What can I do with a major in...

Civil Engineering

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 a broad area of engineering and has a tangible impact on the quality of life, human health, and safety. The 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. Major specialties within civil engineering include construction, environmental, geotechnical, municipal, structural, transportation, and water resources engineering. 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 of our program have worked on the design of the tallest building and largest dams in the world. Civil engineering is considered to have one of the highest 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

- Asphalt production
- Community development
- Concrete producer
- Construction/building
- Food processing
- Geological
- Highway design and planning
- Leasing, zoning, and construction
- Municipal transportation
- Pollution control
- Public works projects
- Railroads
- Solid waste and recycling
- State/local government
- Surveying
- Telecommunications
- Transportation
- Urban planning and development
- Water resources

EMPLOYERS

- Alliant Engineering
- American Engineering Testing
- Barr Engineering
- BKBM Engineers
- Black & Veatch
- Bolton & Menk
- Braun Intertec
- City of Minneapolis
- Kimley-Horn & Associates
- MN Dept of Transportation
- Parsons Brinckerhoff
- Short Elliott Hendrickson
- SRF Consulting
- Stantec
- TKDA
- Wenck
- Westwood Professional Services
- WSB & Associates

TECHNICAL SKILLS

- AutoCAD
- ChemDraw
- Excel, Visual Basic
- LoggerPro
- Mathematica
- MATLAB
- Stochastic Analysis

CSE Career Outcomes

Average Starting Salary: $55,471*

Post-graduation Outcomes:*
POSSIBLE POSITIONS

- **Civil engineer**: Plan, design, and oversee construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems.

- **Design engineer**: Study, research and develop ideas for new products and the systems used to make them.

- **Field engineer**: Work with project personnel and clients to ensure that work complies with all engineering standards, codes, and specifications. Perform testing and observations on commercial construction projects.

- **Geotechnical engineer**: Analyze the properties of soil and rock that support and affect the behavior of structures, pavements, and underground facilities.

- **Graduate engineer**: Design and supervise the construction and maintenance of roads, bridges, railways, buildings, irrigation projects, airports, power plants, etc.

- **Project engineer/manager**: In addition to the technical knowledge of a civil engineer, project management positions organize and direct workers and materials.

- **Structural engineer**: Analyzes and designs structures such as stadiums, arenas, office buildings, and bridges to ensure they safely and satisfactorily perform their purpose.

- **Transportation engineer**: Designs and maintains all types of transportation components, including highways and streets, mass transit systems, railroads, airports, ports, and harbors.

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

GET INVOLVED

- Active Energy Club
- American Society of Civil Engineers
- Chi Epsilon
- Concrete Canoe Team
- CSE K-12 Outreach
- CSE Ambassadors
- CSE International Ambassadors
- Engineers Without Borders
- National Society of Black Engineers
- Plumb Bob Honorary Leadership Society
- Science and Engineering Student Board
- Society of Asian Scientists and Engineers
- Society of Hispanic Professional Engineers
- Society of Women Engineers
- Solar Vehicle Project
- Steel Bridge Team
- Tau Beta Pi
- TeslaWorks
- Theta Tau

RESOURCES

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

See the Major Binders available in the CSE Career Center’s Resource Center for more information about this major and career.

*Salary and Career Outcomes gathered from the 2016-2017 CSE Graduation Survey*

Post-graduation outcomes reflect the percentage of students who were employed full-time in their field or were enrolled in a graduate program.

For detailed starting salary information see the CSE Career Center website.