

# CONSTRUCTION ENGINEERING TECHNOLOGY

COLLEGE OF ENGINEERING | MONTANA STATE UNIVERSITY

## CAREER OPTIONS—CONSTRUCTION ENGINEERING TECHNOLOGY GRADUATES

With a construction engineering technology degree, you'll have exciting career options across the engineering and construction industry.

Working for a contractor might involve managing resources needed to construct highways, buildings and large industrial plants. Based in the office or the field, you could be planning, scheduling, controlling costs and supervising construction.

If you work for an engineering consulting firm, you might be inspecting construction projects, testing construction materials, or conducting construction and engineering surveys. You might also be hired as a technical sales representative by an equipment or materials supplier.

## IS CONSTRUCTION ENGINEERING TECHNOLOGY FOR YOU?

If you like working with people, have solid math and science skills, and like to build big things, a Construction Engineering Technology (CET) degree might be perfect for you.

The knowledge, skills and abilities you gain in this program will prepare you for a variety of construction and construction-related professions, such as estimator, scheduler, contractor, project engineer, field supervisor, project supervisor, project superintendent or project manager.

## COURSEWORK

In the first two years, you'll study chemistry, physics, math, engineering mechanics, materials, graphics, and surveying. In your junior and senior years, you'll take civil engineering, construction, and business courses. These classes will cover, in detail, construction practice, planning, scheduling, and management.

As a CET major, you'll enjoy hands-on learning. You'll work in labs with soils, concretes, computers, surveying equipment, and hydraulics.

Communication is a critical element of contemporary construction practice, and you'll benefit from classes that will sharpen your oral and written communication skills. Taking courses in fine arts, humanities, and social sciences will raise your awareness of non-technical aspects of society and its infrastructure.

Following your sophomore and junior years, we encourage you to seek a summer internship with a contractor. You can earn up to 4 credit hours total of professional electives for such work.

The CET program is accredited by the Technology Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

### For additional information, contact:

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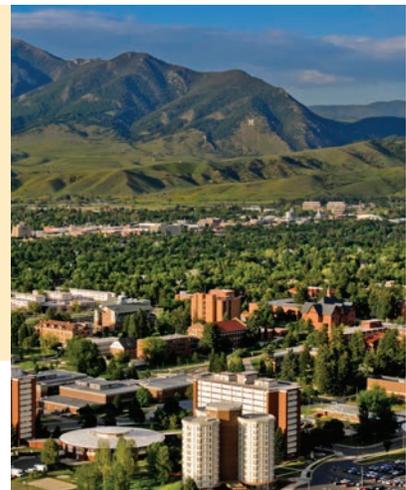


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1 Engineering students worked on projects related to the Jake Jabs College of Business building on MSU's campus. 2 CET students learn from faculty members with industry experience and have access to testing equipment for materials such as concrete. 3 Students work closely with faculty members and learn about real projects. 4 CET students worked on foot bridges in the East Gallatin Recreation area in Bozeman.



## Job Opportunities

Our graduates have been highly successful in beginning their engineering careers immediately after graduation. Graduates tend to find employment in

- construction
- consulting engineering and architectural firms
- and federal, state, and local agencies.

Some students continue their education formally through master's programs in Construction Management or Business Administration.

## Facilities

The Civil Engineering Department has laboratories devoted to undergraduate education. These include hydraulics and water resources engineering, geotechnical engineering, structural engineering, and surveying. Our computer facilities are state-of-the-art and use current versions of engineering and construction software. Many of our courses have strong computer components.

## Certification and Licensure

Students are required to take the Constructor Qualification Examination Level I (CQE) administered by the American Institute of Constructors (AIC) which must be taken within nine months of graduation. Seniors are eligible to take the national comprehensive examination on engineering fundamentals called the Fundamentals of Engineering (FE) examination. Students with a Land Surveying minor are eligible to take the Fundamentals of Surveying (FS) examination.

## Length of Study and Preparation for Graduate Studies

The curriculum is designed to be completed in four years. Some lower division courses are available in the summer. The program is an excellent precursor for graduate studies in construction management or similar programs.

**5** A CET alumnus worked on the Pier 57 Ferris Wheel project in Seattle.

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## SUPPORTING ACTIVITIES

The Montana Chapter of the Associated General Contractors of America (AGC) actively supports our CET program. Its members provide generous donations to fund scholarships and offer internships to students. During the AGC student chapter's monthly meetings, you'll hear practitioners talk about their specialties and take field trips to construction sites.

## COURSES

Administered by the Civil Engineering Department, Construction Engineering Technology provides a strong analytical and technical orientation relative to construction. With additional credits taken, a student may also pursue a minor in Business Administration and/or Land Surveying.

### COLLEGE REQUIREMENTS

Precalculus  
Calculus (Differential & Integral)  
Chemistry  
Geology  
Physics  
General Education Core  
Written & Oral Communications  
Economics and Statistics  
Engineering Design

### CONSTRUCTION ENGINEERING

#### TECHNICAL REQUIREMENTS

Engineering Applied Analysis  
Engineering Design Graphics  
Surveying  
Statics & Strength of Materials  
Concrete  
Behavior of Materials  
Soils & Foundations  
Fluid Mechanics  
Building Construction & Structures  
Electrical & Mechanical Systems  
**Construction:**  
Organization & Administration  
Methods, Production & Equipment  
Estimating & Scheduling  
Management & Safety  
Building Systems

### PROFESSIONAL ELECTIVES

Professional electives in Construction Engineering Technology include civil engineering, architecture, business administration and engineering management courses. Students choose professional electives from the following list:

- Advanced Surveying Computations
- Building Information Modeling in Construction
- Cold Regions Engineering
- Economic Feasibility
- Engineering Thermodynamics
- Finance
- Human Resources Management
- International Management
- Investments
- Legal Principles in Surveying
- Management & Organization
- Managerial Economics
- Marketing
- Operations Management
- Photogrammetry
- Project Design in Surveying
- Project Management
- Public Land Survey System
- Transportation Engineering
- Work Design & Analysis

