



B.S. in Environmental Engineering

The Department of Civil and Environmental Engineering (CEE) produces graduates who design and maintain sustainable built and natural environments. Environmental Engineers combine engineering problem solving with fundamental scientific principles to develop integrated, sustainable solutions to environmental challenges. Many Environmental Engineers focus on the protection and management of clean water, air, energy and other natural resources, in addition to designing strategies to prevent, manage and remediate hazardous materials and other challenges.

During the first two years at Mines, Environmental 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. In the final two years, students complete advanced courses in Hydrologic & Water Resources Engineering, Environmental Engineering and Science and Water & Wastewater Treatment, to name a few.

A summer field session after the junior year provides experience solving a real-world problem in water resources and environmental engineering using actual sites in Colorado's Front Range. Juniors and seniors select electives that develop depth of knowledge in environmental engineering, water resources, wastewater treatment, sustainable engineering design and pollution prevention. 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 Environmental Engineering students to a wide range of employers in consulting, industry and government and can involve work in an office, lab or in the great outdoors.

In addition, 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. Environmental Engineering graduates often get jobs managing and protecting our natural water resources, in water/wastewater treatment plants, conducting soil and ground-water remediation or cleaning up mine sites, river restoration, environmental aspects of oil and gas development, in chemical or microbiological laboratories, or working with government agencies in environmental regulation or public health. According to the 2012 Bureau of Labor Statistics, the employment of Environmental Engineers is projected to grow 15% from 2012-2022, faster than the average of all occupations, and are receiving median annual salary offerings of \$80,890.

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 Water Works Association/Water Environment Federation (AWWA/WEF) is of particular interest to Environmental 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.



The broad curriculum from my undergrad. degree provided a strong foundation in engineering fundamentals and problem solving that served me well through graduate school and my career since graduating.

Many of my projects do not have a straightforward solution, and require a broad understanding of not just engineering, but also social, economic and regulatory issues to make the project a success.

Mines prepared me well for meeting these challenges through diverse coursework, senior design projects, and by providing extra-curricular activities. In particular, the RMWEA/AWWA Student Chapter was a great opportunity to get to know other professionals in the environmental industry, and ultimately led to my first job offer."

**~ Jamie Eichenberger, PE, B.S. Env. Engineering
Utility Planning Project Manager at HDR**

DEPARTMENT QUICK FACTS

ABET Accredited

334 Undergrad. Students

143 Graduate Students

26 Faculty

5 Research Centers

2016-17 Environmental Engineering Curriculum

Freshman Year

Fall Semester			Credits	Spring Semester			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			Credits	Spring Semester			Credits				
MATH213	Calculus for Scientists & Engineers III	4	MATH225	Differential Equations	3						
PHGN200	Physics II - Electromagnetism & Optics	4.5	CEEN311	Mechanics of Materials	3						
CEEN310	Fluid Mechanics for Civil & Env. Eng.	3	EPIC251	Design (EPICS) II	3						
CEEN241	Statics	3	LAIS200	Human Systems	3						
CHGN209 *	Thermodynamics	3	EBGN201	Principles of Economics	3						
PAGN2XX	Physical Education	0.5	PAGN2XX	Physical Education	0.5						
TOTAL				18 credits		TOTAL				15.5 credits	

Junior Year

Fall Semester			Credits	Spring Semester			Credits				
MATH201	Probability & Statistics	3	CEEN302	Fundamentals of Env. Sci. & Eng. II	3						
CEEN301	Fundamentals of Env. Sci. & Eng. I	3	CEEN303	Environmental Engineering Laboratory	3						
CEEN 381	Hydrologic & Water Resource Engin	3	CEEN482	Hydrology & Water Resource Engineering Lab	3						
CSCI260	Fortran Programming, 261, or MAT307	2	EVE ELECT	Environmental Engineering Elective	3						
BIOSCI. Elect	Biology, Ecology or Microbiology	3	LAIS/EBGN	Humanity & Social Science Elective	3						
LAIS/EBGN	Humanity & Social Science Elective	3	FREE	Free Elective	3						
TOTAL				17 credits		TOTAL				18 credits	
3 Week Summer Session			Credits								
CEEN330	Env. Engineering Field Session	3									

Senior Year

Fall Semester			Credits	Spring Semester			Credits				
EGGN491	Senior Design I	3	EGGN492	Senior Design II	3						
CEEN470	Water & Wastewater Treatment Proc	3	EVE ELECT	Environmental Engineering Elective	3						
CEEN480	Chem Fate and Transport in the Env	3	EVE ELECT	Environmental Engineering Elective	3						
EVE ELECT	Environmental Engineering Elective	3	LAIS/EBGN	Humanity & Social Science Elective	3						
FREE	Free Elective	3	FREE	Free Elective	3						
TOTAL				15 credits		TOTAL				15 credits	

DEGREE TOTAL HOURS: 134.5 credits

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

* Can take CBEN210 or MEGN361



PROGRAM CONTACT

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