What can I do with a major in...

Civil engineering

ACTIVITIES CIVIL ENGINEERING MAJORS DO:
Civil engineers analyze, design, and supervise the construction of roads, buildings, water supply systems, airports, tunnels, dams, bridges, and wastewater treatment systems. They must consider many factors in the design process including regulations and policy issues, sustainability, fabrication costs and constructability, expected lifetime of a project, and risk assessment of natural events and potential hazards. Civil engineering is considered one of the oldest engineering disciplines and has a tangible impact on the quality of life, human health, and safety. It encompasses many specialties, including construction, environmental, geotechnical, municipal, structural, transportation, and water resources engineering. Advances that civil engineers have made in providing clean water supply systems have had a greater impact on human health and longevity than many advances in the medical field. The structures we live and work in, the roads and bridges we drive on, the clean water we drink, and wastewater treatment systems we use, are all designed by civil engineers.

Civil engineering jobs are available in both the private and public sector through consulting firms and in government agencies at the local, state, and federal levels. Employment can be found in nearly any region, from small communities and remote areas to the largest cities in the world. Graduates have worked on the design of the tallest buildings and largest dams in the world. Civil engineering is known to have high levels of job satisfaction of all professions. Civil engineers can enjoy a fulfilling technical career and also have opportunities for administrative and leadership positions. Many opportunities are available that allow civil engineers to spend time outdoors. The infrastructure required to sustainably maintain modern society ensures the continued demand for civil engineers.

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  Railroads  Building
Concrete and asphalt production  Pollution control  State and local government  Transportation
Urban planning and development  Water resources  Construction projects

EMPLOYERS WHO HIRE CIVIL ENGINEERING MAJORS (SAMPLE LISTING):
MN Pollution Control Agency  U.S. Environmental Protection Agency  Schlumberger  TKDA
Braun Intertec Corporation  MN Department of Transportation  City of Minneapolis  FHWA
Cliffs Natural Resources Inc.  Department of Homeland Security  Black & Veatch  SEH
WSP | Parsons Brinckerhoff  American Engineering Testing Inc.  WSB & Associates  CH2M
Kimley-Horn and Associates  HGA Architects and Engineering  Barr Engineering  ExxonMobil
Army Corps of Engineers  Bolton & Menk Inc.  Department of Health  HNTB
Meyer Borgman Johnson  Department of Natural Resources  HDR Engineering  AECOM
Cummins Power Generation  Westwood Professional Services  Stantec

TYPES OF POSITIONS FOR CIVIL ENGINEERING MAJORS (SAMPLE LISTING):
- **Structural engineer**: Analyzes and designs structures such as stadiums, arenas, office buildings, and bridges to ensure they safely and satisfactorily perform their purpose.
- **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.
TYPES OF POSITIONS FOR CIVIL ENGINEERING MAJORS (Continued):

- **Environmental engineer:** Designs and supervises systems that prevent and control pollution. Examples of systems include safe drinking water and 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.
- **Geotechnical engineer:** Analyzes the properties of soil and rock that support and affect the behavior of structures, pavements, and underground facilities.
- **Water resource engineer:** Determines areas prone to flooding, restores ecological function to streams and rivers, develops methods to handle and treat urban runoff, and redirects water by constructing hydraulic structures to benefit residents and businesses in a community.
- **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.

**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](http://cege.umn.edu)
- The Civil Engineer [thecivilengineer.org](http://thecivilengineer.org)
- Civil Engineering News Online [cenews.com](http://cenews.com)
- National Center for Earth-surface Dynamics [nced.umn.edu](http://nced.umn.edu)
- Resources for Structural and Bridge Engineers [bridgeart.net](http://bridgeart.net)
- Federal Government Jobs [usajobs.gov](http://usajobs.gov)
- Environmental Career Center [environmentalcareer.com](http://environmentalcareer.com)
- Environmental Career Opportunities [ecojobs.com](http://ecojobs.com)

USEFUL WEBSITES FOR ENGINEERING MAJORS:

- Engineer.net [engineer.net](http://engineer.net)
- Engineer Jobs [engineerjobs.com](http://engineerjobs.com)
- Engineering Central [engcen.com](http://engcen.com)
- Graduating Engineer [graduatingengineer.com](http://graduatingengineer.com)
- ThinkJobs.com [thinkjobs.com](http://thinkjobs.com)
- Engineering.com [engineering.com](http://engineering.com)

PROFESSIONAL ORGANIZATIONS:

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