  
Gain extensive laboratory and research experience to prepare for research positions.  
Participate in related clubs, organizations, and soil judging teams to build contacts and cultivate academic interests.  
Learn about certification programs offered by the Soil Science Society of America including soil science and agronomy.  
Become familiar with the federal job application procedure for government employment.  
Obtain Ph.D. for optimal research and university teaching careers. |
| **SOLID WASTE MANAGEMENT**  
Chemistry  
Engineering  
Hydrology  
Logistics  
Planning  
Recycling  
Transportation  
Compliance | Federal, state, and local government  
Private waste management firms  
Consulting firms  
Nonprofit organizations | Develop strong communication skills, both written and oral.  
Develop decision-making and problem-solving skills, diplomacy, and the ability to work under pressure.  
Gain familiarity with current technologies, regulations, and statutes.  
Join community groups or service organizations that focus on environmental awareness; attend public meetings about waste management.  
Become flexible and learn to look at issues from various perspectives. |
### Areas

#### Hazardous Waste Management
- Hydrogeology
- Quality Control
- Risk Assessment
- Environmental Engineering
- Public and Environmental Health
- Industrial Hygiene
- Biology
- Chemistry
- Geology
- Chemical Engineering
- Planning
- Compliance

#### Air Quality Management
- Engineering
- Planning
- Analytical Chemistry
- Environmental Quality Analysis
- Meteorology
- Risk Assessment
- Safety and Health Management
- Toxicology
- Project Development
- Compliance

#### Water Quality Management
- Aquatic Ecology
- Aquatic Toxicology
- Biology
- Civil/Environmental Engineering
- Hydrogeology and Hydrology
- Drinking Water Supply and Treatment
- Waste Water Treatment
- Groundwater Protection
- Surface Water Management
- Estuary Management
- Wetlands Protection
- Compliance
- Industrial Engineering

### Employers

**Hazardous Waste Management**
- Federal, state, and local government
- Private companies that generate hazardous waste in production
- Hazardous waste management firms
- Consulting firms
- Nonprofit organizations

**Air Quality Management**
- Federal, state, and local government
- Private industry
- Consulting firms
- Nonprofit organizations

**Water Quality Management**
- Federal, state, and local government
- Private companies that generate hazardous waste in production
- Hazardous waste management firms
- Consulting firms
- Nonprofit organizations

### Strategies

**Hazardous Waste Management**
- Consider a double major in hard science or engineering.
- Attend public meetings on hazardous waste issues.
- Gain laboratory experience and computer expertise.
- Complete an internship in a government office or regulatory agency.
- Gain experience with technical writing.
- Get involved with local chapters of citizen watch groups.
- Become familiar with Superfund and its activities.

**Air Quality Management**
- Stay up-to-date with federal regulations and both industry and regional standards.
- Additional training in economics and policy is desirable.
- Develop strong oral communication and technical writing skills.
- Learn to work well under pressure and develop negotiation skills.
- Seek volunteer or paid positions within area environmental groups.

**Water Quality Management**
- Develop a strong chemistry background by taking additional courses.
- Obtain laboratory skills by assisting faculty with research projects.
- Maintain current knowledge of industry trends and regulations.
- Develop interpersonal, oral communication, and technical writing skills.
- Seek an advanced degree in policy for increased marketability.
- Learn about certification programs offered by the American Institute of Hydrology.
- Learn to use the tools and software associated with watershed modeling.
<table>
<thead>
<tr>
<th>AREAS</th>
<th>EMPLOYERS</th>
<th>STRATEGIES</th>
</tr>
</thead>
</table>
| **LAND AND WATER CONSERVATION** | Biology
Ecology
Planning
Law
Geographic Information Systems
Preserve Management
Natural Resource Management
Soil Conservation
Land Acquisition | Federal, state, and local government
Indian nations
Utilities and timber companies
Consulting firms
Nonprofit organizations
Land trust organizations such as The Nature Conservancy or Trust for Public Land | Gain a solid background in the basic sciences while obtaining a broad-based education. Obtain legal, real estate, and financial skills through coursework, internships or part-time jobs. Volunteer through the Student Conservation Association (SCA) and hold an office. Keep up with new funding sources. Consider law school for careers as counsel to environmental organizations. |
| **FISHERY AND WILDLIFE MANAGEMENT** | Aquaculture
Botany
Data Management
Biology
Hatchery Management
Marine Biology
Ecology
Education
Research
Planning | Federal, state, and local government
Marine sport fisheries
Utility companies
Developers
Timber companies
Wildlife ranges
Scientific foundations
Zoological parks
Hunting and fishing clubs
Consulting firms
Nonprofit organizations | Develop a broad scientific education. Obtain skills in areas such as planning, administration, communications, and negotiation through coursework, internships, or part-time jobs. Get experience and skills in computers, statistics and computer modeling. Join the Peace Corps as a segue way into federal government positions. Learn about the federal job application process. |
| **PARKS AND OUTDOOR RECREATION** | Administration and Management
Law Enforcement
Recreation Planning
Natural Resource Management
Research
Site Operations and Maintenance
Ecotourism
Direct Mail Merchandising | National Park Service
Federal agencies
State, county, or city parks
Resorts
Marinas
Privately owned facilities
Nonprofit organizations
Tourism agencies | Develop a broad-based education that will develop both technical and interpersonal skills. Gain expertise in additional areas such as communications, writing, fund-raising, negotiation, and computer applications. Obtain working knowledge of a foreign language such as Spanish. Learn to work well with and communicate with all types of people. Participate in travel and recreation programs. Join related organizations and seek leadership roles to gain experience planning trips and other programs. |
<table>
<thead>
<tr>
<th>AREAS</th>
<th>EMPLOYERS</th>
<th>STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FORESTRY</strong>&lt;br&gt;Consulting&lt;br&gt;Entomology&lt;br&gt;Hydrology&lt;br&gt;Natural Resource Management&lt;br&gt;Planning&lt;br&gt;Research&lt;br&gt;International Forestry&lt;br&gt;Urban Forestry</td>
<td>Federal, state, and local government&lt;br&gt;Consulting firms&lt;br&gt;Timber companies&lt;br&gt;Nonprofit organizations</td>
<td>Obtain skills with computers, statistics, and accounting through coursework, internships or part-time jobs.&lt;br&gt;Develop good communication and public relations skills.&lt;br&gt;Get a minor or double major in a technical area (soil science, wildlife or surveying) or in an arts and science area (business, economics, political science or computer science).</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL EDUCATION AND COMMUNICATION</strong>&lt;br&gt;Teaching&lt;br&gt;Journalism&lt;br&gt;Tourism&lt;br&gt;Law Regulation&lt;br&gt;Compliance&lt;br&gt;Political Action/Lobbying</td>
<td>Federal, state, and local government&lt;br&gt;Public and private elementary, middle, and high schools&lt;br&gt;Two-year community colleges&lt;br&gt;Four-year institutions&lt;br&gt;Corporations&lt;br&gt;Consulting firms&lt;br&gt;Media&lt;br&gt;Nonprofit organizations&lt;br&gt;Political Action Committees</td>
<td>Master public speaking skills.&lt;br&gt;Learn certification/licensure requirements for teaching public K-12 schools.&lt;br&gt;Develop creative hands-on strategies for teaching/learning.&lt;br&gt;Publish articles in newsletters or newspapers.&lt;br&gt;Learn environmental laws and regulations.&lt;br&gt;Join professional associations and environmental groups as ways to network.&lt;br&gt;Become active in environmental political organizations.</td>
</tr>
<tr>
<td><strong>PLANNING</strong>&lt;br&gt;Air Quality&lt;br&gt;Aviation&lt;br&gt;Building/Zoning&lt;br&gt;Land-Use&lt;br&gt;Consulting&lt;br&gt;Recreation&lt;br&gt;Transportation&lt;br&gt;Water Resources</td>
<td>Federal, state, regional, and local government&lt;br&gt;Corporations&lt;br&gt;Consulting firms&lt;br&gt;Banks&lt;br&gt;Real estate development companies&lt;br&gt;Law firms&lt;br&gt;Architectural firms&lt;br&gt;Market research companies&lt;br&gt;Colleges and universities&lt;br&gt;Nonprofit groups</td>
<td>Get on planning boards, commissions, and committees.&lt;br&gt;Have a planning specialty (transportation, water resources, air quality, etc.).&lt;br&gt;Master communication, mediation and writing skills.&lt;br&gt;Network in the community and get to know “who’s who” in your specialty area.&lt;br&gt;Develop a strong scientific or technical background.&lt;br&gt;Diversify your knowledge base. For example, in areas of law, economics, politics, historical preservation, or architecture.</td>
</tr>
<tr>
<td>AREAS</td>
<td>EMPLOYERS</td>
<td>STRATEGIES</td>
</tr>
<tr>
<td>-------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL LAW</strong></td>
<td>Law firms, Large corporations, Federal and State government agencies including: US Environmental Protection Agency, Department of Justice, Attorney General Office, Nonprofit organizations, e.g. Green Action and Natural Resources Defense Council</td>
<td>Earn a law degree. Prepare for law school by maintaining a high g.p.a. and studying for the LSAT. Build strong recommendations from faculty. Work a part-time or summer job in a law firm. Develop strong written and oral communication skills. Participate in pre-law honor societies, debate teams, or moot court.</td>
</tr>
</tbody>
</table>

**GENERAL INFORMATION**
- Environmental studies and environmental science differ from each other in the amount of science course work needed.
- Environmental studies provides a broad base of hard sciences as well as liberal arts or social science coursework.
- Environmental science incorporates hard sciences and environmental sciences.
- Choice depends upon career focus, for example, administration or policy-making versus technical areas or research.
- Combine liberal arts skills with analytical skills to increase employability. Formally, obtain a double major or minor in one of these areas. Informally, obtain these skills through internships, co-ops, volunteer work, summer jobs, or independent research projects.
- Become familiar with current environmental laws and regulations. Stay up-to-date with changing environmental legislation.
- Join related professional associations; read related literature and journals to keep up with new developments.
- Attend seminars, conferences and workshops sponsored by professional associations or public interest groups.
- Network and get to know people who are working in area of interest.
- Research agencies/organizations of interest before applying for a position.
- Learn local, state and federal government job application procedures.
- Obtain graduate degree for job security/advancement.