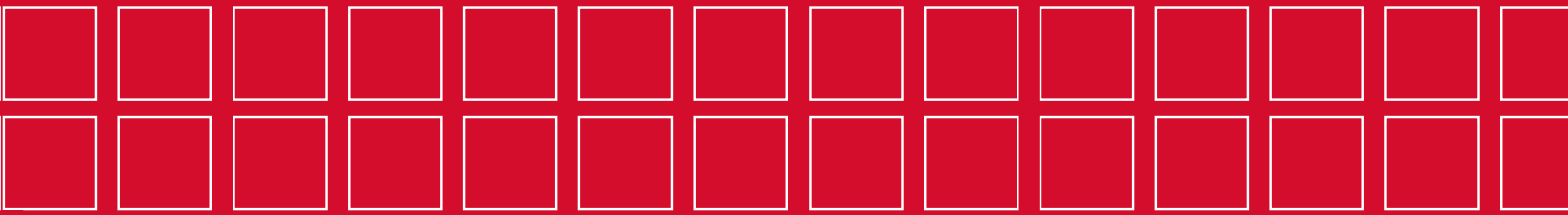


**NC STATE** Engineering

**DEPARTMENT OF CIVIL, CONSTRUCTION,  
AND ENVIRONMENTAL ENGINEERING**

**Undergraduate Degree Program**





## THE DEPARTMENT

The Department of Civil, Construction, and Environmental Engineering (CCEE) at NC State prepares students to be leaders in addressing society's need for smart, safe, and sustainable infrastructure. Restoring and improving America's infrastructure, including transportation systems, energy grids, and water supplies, is a Grand Challenge for the 21<sup>st</sup> century, according to the National Academy of Engineering. At NC State, we address this challenge through our work, ranging from advanced materials engineering to regional water resources and energy planning. Our department ranks in the top 10 percent of civil engineering programs nationally, and provides students with the opportunity to engage in undergraduate research, participate in numerous student organizations, experience the world through study-abroad programs, and graduate with diverse career opportunities.



*"The CCEE program at NC State is top-notch. The faculty members really care about the students and want them to succeed. At NC State, I learned the skills and technologies necessary to be successful in designing and managing real-world engineering projects."*

**Suzanne Beckstoffer** - Former Director of Engineering, Newport News Shipbuilding

## DEGREE PROGRAMS

Our department offers three ABET-accredited undergraduate degree programs:

- **Bachelor of Science in Civil Engineering (CE)**

Our CE curriculum provides students with a fundamental background in math, physics, and chemistry along with modern design, computing, and visualization tools. CE students are given broad exposure to all aspects of civil engineering, and may focus in one or more of the following areas in their senior year:

**Geotechnical:** design foundations, retaining walls, and flood control systems by evaluating soil and rock properties and behavior.

**Structural:** design resilient buildings, bridges, and other structures using advanced materials and design methods.

**Sustainable urban infrastructure:** synthesize knowledge from multiple CE focus areas to address complex urban design challenges.

**Transportation:** design and analyze the next generation of land, air, and water transportation systems.

**Water Resources and Coastal:** sustain coastal and freshwater resources, and protect communities from floods and droughts.

- **Bachelor of Science in Environmental Engineering (ENE)**

Our ENE curriculum provides students with the same background in math, science, and modern tools as our CE program. In addition, students specialize in the chemical, biological, and earth-system processes necessary to solve complex environmental engineering problems. Our ENE students develop sustainable solutions for controlling and recovering resources from solid and liquid wastes, thereby keeping our air, water, and land clean and safe.

- **Bachelor of Science in Construction Engineering (CON)**

Our CON curriculum provides students with the same background in math, science, and modern tools as our CE program. In addition, CON students learn the management, economic, and planning skills required to transform engineering ideas into reality on a large scale.



Additional details on our undergraduate degree programs can be found at: <https://www.ccee.ncsu.edu/academics/undergraduate-programs>

*"My CCEE studies at NC State provided me with not only a great foundation and highly regarded degrees, but also the opportunity for professional growth through student organizations, networking, and direct work-related experience."*

**Stacey A. Smith, PE** - President, Smith-Gardner

## STUDENT OPPORTUNITIES

**Student Organizations** - As one of the largest and most active CCEE programs in the country, there are more than 20 student-led organizations and honor societies in which students can participate. These groups provide a mixture of social, service, competition, and education activities that enrich the university experience and offer opportunities for leadership and professional networking. A few of our most popular student organizations include:

- **American Society of Civil Engineers (ASCE), including the:**
  - Concrete Canoe competition team
  - Steel Bridge competition team
- **Society of Women Engineers (SWE)**
- **National Society of Black Engineers (NSBE)**
- **Institute of Transportation Engineers (ITE)**
- **Engineers Without Borders (EWB)**

For a complete list of CE-related student organizations, see <https://www.ccee.ncsu.edu/student-organizations>.



*"The civil engineering program at NC State prepared me for a bright future, where I work on projects that provide real benefits to society every day."*

**Glenda Gibson** - Vice President, Hatch Mott MacDonald

**Work Experiences** - More than 80 percent of our students participate in paid internship or co-op work experiences during their undergraduate program. These opportunities provide students with valuable technical training, real-world work experience, and an enhanced professional network, while helping with college finances.

**Undergraduate research** - The CCEE department supports undergraduate research through paid research positions for students with solid academic performance. These positions allow undergraduates to work closely with professors and graduate students on cutting-edge research projects that can lead to completion of an undergraduate research thesis. Such experiences help prepare students for higher-level degrees and are also valued by employers. For more information, see: <https://sites.google.com/a/ncsu.edu/rise>.

**Study Abroad** - The CCEE department offers summer and semester-long study-abroad programs in locations ranging from Europe, to China, to Australia. These programs provide unique cultural and personal development opportunities for students along with courses that count toward their NC State curriculum. For more information, see: <https://www.ccee.ncsu.edu/study-abroad>. Participation in study-abroad programs can contribute toward NC State's Global Perspectives Certificate program (<https://gpc.dasa.ncsu.edu>).

**Scholarships** - Our department provides more than 60 scholarships each year to top CCEE students. These scholarships, which typically range from \$1,000 to \$4,000, are specifically targeted toward our students and are in addition to university-wide scholarship programs.

## GRADUATE OPPORTUNITIES

**Employment** - According to the US Bureau of Labor, civil engineering jobs are growing at twice the rate of other engineering fields. This growth is related to the increasing need to reinvent and rebuild the aging infrastructure of our country. As a result, our CCEE students have diverse job opportunities. About 2/3 of our alumni work in North Carolina, while about 1/3 work across the country or internationally. Our graduates work for regional and international consulting firms, construction firms, governmental agencies, and the US military. In addition, many of our alumni go on to start their own professional consulting and contracting firms.

**Professional Licensure** - Upon successful completion of a CE, ENE, or CON degree program, our students are eligible to pursue licensure as a Professional Engineer. In the Fundamentals of Engineering (FE) Exam, which is a critical step toward professional licensure, our students have a passing rate of more than 85 percent, well above the national average of about 70 percent.

**Higher education** - Many of our alumni go on to pursue graduate degrees, either at the master's or Ph.D. level. Working alumni can complete master's degrees through our convenient and popular Engineering Online program. In addition, our top undergraduate students are often recruited for paid graduate research positions at NC State and other major universities.







## LEARN MORE

**Applications** - Prospective students are encouraged to submit applications in October for admission in the following fall: <http://admissions.ncsu.edu>

**Financial aid** - Information concerning freshman scholarships and need-based financial aid can be found at [www.financialaid.ncsu.edu](http://www.financialaid.ncsu.edu)

**Department of Civil, Construction, and Environmental Engineering**  
**Campus Box 7908**  
**North Carolina State University**  
**Raleigh, NC 27695-7908**

[www.ccee.ncsu.edu](http://www.ccee.ncsu.edu)

*North Carolina State University is committed to equality of educational opportunity and does not discriminate against applicants, students, or employees based on race, color, national origin, religion, sex, sexual orientation, age, or disability. NC State University commits itself to positive action to secure equal opportunity of those characteristics.*

*Infrastructure images courtesy of Stantec, Freese & Nichols, and Figg Engineering.*