What can I do with a major in...

Civil engineering

ACTIVITIES CIVIL ENGINEERING MAJORS DO:
Civil engineers design and supervise the construction of roads, buildings, airports, tunnels, dams, bridges, and water supply and sewage systems. They must consider many factors in the design process, from the construction costs and expected lifetime of a project to government regulations and potential environmental hazards such as earthquakes. Civil engineering is considered one of the oldest engineering disciplines and encompasses many specialties. The major specialties within civil engineering are structural, water resources, environmental, construction, transportation, and geotechnical. Many civil engineers hold supervisory or administrative positions, from supervisor of a construction site to city engineer. Others may work in design, construction, research, and teaching. Civil engineers may work in consulting firms or federal, state, and local governments. Some opportunities allow civil engineers to spend majority of their time outdoors. The need to build and refurbish roads, bridges, and buildings keeps this field in demand.

INDUSTRIES CIVIL ENGINEERING MAJORS WORK IN (SAMPLE LISTING):
Leasing, zoning, and construction  Food processing  Community development  Geological
Solid waste and recycling  Highway design and planning  Municipal transportation  Surveying
Public works projects  Telecommunications  Pollution control  Railroads
State and local government  Concrete producer  Water resources  Transportation
Urban planning and development  Construction projects  Asphalt production  Building

EMPLOYERS WHO HIRE CIVIL ENGINEERING MAJORS (SAMPLE LISTING):
Bolton & Menk Inc.  U.S. Environmental Protection Agency  SRF Consulting Group  Siemens
Braun Intertec Corp.  MN Department of Transportation  City of Minneapolis  Ingersoll Rand
Permasteelisa North America  Cliffs Natural Resources, Inc.  HDR Engineering  Black & Veatch
Cummins Power Generation  Three Rivers Technology, Inc.  Alliant Engineering  Ulteig Engineers
Department of Homeland Security  Westwood Professional Services

TYPES OF POSITIONS FOR CIVIL ENGINEERING MAJORS (SAMPLE LISTING):
• Development engineer: Applies research findings to develop new or improved products or manufacturing processes.
• Structural engineer: Analyzes and designs structures to ensure that they safely perform their purpose. Stadiums, arenas, office buildings, and homes are all examples.
• Urban planner: Analyzes the variety of information needed to coordinate projects, such as projecting street patterns, identifying park and recreation areas, and determining areas for industrial and residential growth.
• Construction engineer: Applies knowledge of construction methods and equipment, along with financing, planning, and managing, to turn the designs of other engineers into successful facilities.
• Construction manager: Uses engineering and leadership skills to ensure building projects are completed on time and under budget.
• Environmental engineer: Designs and supervises systems that prevent and control pollution. (Examples: safe drinking water, cleaning up sites contaminated with hazardous materials)
• Transportation engineer: Designs and maintains all types of transportation components, including highways and streets, mass transit systems, railroads, airports, ports, and harbors.
• Pipeline engineer: Combines knowledge of hydraulics, geotechnical engineering, and the structural properties of pipeline materials to ensure a steady, reliable flow of these vital commodities.
• Geotechnical engineer: Analyzes the properties of soil and rock that support and affect the behavior of structures, pavements, and underground facilities.
TYPES OF POSITIONS FOR CIVIL ENGINEERING MAJORS (Continued):

- **Water resource engineer:** Redirects water to benefit residents and businesses in a community. (Example: constructing canals and building dams.)
- **Wastewater engineer:** Improves both the environment and the economy by helping communities and businesses dispose of waste without polluting natural water sources.
- **Project manager:** In addition to the technical knowledge of a civil engineer, project management positions organize and direct workers and materials.
- **Professor:** Develops and teaches civil engineering curriculum.

**Some of these positions may require an advanced degree.**

USEFUL WEBSITES FOR CIVIL ENGINEERING MAJORS:

- Department of Civil, Environmental, and Geo- Engineering: cege.umn.edu
- The Civil Engineer: thecivilengineer.org
- Civil Engineering News Online: cenews.com
- The Internet for Civil Engineers: icivilengineer.com
- National Center for Earth-surface Dynamics: nced.umn.edu
- Resources for Structural and Bridge Engineers: bridgeart.net
- Federal Government Jobs: usa.gov
- Environmental Career Center: environmentalcareer.com
- Environmental Career Opportunities: ecojobs.com

USEFUL WEBSITES FOR ENGINEERING MAJORS:

- Engineer.net: engineer.net
- Engineer Jobs: engineerjobs.com
- Engineering Central: engcen.com
- Graduating Engineer: graduatingengineer.com
- ThinkJobs.com: thinkjobs.com
- Engineer Info: engineer.info

PROFESSIONAL ORGANIZATIONS:

- American Association of State Highway and Transportation Officials: transportation.org
- American Society of Civil Engineers: asce.org
- Air and Waste Management Association: awma.org
- American Public Works Association: apwa.net
- Institute of Professional Environmental Practice: ipep.org
- Institute of Transportation Engineers: ite.org
- Water Environmental Federation: wef.org
- Transportation Research Board: trb.org
- American Solar Energy Society: ases.org
- American Council of Engineering Companies: acec.org/
- American Council of Engineering Companies-MN chapter: acecmn.org/
- National Society of Professional Engineers: nspe.org
- Minnesota Society of Professional Engineers: mnspe.org
- Society of Women Engineers: swe.org

*Additional job/internship search websites and resources can be found at cse.umn.edu/career.

Information on this page was compiled from the Occupational Outlook Handbook, the Encyclopedia of Careers and Vocational Guidance, Careers in Engineering, SloanCareerCornerstone.org, University of Minnesota departmental websites, and student-reported data.