



B.S. in Civil Engineering

The Department of Civil and Environmental Engineering (CEE) produces graduates who design and maintain sustainable built and natural environments. Civil Engineers are responsible for designing our civil infrastructure (buildings, roads, bridges, reservoirs, drinking water and wastewater treatment), for the mitigation of geohazards (such as hurricanes and tornadoes) and for the protection and restoration of our natural environment. Civil Engineering is among the top three fastest growing engineering job markets, according to the U.S. Department of Labor. There are more Civil Engineers currently employed than in any other engineering profession.

During the first two years at Mines, Civil Engineering students complete a set of core courses that includes mathematics, basic sciences and engineering sciences. The first two years also include engineering design coursework through the Engineering Practice Introductory Sequence (EPICS I and II). This experience teaches design methodology and stresses the creative and synthesis aspects of the engineering profession.

A summer field session after the sophomore year provides experience using tools needed for civil engineering site assessment, such as surveying and graphic design using computer software. In the final two years, students complete advanced courses in structural theory, soil mechanics, environmental engineering, design of foundations, civil engineering and liberal arts electives. Juniors and seniors select electives that develop depth of knowledge in traditional civil engineering, structural engineering, geotechnical engineering, environmental engineering, water resources, and engineering mechanics. As seniors, all students complete a capstone design project in collaboration with students majoring in other engineering disciplines. Minors and areas of special interest in other programs, such as Humanitarian Engineering, are also available.

Internships & Careers

Throughout our program, there is substantial focus on the development of practical applications and techniques to enhance the overall attractiveness and competitiveness of Civil Engineering students to a wide range of employers in consulting, industry and government. Summer internships provide a tremendous opportunity to learn valuable work skills, hone in on career interests, establish contacts and networks, identify strengths and weaknesses and apply coursework to the world of work. Civil Engineering graduates from Mines are valued in a variety of careers, addressing the design of buildings and bridges, roads and transportation systems, flood control and stormwater management systems, water supply systems and solutions for mitigating landslides and other natural geohazards.

According to the 2012 Bureau of Labor Statistics, the employment of Civil Engineers is projected to grow 20% from 2012 to 2022, faster than the average for all occupations, and are receiving median annual salary offerings of \$79,340. As infrastructure continues to age, Civil Engineers will be needed to preserve buildings, rehabilitate bridges and maintain levees and dams.

Student Experience

Mines students will tell you that living in Colorado offers many opportunities to take a break from the books and enjoy a healthy outdoor and community life.

With over 170 student organizations, clubs and recreation activities, Mines students excel in their academics while pursuing diverse interests and enjoying balanced, active college lives. The American Society of Civil Engineers (ASCE), the American Water Works Associate/Water Environment Federation (AWWA/WEF) and the concrete canoe competition are of particular interest to Civil Engineering students. Not to mention, our campus sits at the foot of the Rocky Mountains - which means Colorado's playground is right in our backyard. At the Colorado School of Mines, life is rich and rewarding both inside and outside of the classroom.



“Mines helped me build a solid foundation for both graduate school & a career in industry. In addition to the exceptional technical training, the professors always challenged me to be a critical & independent thinker.

My experiences at Mines helped me learn how to ask the right questions and confidently think outside of the box to find the best solution.”

~ Kristi Selden, EIT, BS Civil Eng.
Structural Engineer
Wiss, Janney, Elstner Assoc. Inc.

DEPARTMENT QUICK FACTS

ABET Accredited

334 Undergrad. Students

143 Graduate Students

26 Faculty

5 Research Centers

2016-17 Civil Engineering Curriculum

Freshman Year

Fall Semester			Spring Semester		
		Credits			Credits
MATH111	Calculus for Scientists & Engineers I	4	MATH112	Calculus for Scientists & Engineers II	4
CHGN121	Principles in Chemistry I	4	PHGN100	Physics I - Mechanics	4.5
GEGN101	Earth & Environmental Systems	4	CHGN122	Principles of Chemistry II	4
LAIS100	Nature & Human Values	4	EPIC151	Design (EPICS) I	3
CSM101	Freshman Success Seminar	0.5	PAGN102	Physical Education	0.5
PAGN101	Physical Education	0.5			
TOTAL 17 credits			TOTAL 16 credits		

Sophomore Year

Fall Semester			Spring Semester		
		Credits			Credits
MATH213	Calculus for Scientists & Engineers III	4	MATH201	Probability and Statistics for Engineers	3
PHGN200	Physics II - Electromagnetism & Optics	4.5	EGGN350	Multidisciplinary Engineering Lab II	1.5
CEEN241	Statics	3	CEEN311	Mechanics of Materials	3
CEEN310	Fluid Mechanics for Civil & Env. Eng.	3	CEEN210	Introduction to Civil Infrastructure	1.5
CSCI260	Fortran Programming, 261, or EGGN 205	2	LAIS200	Human Systems	3
PAGN2XX	Physical Education	0.5	EPIC267	EPICS II: Civil Engineering, 262, 261, or 251	3
			PAGN2XX	Physical Education	0.5
TOTAL 17 credits			TOTAL 15.5 credits		
3 Week Summer Session		Credits			
CEEN331	Engineering Field Session	3			

Junior Year

Fall Semester			Spring Semester		
		Credits			Credits
CEEN314	Structural Theory	3	CEEN415	Foundation Engineering	3
CEEN312	Soil Mechanics	3	CE BREAD	Civil Engineering Breadth Elective	3
CEEN312L	Soil Mechanics Lab	1	CE BREAD	Civil Engineering Breadth Elective	3
CEEN350	Civil & Construction Eng. Materials	3	STR ELECT	Structural Design Elective	3
MEGN315	Dynamics	3	LAIS/EBGN	Humanity & Social Science Elective	3
MATH225	Differential Equations	3	FREE	Free Elective	3
TOTAL 16 credits			TOTAL 18 credits		

Senior Year

Fall Semester			Spring Semester		
		Credits			Credits
EBGN201	Principles of Economics	3	EGGN492	Senior Design II	3
EGGN491	Senior Design I	3	CE ELECT	Civil Engineering Elective	3
CE ELECT	Civil Engineering Elective	3	CE ELECT	Civil Engineering Elective	3
CE ELECT	Civil Engineering Elective	3	LAIS/EBGN	Humanity & Social Science Elective	3
LAIS/EBGN	Humanity & Social Science Elective	3	FREE	Free Elective	3
FREE	Free Elective	3			
TOTAL 18 credits			TOTAL 15 credits		

For the most accurate and up-to-date curriculum information, please refer to the Undergraduate Bulletin

DEGREE TOTAL HOURS: 135.5 credits

PROGRAM CONTACT

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