ENVIRONMENTAL ENGINEERING

What can I do with this major?

AREAS	EMPLOYERS	STRATEGIES
ANY ENGINEERING DISCIPLINE Research and Development Design Production Operations Management Teaching Consulting Sales and Marketing Law Manufacturing Healthcare	Engineering companies Consulting companies Industry Local, state and federal government Colleges and universities	Obtain relevant experience through co-ops or internships for industry-related career. Develop strong verbal, written, teamwork and problem-solving skills. Pursue Master of Science (MS), Master of Engineering (ME), or Master of Business Administration (MBA) degrees for increased opportunities in technical management. Obtain Ph.D. for teaching and research careers. Learn federal, state and local government job application procedures. Pursue Professional Engineering licensure.
ENVIRONMENTAL Air Quality Water Quality Solid/Water Waste Management Toxic Waste Management Hazardous Waste Clean-up/Bioremediation Industrial hygiene Radiation Protection Public Health Land/Wildlife Management Recycling	Consulting companies specializing in water/waste water treatment, water resource management, solid and hazardous waste management, air pollution control, hazardous waste remediation Industries including: chemical, energy, pharmaceutical, mining and manufacturing Local water, sewer, health and public works departments Testing laboratories Public interest organizations Research firms Construction companies State departments of Environment and Conservation Federal government: Department of Energy Department of Defense Environmental Protection Agency	***Discipline plays vital role in preventing and developing solutions for environmental problems.*** Plan to supplement engineering coursework with classes in biology, hydrology, chemistry, geology and computational methods. Seek experience in the environmental engineering field through co-ops, internships and part-time positions. Develop strong interpersonal and communication skills for interacting with legal and business professionals to solve environmental issues. Expect to work outdoors at least part of the time for environmental testing, quality control and site investigation work. Join community groups or service organizations such as Student Conservation Association that focus on environmental awareness; attend public meetings about waste management. Maintain current knowledge of environmental issues, regulations and statutes. Consider membership in professional engineering organizations such as the American Association for Environmental Engineers for networking and job leads.

AREAS	EMPLOYERS	STRATEGIES
ENVIRONMENTAL LAW Political Action/Lobbying Regulatory Affairs Science Policy Patent Law Non-profit or Public Interest Environmental Law Mediation	Law firms Large corporations Federal and state government: Environmental Protection Agency Department of Justice Attorney General Offices Political Action Committees Nonprofit organizations, i.e. Green Action and Natural Resources Defense Council	Develop strong research and writing skills. Hone communication skills through public speaking courses, debate team or Toast Masters, a public speaking organization. Participate in pre-law honor societies and seek guidance from campus pre-law advisors. Maintain current knowledge of industry trends, laws and policies specific to area of interest, i.e. conservation, regulation compliance, etc. Take courses in history, political science and/or legal studies to supplement science curriculum. Learn about the law school admissions process, maintain a high GPA and plan to perform well on the LSAT. Research schools with concentrations of interest, i.e. environmental law and policy, conservation, sustainable development, etc.
PLANNING AND CONSERVATION Natural Resource Management: Land, Soil, Water, Plants, Animals Sustainability Management Water Resources Aviation Planning Transportation Planning Building/Zoning Land Acquisition Land Use Recreation Management Park/Preserve Management Mining Construction	Federal, state and local government: Environmental Protection Agency Natural Resource Conservation Service Fish and Wildlife Service National Park Service Department of Agriculture Department of Transportation Public works departments Planning departments Utilities companies Forestry companies Indian nations Mining companies: petroleum, mineral Consulting firms Real estate development companies Market research companies Colleges and universities Nonprofit organizations Land trust organizations:The Nature Conservancy or Trust for Public Land Zoological parks Hunting and fishing clubs Wildlife ranges	Obtain experience through volunteer positions such as Student Conservation Association, and seek leadership positions. Seek research experience with professors, through coursework or through internships in the industry. Develop knowledge of land and water policies, ecology and conservation history. Real estate experience may be beneficial for some positions. Participate on planning boards, commissions and committees to stay abreast of local planning and conservation initiatives. Hone communication and negotiation skills for interacting with various stakeholders including land owners, elected officials and conservation and community representatives.

AREAS	EMPLOYERS	STRATEGIES
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: Food and Fiber Research Education	Federal government: Environmental Protection Agency Natural Resource Conservation Service Department of Agriculture Department of Health and Human Services State farm bureaus Environmental research laboratories Agricultural or environmental consultant firms Privately owned farms and ranches Universities	Develop acute observational skills. 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. Stay abreast of current environmental issues including policy, conservation and industry trends. Seek knowledge of technology used in natural resource management including software, geographical information systems and global positioning systems. 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.
AIR/WATER QUALITY MANAGEMENT Testing/Analysis Watershed Management Stream Restoration Sustainable Infrastructure Risk Assessment Project Development Compliance Permitting Modeling	Federal, state and local government: Environmental Protection Agency Geological Survey Natural Resource Conservation Service Fish and Wildlife Service Department of Agriculture Public works departments Consulting firms Private laboratories Nonprofit organizations Water treatment plants Consumer products manufacturers	Develop strong research skills through coursework with laboratory components, by assisting faculty with research projects or through related internships and jobs. Seek experience in student and community organizations related to the environment such as those focused on water resources, pollution or conservation. Stay up-to-date with local and federal regulatory agencies and laws pertaining to your specialty. Develop strong oral communication and technical writing skills, as well as the ability to collaborate in a team environment. Learn to use the tools and software associated with watershed modeling or air dispersion modeling Investigate certification programs offered by the American Institute of Hydrology. Be willing to work and travel to various client sites.

AREAS	EMPLOYERS	STRATEGIES
ENVIRONMENTAL EDUCATION AND COMMUNICATION Teaching: Elementary Secondary Post-Secondary Non-classroom Education Technical Writing Editing Illustrating Photography Public Relations	Public and private schools, K-12 Two-year community colleges/technical institutes Four-year institutions Museums Zoos Nature centers and parks Publishing companies: scientific magazines, professional journals, periodicals, textbooks, online publishers Newspapers Educational and scientific software companies Environmental organizations Government agencies Nonprofit organizations	Gain experience working with students through tutoring, part-time employment or volunteering. Learn to work well with people of varying backgrounds and skills. Develop excellent interpersonal, communication and content area knowledge. Complete a teacher preparation program for K-12 positions, which varies by state. Learn about the endorsements for environmental science. Master's degrees may be sufficient for teaching at community or two-year institutions. Seek Ph.D. for teaching opportunities at colleges and universities. Join professional associations and environmental groups as way to learn about the field and network. Acquire thorough knowledge of photographic procedures and technology. Take advanced courses in technical writing or journalism classes or consider a minor in either. Join professional associations like the National Association of Science Writers or the Public Relations Student Society of America. Seek related volunteer or paid experiences with student/local publications to increase marketability. Consider earning an advanced degree in a communications field to specialize, i.e. scientific journalism or public relations.

GENERAL INFORMATION

- Utilize Sloan Career Cornerstone Center's website to learn more about opportunities in engineering.
- A bachelor's degree provides a wide range of career opportunities in industry, business and government.
- Bachelor's degree is good background for pursuing technical graduate degrees as well as professional degrees in Engineering, Business Administration, Medicine or Law.
- Graduate degrees offer more opportunities for career advancement, college or university teaching positions.
- Related work experience obtained through co-op, internships, part-time or summer jobs is extremely beneficial.
- Develop excellent verbal and written communications skills including presentation and technical report writing. Learn to work well on a team to maximize collaborations with other engineers and those outside of the profession.
- Develop computer expertise within field.
- Engineers need to think in scientific and mathematical terms and exhibit the abilities to study data, sort out important facts, solve problems and think logically. Creativity is useful.
- Other helpful traits include intellectual curiosity, technical aptitude, perseverance and a basic understanding of the economic and environmental context in which engineering is practiced.
- Because of rapid changes in most engineering fields, both continued education and keeping abreast of new developments are very important.
- Join relevant professional associations, attend meetings, participate in design competitions and stay up-to-date on research/publications.
- All states and the District of Columbia require registration of engineers whose work may affect the life, health or safety of the public.
- Professional or technical societies confer certification in some areas.
- Research Fundamentals of Engineering (FE) exam requirements, as this exam is typically the first step in becoming a Professional Engineer (PE).
- Professional Engineer (PE) licensing guidelines vary by state. Check with the National Council of Examiners for Engineering and Surveying (NCEES) for links to state boards.
- Become familiar with the federal job application and employment procedures.

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