CONSTRUCTION ENGINEERING

The construction industry is one of the largest industries in the United States. It accounts for nearly 8 percent of the nation's gross national product and employs millions of people. The industry is divided into four sectors: residential building construction, industrial construction, commercial building construction, and heavy civil construction.

The Program
The Department of Construction Management and Engineering offers a Bachelor of Science in Construction Engineering. This degree program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org, and is the third oldest Bachelor of Science in Construction Engineering program in the United States. The program is a blend of construction, basic science, engineering, liberal arts, mathematics and management courses. Students who earn this degree can work in the construction industry and become a licensed professional engineer by completing the Fundamentals of Engineering exam followed by the Professional Engineer exam (www.ncees.org). The construction engineering program is somewhat similar to the construction management program, but has more emphasis on mathematics, engineering and basic science courses.

The Mission
The mission of the Department of Construction Management and Engineering is to provide quality educational programs that prepare nationally competitive undergraduate and graduate students for successful careers in the construction industry. The programs are designed to provide educational, research and outreach opportunities that serve both the needs of our students and those of the construction industry.

Educational Objectives
The construction engineering program educational objectives describe the career and professional accomplishments we expect our graduates to achieve early in their careers. Within the first few years after graduation, we expect our alumni:

1. To maintain a sustained program of continuing education and life-long learning with focus on contemporary issues;
2. To be productive construction engineers and/or construction managers who are pursuing or have attained professional registration;
3. To be effective communicators who work on multi-disciplinary teams;
4. To be engaged engineering professionals who are aware of and comprehend the ethical, social, environmental and economic impacts of engineering solutions; and
5. To be engaged citizens who become involved and seek leadership roles in professional societies and community organizations.

Faculty and Staff
The Department of Construction Management and Engineering has a group of faculty and staff members dedicated to teaching, advising and career consultation. All faculty members have doctoral degrees. Some of them have professional licenses such as the Professional Engineer (PE) and the Certified Professional Constructor (CPC). In addition, many faculty members have construction related working experiences both in the United States and overseas.

Facilities
The Department of Construction Management and Engineering has well equipped classrooms, computer labs and teaching and research labs for its students. Classrooms used by the department are equipped with a computer, a Blackboard course management system, Internet access, a projector, a projection camera, a VCR and a DVD player. In April 2011, a video/lecture capture system was installed in the senior design classroom. In addition, the department maintains a computer lab, a concrete lab and a soils lab and shares laboratory space with the Department of Civil Engineering for the geotechnical and surveying labs.

Career Opportunities
Construction engineering graduates are in high demand after graduation by contractors in all types of construction, from design-construction firms to large owners who have continuing construction projects. Positions available include field engineer, office engineer, project engineer, project controls engineer, superintendent and project manager. Starting salary has been between $47,000 and $73,000 in the recent years. Summer employment in the construction industry is also available to construction engineering students. The members of the Associated General Contractors (AGC) of North Dakota as well as other construction firms provide summer jobs for our students every year.

Student Organizations
There are three student organizations in the Department of Construction Management and Engineering: AGC of America, National Association of Home Builders (NAHB), and Sigma Lambda Chi. The AGC Student Chapter competes each year at the Associated Schools of Construction Competition. The NAHB Student Chapter competes at the Residential Construction Management Competition each year. Sigma Lambda Chi is an international construction honor society.

Scholarship Opportunities
The AGC of North Dakota, the Home Builders Care Foundation (a charitable arm of the Home Builders Association of Fargo-Moorhead), and the NAHB offer annual scholarships to outstanding freshmen and upperclass students. In addition, Helgason Engineering Scholarships are available to freshmen and transfer students. Students can contact the Office of Admission for more information or check the department website at www.ndsu.edu/construction.
## Sample Curriculum

### Credits

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>131</td>
<td>Major Requirements including Business Law, Construction Management, Engineering, and related courses.</td>
</tr>
<tr>
<td>Total</td>
<td>172</td>
<td>Total Credits of the curriculum.</td>
</tr>
</tbody>
</table>

A 2.5 cumulative grade point average is required for acceptance into this program.

This sample curriculum is not intended to serve as a curriculum guide for current students, but rather an example of course offerings for prospective students. For the curriculum requirements in effect at the time of entrance into a program, consult with an academic advisor or with the Office of Registration and Records.

https://bulletin.ndsu.edu/undergraduate/programs/

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