Civil engineering

Hands-on Learning
At CU, students learn by doing. In the department of Civil, Environmental, and Architectural Engineering, Many students participate in service-learning opportunities, including working on international engineering projects through the Engineering for Developing Communities program and non-profit organization Engineers Without Borders-USA.

“A degree in civil engineering prepares students for careers in:
- Construction industry
- Structural and geotechnical design
- Water resources planning
- Pollution prevention and water treatment

Employment opportunities abound in private firms; federal, state, and local government; International agencies and corporations.

Did You Know?
The CEAE department is home to state-of-the-art laboratories that allow for testing related to earthquakes, water quality, soil behavior, environmental transport, and more.

Degrees Offered
BS  MS  PhD  BS/MS

Rankings (USNWR)
Civil Engineering
- 13th among public undergraduate programs nationwide
- 9th among public graduate programs nationwide

College
- 17th among public undergraduate engineering programs nationwide
- 20th among public graduate engineering programs nationwide

Civil engineers design and build facilities and infrastructure that improve our standard of living, provide recreational opportunities and better our quality of life. They apply problem solving skills to meet the challenges of pollution, water quality, climate change, energy and transportation needs, urban development and community planning for the 21st century. Civil engineers are at the forefront of technology, rebuilding global infrastructure, mitigating earthquakes, cleaning up hazardous waste, and ensuring sustainable water and energy supply. Civil engineering projects range from bridges, highways, dams, and airports to large off-shore structures, aircraft and space vehicles.

The University of Colorado Boulder’s civil engineering undergraduate program emphasizes open-ended problems, global awareness, and undergraduate research. The program is characterized by a high degree of faculty-student interactions, both inside and outside the classroom.

“The hands-on projects I’ve done in my classes have let me work with faculty and industry professionals, and they have helped me tremendously in preparing for my internships.”
— Jesse Lyman

Engineers Without Borders-USA was founded by CU civil engineering professor Bernard Amadei to partner with developing communities and improve their quality of life. EWB now has 12,000 members working on some 350 projects in 45 countries worldwide.
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Department Highlights
- More than 90 scholarships are available annually to CU civil engineering students.
- Many students find internships and jobs through our network of 4500+ department alumni.

Industry Highlights
- Projected 19% job growth over next decade (U.S. Bureau of Labor Statistics)
- $52,600 starting salary for CU graduates (2011 post-graduation survey)
- Civil engineers rank #9 in Best Jobs of 2013 (U.S. News)

Choose an Area of Concentration

Civil engineering students achieve breadth by taking fundamental courses in each of the five areas below, and may also choose an area of concentration for in-depth coursework. There is sufficient flexibility to incorporate a variety of certificates or minors, such as global engineering, international engineering, and business.

Construction Engineering and Management
Using technical and management skills, construction engineers turn designs into reality — on time and within budget — using knowledge of construction methods and equipment, budgeting and financing, planning, and project management. This discipline involves organizing a wide variety of skilled workers and specialists and leading them in the implementation of civil designs.

Environmental Engineering
The skills of environmental engineers are important for protecting the fragile resources and ecosystems of our planet. Environmental courses apply physical, chemical, and biological sciences to the design of systems to destroy toxic substances, remove pollutants from water, reduce solid waste volumes, and eliminate air contaminants.

Geotechnical Engineering
Geotechnical engineers design facilities in the earth such as tunnels, deep foundations, and pipelines, as well as earth dams, levees, embankments, and slopes constructed of soil and rock materials. In addition, many waste materials are deposited in containment areas designed by geotechnical engineers.

Structural Engineering and Structural Mechanics
Structural engineers analyze and design structures to ensure that they safely perform in dynamic environments. Structural engineers design stadiums, amusement park rides, bridges, office buildings, and homes using knowledge of the behaviors of steel, concrete, timber, and new materials.

Water Resources Engineering
Water resources engineers deal with the provision of water for society’s needs and environmental protection: flood prevention; water for cities, industry, and irrigation; and waterways management. They address the impacts of weather and climate change on water supplies, drought, sea level rise, and food production.

For more information visit ceae.colorado.edu

Additional Tracks
- Engineering for developing communities
- Engineering science