CONSTRUCTION ENGINEERING DEGREE PROGRAM

A specialty in construction engineering was first offered at NC State within the civil engineering degree in the 1920’s. In the late 1940’s, a separate degree was established that evolved to the first accredited construction degree in the United States in 1954. Over the years, the program has maintained a close relationship with industry. The Construction Engineering degree prepares qualified graduates for graduate study specializing in construction engineering and management. In meeting rigorous engineering accreditation requirements, the degree serves as a long-term foundation for a construction career in a time of rapidly changing technology.

CONSTRUCTION ENGINEERING CURRICULUM REQUIREMENTS

The Curriculum objective is to prepare individuals for a professional career in construction engineering and for continued learning through graduate education or self-study. Topical areas include:

- **General studies and Communications** – Academic writing and research, computing environments, computer science, professional communications, physical education
- **Mathematics** – Analytic geometry and calculus, probability and statistics, numerical applications to differential equations
- **Science** – Chemistry, physics, and geology or biosciences
Graduates fill positions in construction companies, engineering consulting firms, government agencies, and large corporations. The position usually involves either the planning, design and management of the construction process for a general, specialty or mechanical contractor or the coordination, inspection, and management of design, contracts, or facilities for a business, industry, or government owner.

- **Field engineer**
  Implements and coordinates engineered construction processes.

- **Estimator**
  Develops itemized costs and budgets for design and construction based upon knowledge and predesign of operations, materials, and resource requirements.

- **Scheduling engineer**
  Designs and monitors the plan for timing and sequence of construction operations.

- **Project engineer**
  Designs all or part of the project construction process, coordinates construction engineering to accomplish the overall objectives of the facility design team.

- **Project manager**
  Oversees all aspects of a project, coordinates subcontractors, provides primary contact to the client as well as to the company's or agency's leaders.

- **Chief/senior/principal engineer, estimator, project manager**
  Oversees operations in designated areas related to multiple projects.

- **Division head or vice president, senior vice president, president, chief executive officer**
  Manages overall company or agency operations.

Career development also involves becoming active in support of the profession. Through membership in construction professional societies and industry associations, individuals continue their lifelong learning and professional growth and become recognized as leaders.

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**STARTING AND CAREER ADVANCEMENT POSITIONS**

Summer internships and co-operative education jobs are two methods that can give students a better understanding of career direction and a resume of experience attractive to employers upon graduation. It is often possible to find summer internships in the home community. Many contractors and construction-related organizations seek students for summer employment through the Construction Engineering Program and the University Career Center. The University Co-op Program structures the plan of study over one additional year to allow semester/summers of full-time study to be alternated with semester/summers of full-time work. Students are matched with employers in their field.

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**GAINING EXPERIENCE PRIOR TO GRADUATION**

Construction engineering students visit Panama Canal expansion.
ADMISSION AND FINANCIAL AID

Explore the admissions process and find information concerning freshman scholarships and need-based financial aid at www.admissions.ncsu.edu and www.financialaid.ncsu.edu. For other questions, contact

Undergraduate Admission Office
Campus Box 7103
North Carolina State University
Raleigh, NC 27695-7103
Phone: 919.515.2434
Fax: 919.515.5039

Through the generosity of industry and program alumni, additional scholarships are available on a competitive basis to students after matriculation into the Construction Engineering major.

ADDITIONAL INFORMATION

Explore the University’s and Department’s home pages at www.ncsu.edu and www.ccee.ncsu.edu.
For other questions, contact

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

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 regardless of those characteristics.