

What Can I Do With a Major In...

Civil Engineering?

Civil Engineering programs² apply mathematics, physics, chemistry and biology to infrastructure systems in order to arrive at designs that are safe, enduring, cost effective, attractive and sustainable. Students study the basic engineering principles associated with structural engineering (from buildings to bridges), geotechnical engineering (soil mechanics and soil structure), environmental engineering (from groundwater remediation to hazardous waste disposal), water resources engineering (from stream rehabilitation to pumps and pipes), and transportation engineering (from road design to traffic management). At the senior level, students select one or two of these areas for specialization.

Programs at Montana State University² provide graduates with a strong background in basic sciences and engineering mechanics, and prepare graduates to become registered professional engineers capable of practicing civil engineering.

All graduates can expect to be able to:

- enter the profession of Civil Engineering and advance in the profession to become registered professional engineers and leaders in the field of Civil Engineering. Work on multi-disciplinary teams and effectively communicate with Civil Engineers of various sub-disciplines, architects, construction technologists, contractors, the public and public agents, scientists and others to design and construct Civil Engineering projects.
- begin to develop expertise in one of the sub-disciplines of Civil Engineering and engage in the life-long learning necessary to advance in the Civil Engineering profession
- contribute to society and the Civil Engineering profession through involvement in professional related and/or other service activity, and conduct their affairs in a highly ethical manner holding paramount the safety, health and welfare of the public and striving to comply with the principles of sustainable development
- begin careers in infrastructure design in a range of settings from private consulting firms to government agencies, or
- earn advanced degrees in Civil Engineering or other fields.

Characteristics associated with success include an interest in mathematics and the physical sciences (chemistry, physics and biology), effective communication skills, a keen desire to build or repair things, and a dedication to working for a better quality of life.

A student should:

- be a logical thinker and creative problem solver
- enjoy working as part of a multidisciplinary team
- have good communication skills, both orally and in writing
- have good computer skills

Occupations in this field require ability to¹: work in a variety of settings, including in the field, an office or outdoors; and may require the flexibility to move from project to project.

Related occupations include:¹

- Public Works Director
- Building/Construction Inspector
- Civil Engineering Technician
- Cost Estimator
- Scheduler
- Project Manager
- Surveyor
- Contractor/Construction Manager
- Construction Technologist
- Sales Engineer
- Architect
- Urban Planner
- City Engineer

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MSU graduates (Bachelor's degree) were hired in the following selected fields:

Analyst– Kimley-Horn and Associates, Inc.
Assistant Engineer– Lane Engineers, Inc.; Schmidt
Associate Civil Engineering– WWC Engineering
Associate Engineer– Pc Engineering
Civil Designer– Marquess and Associates Inc.
Civil Engineer– Gravitec Systems, Inc; HKM Engineering; Kadrmas, Lee and Jackson; USFS; State of Montana-Department of Transportation; Thomas, Dean and Hoskins; US Forest Service; Engineering Inc.; Morrison-Maierle Engineering; Williston Basin; Leitner-Poma of America Inc.
Civil Engineering Specialist– MT Department of Transportation
Civil Engineering Tech– Montana Department of Transportation
Design Engineer– David Evans & Associates, Inc.; Michkian Monks; HDR Engineering Inc.; Pentacor Engineering, LLC.
Draftsman– CNH Engineering
Engineer in Training– USFS; LCFM LLC; Mead & Hunt; Thomas Dean & Hoskins, Inc.; Thomas Graham Civil Design Group; Mibar Engineering; Western Professional Services; Apex Engineering; Forest Service
Embedded Systems Engineer– Montana State University
Engineer– HLB & Associates; Kiewit Pacific Company; King Engineering Associates; Allied Engineering Services, Inc.; HKM Engineering; Stueve Construction
Engineering Designer– Robert Peccia & Associates
Engineer Intern– Kimley-Horn and Associates Inc.; Bridger Engineers, Inc.
Engineering Specialist (Bridge Design)– MT Department of Transportation
Engineer in Training– Beaudette Consulting Engineering
Entry Level Civil Engineer– Schwartz Arch & Engineer; General Construction; TSP Engineering
Environmental Engineer– CNH Engineering; Santa Fe Indian Hospital
Estimator– Montana Crane Service
Farmer/Rancher/Assistant Manager– Shugert Farms
Field Superintendent– Kiewit Western
Insurance Agent– Farmers Insurance
Junior Engineer– EMC-Squared; Nolte & Associates, Inc.
Land Developer– Gateway Engineering
Management Info System Tech– Barrett Hospital and Health Care
Materials Project Manager– Kleinfelder Inc.
Pavement Specialist– Oregon Department of Transportation
President– Sundry Solutions Inc.
Project Engineer– Houston Engineering; Billmayer Engineering, Inc.; TCNH
Project Engineer EIT– Beaudette Consulting Engineers, Inc.
Project Manager– Kleinfelder Inc.; Rio Verde Engineering
Project Superintendent– Langlass Associates
Ranch Hand– R O Bar Ranch
Sales– Costco
Secondary Math Teacher– Peace Corps
Staff– HKM Engineering
Staff Engineer– Highlight Engineers; Great West Engineering; Morrison-Maierle Inc.; City of Billings; Treadwell & Rollo, Inc; NTL Engineering & Geoscience INC
Staff Engineer/Inspector– Morrison Maierle Inc.
Structuring Engineering– Morrison Maierle; Beaudette Consulting Engineers
Squad Boss – US Forest Service Fire Crew
Surveying Technician– Hallin Associates
Technician– Kleinfelder Inc.
Teacher Assistant– Montana State University
Traffic Assistant– Montana State University
Transportation Engineer– Engineering, Inc.; Washington State Department of Transportation
Verification Engineer– Washington State Department of Transportation

Salary averages of survey respondents: (# of respondents in parentheses)³

2007: MT: \$40,786 (12)	Out of State: \$49,420 (8)
2006: MT: \$41,449 (17)	Out of State: \$45,040 (4)
2005: MT: \$36,195 (19)	Out of State: \$40,911 (11)
2004: MT: \$36,722 (8)	Out of State: \$40,897 (13)

Graduates from this program entered programs of further education at these institutions:

Montana State University
University of Wyoming

North Carolina State University
Cornel University

Texas A&M University
Colorado State University

Other Sources of Information:

American Society of Civil Engineers: www.asce.org/asce.cfm

International Code Council: www.iccsafe.org

American Society for Engineering Education: www.asee.org

Department of Civil Engineering, Montana State University: www.coe.montana.edu/ce/

For more information contact:



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www.montana.edu/careers

¹University of Oregon. 2007. Created by intoCareers, a unit of the University of Oregon. Montana information Montana Career Information System. Discover: 2008 by ACT, Inc.

²Montana State University Department of Engineering

³Montana State University Career & Internship Services

Number of graduates/number of respondents: 2004:33/32; 2005: 51/36; 2006: 49/39; 2007: 41/30