

CIVIL ENGINEERING, BS

Civil engineering shapes our world by supporting the health and safety of the environment and the communities we call home. It's a multidisciplinary career field dedicated to public good by designing, building, operating, and maintaining:

- Buildings, homes, schools, theaters, and stadiums where we live, learn, work, and play
- Highways, streets, and bridges where we walk, bike, and drive
- Systems and infrastructure that guard us from flooding and provide safe water for drinking, swimming, and recreation
- Transportation hubs like airports, railways, and harbors that support the movement of people and goods
- Treatment and emission systems that ensure the safety of the air we breathe
- Systems for recycling, reusing, and disposing of solid and hazardous waste
- Production and transmission systems for conventional and renewable energy sources

As our infrastructure needs evolve and older generations leave the workforce, the demand for civil engineers is on the rise. The U.S. Bureau of Labor and Statistics projects over 21,000 job openings annually in the civil engineering field now through 2032, exceeding the average for other occupations.

At the University of Wisconsin–Madison, we help future engineers prepare for what's ahead with hands-on learning opportunities in well-equipped labs (<https://engineering.wisc.edu/news/vacuum-box-enhances-structures-lab-testing-capacity/>), computer facilities, on-site and field experiences, and our capstone design course (<https://engineering.wisc.edu/blog/excellence-in-civil-engineering-education-capstone-course-wins-10th-and-11th-ncees-awards/>).

You'll learn from supportive professors and practicing engineers while using the tools and technology that civil engineers use every day. Working with other students, you'll create solutions to challenges in our natural and built environments for real-world clients. And as you move forward in the program, you'll be ready for internships and co-ops (<https://engineering.wisc.edu/blog/a-blueprint-for-success-schiesls-journey-from-student-to-alum/>) that add to your education and offer valuable experience before graduation day.

Required civil engineering courses cover the breadth of fundamental knowledge you will need in this career field. Elective courses in facility design or operation help you tailor your studies and explore the latest innovations and methods for integrating sustainability, resilience to climate change, smart infrastructure, and virtual reality into engineering design and operation. There are also a variety of certificate programs that you can pair with your degree, including a Certificate in Architecture (<https://guide.wisc.edu/undergraduate/engineering/civil-environmental-engineering/architecture-certificate/>).

We encourage students to take the Fundamentals of Engineering (FE) exam before or shortly after graduating (<https://engineering.wisc.edu/blog/taking-the-fe-exam-as-an-undergrad/>), which is the first step in professional engineering licensure and its benefits. A pass rate of 95%

among our students surpasses the national average of 70%, ensuring our graduates are well-prepared for their careers.

Alumni from our program find jobs with planning and design consulting firms (<https://engineering.wisc.edu/blog/from-student-to-startup-co-founder-olivia-fritz-sets-sights-on-sustainability-engineering/>); architectural firms; construction companies; local, state, and federal agencies (<https://engineering.wisc.edu/blog/anthony-heddlesten-2023-early-career-award-recipient/>); and beyond. Areas of expertise include construction engineering and management, environmental engineering, geological and geotechnical engineering, structural engineering, transportation engineering, and water resources. Common entry-level job titles include civil engineer, field engineer, design engineer, structural engineer, surveyor, and transportation engineer.

VISION

Develop and maintain a learning community that pursues new knowledge and understanding, and provides innovative and sustainable solutions to human and ecological needs.

MISSION OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING (BSCE) PROGRAM

Create, integrate, and transfer civil engineering knowledge and practice in the development of professionals, leaders, and citizens that help define and serve societal and environmental needs by applying this knowledge and practice in an effective and sustainable manner.

HOW TO GET IN

HOW TO GET IN ADMISSION TO THE COLLEGE AS A FIRST-YEAR STUDENT

Students applying to UW–Madison (<https://www.admissions.wisc.edu/apply/>) need to indicate an engineering major (<https://engineering.wisc.edu/degrees-programs/undergraduate/>) as their first choice in order to be considered for direct admission to the College of Engineering. Direct admission means that students get to start their college career in the engineering program of their choice and have access to engineering-specific resources and facilities. Students who are directly admitted need to meet progression requirements (<https://engineering.wisc.edu/student-services/undergraduate-student-advising/progression/>) at the end of the first year to guarantee advancement in that program.

CURRENT UW-MADISON STUDENTS (CROSS-CAMPUS TRANSFER TO ENGINEERING)

Requirements	Details
How to get in	Application required. Meeting the requirements listed below does not guarantee admission. (https://engineering.wisc.edu/admissions/undergraduate/cross-campus-students (https://engineering.wisc.edu/admissions/undergraduate/cross-campus-students/))

Application restrictions	<ul style="list-style-type: none"> • Students may apply a maximum of two times. • Students who have earned more than 72 course credits at UW-Madison (as indicated on the UW-Madison transcript) at the time of application are not eligible to apply for admission to the College of Engineering. Course credits in progress at the time of application are not included in the COE Credit Limit. • Students may apply to only one engineering degree program per admissions cycle. • Students who meet course/credit requirements and have a Core GPA below 2.500 would not be considered for admission in their selected engineering degree program (major) without an appeal process. All graded UW-Madison courses referenced in the Foundational Courses List and any degree program engineering courses level 200 or higher will be counted in the Core GPA (excludes E P D, INTEREGR, special topics, independent study, and seminar courses). All graded UW-Madison courses count in the Overall GPA. For one and only one of these core courses that a student has repeated, the more recent of the two grades will be used in the calculation of Core and Overall GPAs for admission purposes. Students may not be considered for admission if on academic probation for GPA reasons at time of review.
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Credits required to get in	24 graded credits completed at UW-Madison, including at least one full-time (12 credit) semester. English as a Second Language course credits count toward the 24 credit minimum.
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Courses required to get in	<p>Engr Comm 1 (Comm A) requirement taken on a graded basis at UW-Madison. If the Comm A requirement has been satisfied through placement test, AP/IB, or transfer credit, then a liberal studies course of at least 3 credits (breadth designation of Humanities, Literature, or Social Sciences) must be taken on a graded basis at UW-Madison.</p> <p>Math course sequence through MATH#160;222.</p> <p>Four foundational courses completed on a graded basis at UW-Madison, as defined in the Foundational Courses List below.</p>
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Foundational courses list
Four Foundational Courses must be completed at UW-Madison as defined in 1. and 2.

1. Math Foundation

A minimum of two math courses numbered 221 or higher; one math course 300 level or higher; or calculus sequence completed through MATH 234. Excludes MATH 228, MATH/HIST SCI 473, special topics, independent study, seminar, pass/fail, and credit/no credit courses.

2. Engineering Foundation

A minimum of two courses as defined below:

Chemical Engineering:

- (i) one course must be CHEM 104 or higher
- (ii) one course must be PHYSICS 201/E M A 201 or higher

If the above two course requirements are completed with transfer or test credit, select from additional engineering foundation courses in (ii) below.

Aerospace Engineering, Biomedical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Engineering Mechanics, Engineering Physics, Environmental Engineering, Geological Engineering, Industrial Engineering, Materials Science and Engineering, Mechanical Engineering, Nuclear Engineering:

- (i) one course must be CHEM 104 or higher OR PHYSICS 201/E M A 201 or higher
- (ii) one other engineering foundation course from the following subject codes:

- Chemistry
- E M A 201, E M A 202, E M A 303
- PHYSICS 201 or higher
- Statistics, calculus-based
- COMP SCI 200, COMP SCI 220, COMP SCI 300 or higher, excluding COMP SCI 304
- excludes special topics, independent study, seminar, pass/fail, and credit/no credit courses

3. Additional foundational course options, if applicable

If the math and engineering foundational courses for the degree program are complete, then degree program engineering courses 200 level or higher can be taken to complete the Four Foundational Courses requirement. Excludes EPD, InterEGR, special topics, independent study, seminar, pass/fail, and credit/no credit courses.

Additional considerations

Cross-campus admission is selective. The admissions committee considers applicants' grades/grade trends, academic rigor, and personal statement. The College of Engineering offers an online information tutorial and advising (<https://engineering.wisc.edu/admissions/undergraduate/cross-campus-students/>) for students to learn about the cross-campus transfer process.

Semester	Deadline to apply	Decision notification timeline
To apply for a fall start	Mid May	Late June
To apply for a spring start	Late December/Early January	Late January
To apply for a summer start	This program does not accept applications to start in the summer.	

OFF-CAMPUS TRANSFER TO ENGINEERING

With careful planning, students at other accredited institutions can transfer coursework that will apply toward engineering degree requirements at UW-Madison. Off-campus transfer applicants are considered for direct admission to the College of Engineering by applying to the Office of Admissions with an engineering major listed as their first choice. Those who are admitted to their intended engineering program must meet progression requirements (<https://engineering.wisc.edu/admissions/undergraduate/transfer-from-off-campus/>) at the point of transfer or within their first two semesters at UW-Madison to guarantee advancement in that program. Transfer admission to the College of

Engineering is selective. A minimum of 30 credits in residence in the College of Engineering is required after transferring, and all students must meet all requirements for their engineering major.

The College of Engineering has dual degree transfer agreements with select four-year UW System campuses and a transfer agreement with Madison College. Eligible students in COE's transfer agreements automatically meet progression at the point of transfer.

Off-campus transfer students are encouraged to discuss their interests, academic background, and admission options with the Transfer & Academic Program Manager in the College of Engineering: ugtransfer@engr.wisc.edu.

SECOND BACHELOR'S DEGREE

The College of Engineering does not accept second undergraduate degree applications. Second degree student (<https://engineering.wisc.edu/admissions/undergraduate/adult-students-second-degree-students/>)s (<https://engineering.wisc.edu/student-services/undergraduate-student-advising/>) might explore the Biological Systems Engineering program at UW-Madison, an undergraduate engineering degree elsewhere, or a graduate program in the College of Engineering.

REQUIREMENTS

UNIVERSITY REQUIREMENTS

All undergraduate students must complete both the following Core General Education (Core GenEd) and University Degree and Quality of Work requirements. The requirements below apply to students whose first term at UW-Madison or whose earliest post-high school college attendance at any institution is Summer 2026 or later.

Students whose first term at UW-Madison or whose earliest post-high school college attendance at any institution occurred before Summer 2026 should refer to the archived Guide (<https://guide.wisc.edu/archive/>) for the requirements that apply to them.

CORE GENERAL EDUCATION (CORE GENED) REQUIREMENTS

Civics & Perspectives 3 credits of Civics & Perspectives coursework.

Communication & Literacy 6 credits of Communication & Literacy coursework. This requirement may be partially satisfied by a qualifying placement test score. More information: <https://go.wisc.edu/qualifyingenglishplacement> (<https://go.wisc.edu/qualifyingenglishplacement/>)

Humanities & Arts 6 credits of Humanities & Arts coursework.

Mathematics & Quantitative Reasoning 6 credits of Mathematics & Quantitative Reasoning coursework. This requirement may be partially satisfied by a qualifying placement test score. More information: <https://go.wisc.edu/qualifyingmathplacement> (<https://go.wisc.edu/qualifyingmathplacement/>)

Natural Science & Wellness Complete both:

- 6 credits of Natural Science & Wellness or Natural Science & Wellness + Laboratory coursework.
- one course must be in Natural Science & Wellness + Laboratory coursework.

Social & Behavioral Science 3 credits of Social & Behavioral Science coursework.

Total Credits 30 credits.

For more information see the policy (<https://policy.wisc.edu/library/UW-1095/>).

UNIVERSITY DEGREE AND QUALITY OF WORK REQUIREMENTS

All undergraduate degree recipients must complete the following minimum requirements. Requirements for some programs will exceed these requirements; see program requirements for additional information.

Total Degree 120 degree credits.

Residency Complete 30 credits in residence. A course is considered "in residence" if it is taken when in undergraduate degree-seeking status and:

- is offered by UW-Madison and completed on the UW-Madison campus or at an approved off-site location, or
- is offered by UW-Madison in an online or distance format, or is completed during participation in a UW-Madison study abroad/study away program.

Quality of Work Achieve at least the minimum grade point average specified by the school, college, and/or academic program.

Math Demonstrate minimal mathematics competence by:

- placing above MATH#160;96, or
- successfully completing MATH#160;96, or
- successfully completing a more advanced mathematics course such as MATH#160;112, MATH#160;113, MATH#160;114, MATH#160;141, MATH#160;211, or MATH#160;221.

English Language If required to take the UW-Madison English as a Second Language Assessment Test (MSN-ESLAT), demonstrate minimal English language competence by:

- earning credit for ESL#160;118, or
- achieving a qualifying MSN-ESLAT placement test score.

Language Complete one:

- 2 high school units of a single language other than English, or
- one course with the second semester Language designation.

Major Declaration Declare and complete the requirements for at least one major.

COLLEGE OF ENGINEERING DEGREE GRANTING PROGRAMS' COMMON REQUIREMENTS

The College of Engineering departments collaborated and adopted a common set of guidelines in their degree granting program (major) requirements. Engineering departments incorporate specific coursework within their curricula to meet these guidelines. Students should refer to specific coursework detailed below the Summary of Requirements.

COLLEGE OF ENGINEERING DEGREE GRANTING PROGRAMS' COMMON REQUIREMENTS

Communication All College of Engineering majors require two levels of communication coursework:

- Engineering Communication 1: one course with the Communication A designation or satisfaction of Communication A based on eligible UW Placement Score.
- Engineering Communication 2: each major specifies one course (e.g. INTEREGR 160/397) which also carries the Communication B designation.

Quantitative Reasoning All College of Engineering majors require a math sequence that incorporates two levels of quantitative reasoning.

Humanities or Literature All College of Engineering majors require a minimum of 6 credits with the Humanities or Literature breadth designations. See major Liberal Studies Electives Requirement below.

Social Sciences All College of Engineering majors require a minimum of 3 credits with the Social Sciences breadth designation. See major Liberal Studies Electives Requirement below.

Natural Sciences All College of Engineering majors require specific coursework that incorporates a minimum of 6 credits with the Biological, Natural, or Physical Science breadth designations.

Ethnic Studies All College of Engineering majors require at least one course of at least 3 credits with the Ethnic Studies designation. This course may also be used to satisfy the Social Sciences or Humanities or Literature requirement.

CIVIL ENGINEERING, BS CURRICULUM

This curriculum applies to students admitted to the degree program this Guide academic year. Curricular requirements for students admitted in previous semesters are available in the Archive (<https://guide.wisc.edu/archive/>) section of Guide.

SUMMARY OF REQUIREMENTS

Code	Title	Credits
	Introduction to Engineering	3
	Mathematics and Statistics	19
	Basic Science	16
	Engineering Mechanics	10
	Civil Engineering Mechanics	6
	Civil Engineering Tools	6
	Civil Engineering Breadth	21
	Civil Engineering Design	10
	Engineering Electives	13
	Communication Skills	8
	Liberal Studies Electives	16
Total Credits		128

INTRODUCTION TO ENGINEERING

Code	Title	Credits
INTEREGR 170	Design Practicum	3
Total Credits		3

MATHEMATICS AND STATISTICS REQUIREMENT

Code	Title	Credits
Mathematics		
MATH 221	Calculus and Analytic Geometry 1	5
MATH 222	Calculus and Analytic Geometry 2	4
MATH 234	Calculus--Functions of Several Variables	4
Statistics		
One of the following options:		3
STAT 324	Introduction to Statistics for Science and Engineering	
or I SY E 210	Introduction to Industrial Statistics	
STAT 311 & STAT 312	Introduction to Theory and Methods of Mathematical Statistics I and Introduction to Theory and Methods of Mathematical Statistics II	
Advanced Mathematics		
One of the following options:		3
MATH 319	Techniques in Ordinary Differential Equations	
MATH 320	Linear Algebra and Differential Equations	
Total Credits		19

BASIC SCIENCE REQUIREMENT

Code	Title	Credits
One of the following:		5-9
CHEM 103 & CHEM 104	General Chemistry I and General Chemistry II	
CHEM 109	Advanced General Chemistry	
One of the following:		5
PHYSICS 202	General Physics	
PHYSICS 208	General Physics	
One of the following:		3
GEOSCI 100	Introductory Geology: How the Earth Works	
GEOSCI/ ENVIR ST 106	Environmental Geology	
One of the following:		3
ZOOLOGY/ BIOLOGY/ BOTANY 151	Introductory Biology	
ZOOLOGY 153	Introductory Biology	
ZOOLOGY/ BOTANY/ ENVIR ST 260	Introductory Ecology	

MICROBIO 101	General Microbiology	
Total Credits		16-20

ENGINEERING MECHANICS REQUIREMENT

Code	Title	Credits
E M A 201	Statics (with a grade of C or better)	3
E M A 202	Dynamics	3
E M A 303	Mechanics of Materials	3
E M A/M E 307	Mechanics of Materials Lab	1
Total Credits		10

CIVIL ENGINEERING MECHANICS REQUIREMENT

Code	Title	Credits
CIV ENGR 310	Fluid Mechanics	3
CIV ENGR/ E M A 395	Materials for Constructed Facilities	3
Total Credits		6

CIVIL ENGINEERING TOOLS REQUIREMENT

Code	Title	Credits
CIV ENGR 159	Civil Engineering Graphics (was ME 170 before Fall 2023)	2-3
or M E 231	Geometric Modeling for Design and Manufacturing	
CIV ENGR/G L E 291	Problem Solving Using Computer Tools	4
Total Credits		6-7

CIVIL ENGINEERING BREADTH REQUIREMENT

Code	Title	Credits
CIV ENGR 311	Hydroscience	3
CIV ENGR 320	Environmental Engineering	3
CIV ENGR/ G L E 330	Soil Mechanics	3
CIV ENGR 340	Structural Analysis I	3
CIV ENGR 370	Transportation Engineering	3
CIV ENGR 461	Construction Project Management	3
CIV ENGR 494	Civil and Environmental Engineering Decision Making	3
Total Credits		21

CIVIL ENGINEERING DESIGN REQUIREMENT

Code	Title	Credits
CIV ENGR 578	Senior Capstone Design	4

Every student must take at least one class in at least two of the following CEE disciplines (Water Resources, Environmental, Structural, Geological, Transportation) for a total of 6 credits. One of the two classes MUST be completed BEFORE taking CIV ENGR 578 Senior Capstone Design.

Note: If a student takes three or more courses from these disciplines, two of those courses will count toward this civil engineering design requirement and the other course(s) will count towards the engineering electives requirement.

Total Credits		10
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Water Resources

Code	Title	Credits
CIV ENGR 414	Hydrologic Design	3

Environmental

Code	Title	Credits
CIV ENGR 426	Design of Wastewater Treatment Plants	3
CIV ENGR 427	Solid and Hazardous Wastes Engineering	3
CIV ENGR 428	Water Treatment Plant Design	3
CIV ENGR 522	Hazardous Waste Management	3

Structural

Code	Title	Credits
CIV ENGR 445	Steel Structures I	3
CIV ENGR 447	Concrete Structures I	3

Geological

Code	Title	Credits
CIV ENGR/ G L E 530	Seepage and Slopes	3
CIV ENGR/ G L E 532	Foundations	3

Transportation

Code	Title	Credits
CIV ENGR 573	Geometric Design of Transport Facilities	3
CIV ENGR 574	Traffic Control	3
CIV ENGR 576	Advanced Pavement Design	3

ENGINEERING ELECTIVES REQUIREMENT

- Students must take at least 3 credits of coursework from an ABET-accredited degree-granting program outside of the Bachelor of Science in Civil Engineering program. INTEREGR and E P D courses do not qualify for meeting this requirement; any courses cross-listed with Civil Engineering (CIV ENGR) do not qualify for meeting this requirement.
- Students must take at least 3 credits of CEE coursework in addition to the civil engineering design requirement. **Note:** Students in the Construction Engineering Management or Environmental Engineering option programs must select from a set of CIV ENGR courses approved for those options.^{1,2,3}
- Students must take at least 7 credits of coursework that meets at least one of the following^{1,2,3}:
 - Any course offered by an engineering department, including but not limited to CIV ENGR.
 - Any Intermediate or Advanced level course with a breadth designation of Biological Sciences, Physical Sciences and/or Natural Sciences. These courses cannot also carry a breadth designation of Social Sciences, Humanities or Literature.

- c. Any of the following business courses: INTEREGR 303 Applied Leadership Competencies in Engineering, ACCT I S 300 Accounting Principles, FINANCE/ECON 300 Introduction to Finance, GEN BUS 301 Business Law, M H R 300 Managing Organizations, REAL EST/A A E/ECON/URB R PL 306 The Real Estate Process

Total Credits: 13

- ¹ Up to three credits of CIV ENGR 1 Cooperative Education Program may be used towards Item 2 or 3.
- ² Up to six credits of research work (CIV ENGR 299 Independent Study, CIV ENGR 489 Honors in Research, and/or CIV ENGR 699 Independent Study) may be used towards Item 2 or 3.
- ³ CIV ENGR 121 Sustainability Engineering for Non-Engineers, CIV ENGR 150 Introduction to Architectural Theory, CIV ENGR 151 Architectural Making I, CIV ENGR 152 Architectural Making II, CIV ENGR 155 Architectural Thinking, and CIV ENGR 250 Architectural Visualization cannot be used in Items 2 or 3 above.

COMMUNICATION SKILLS

Code	Title	Credits
Engr Comm 1		3
INTEREGR 156	Introduction to Writing, Speaking, and Ethics for Engineers	
or ENGL 100	Introduction to College Composition	
or LSC 100	Science and Storytelling	
or COM ARTS 1C	Introduction to Speech Composition	
or ESL 118	Academic Writing II	
Speech-Related Course		2
INTEREGR 275	Technical Presentations ¹	
or COM ARTS 18	Elements of Speech-Honors Course	
or COM ARTS 2A	Argumentation and Debate	
or COM ARTS 2B	Theory and Practice of Group Discussion	
Engr Comm 2		3
INTEREGR 397	Engineering Communication	
Total Credits		8

¹ INTEREGR 275 Technical Presentations is strongly recommended.

LIBERAL STUDIES ELECTIVES

Code	Title	Credits
College of Engineering Liberal Studies Electives		
Complete Requirements (https://guide.wisc.edu/undergraduate/engineering/#requirements)		16
Requirements specific to Civil Engineering:		
<i>A minimum of three credits of environmental studies course that meets the breadth designations of humanities, literature, and/or social science. Courses that also carry breadth designations of Biological Sciences, Natural Sciences, or Physical Sciences will not count towards this requirement.</i>		
<i>An economics course must be taken as part of the liberal studies electives and selected from the following list:</i>		
ECON 101	Principles of Microeconomics	

ECON 102	Principles of Macroeconomics
ECON 111	Principles of Economics-Accelerated Treatment

Total Credits**16****HONORS IN RESEARCH**

Students in civil engineering that have completed at least two semesters on the Madison campus with a cumulative GPA of **at least** 3.5 may apply to participate in the Honors in Research program. Students may register for 1 to 3 credits per semester. A grade of P (Progress) will be assigned each semester until the student completes the honors in research program or drops out of the program, at which time a final grade is assigned (based on research progress and the written thesis, if completed). This becomes the grade for all credits taken in CIV ENGR 489 Honors in Research.

A senior thesis worth 3 credits of CIV ENGR 489 is required. The senior thesis is a written document reporting on a substantial piece of work that is prepared in the style of a graduate thesis. The thesis advisor determines the grade which the student receives for the thesis. A bound copy of the thesis must be submitted to the Department of Civil and Environmental Engineering office to complete the program.

The designation "Honors in Research" will be recorded on the student's transcript if the following criteria are met:

1. Satisfaction of requirements for an undergraduate degree in Civil Engineering.
2. A cumulative grade-point average of at least 3.3.
3. Completion of a total of at least 8 credits in CIV ENGR 489.
4. Completion of a senior honors thesis with a final grade of B or better.

Students interested in the Honors in Research program should contact their advisor or the BSCE chair for more information. Applications to the program are to be submitted to the BSCE chair with a supporting letter from the student's academic and thesis advisors. Decisions regarding acceptance are made by the BSCE chair.

NAMED OPTIONS

View as listView as grid

- **CIVIL ENGINEERING: CONSTRUCTION ENGINEERING AND MANAGEMENT ([HTTPS://GUIDE.WISC.EDU/UNDERGRADUATE/ENGINEERING/CIVIL-ENVIRONMENTAL-ENGINEERING/CIVIL-ENGINEERING-BS/CIVIL-ENGINEERING-CONSTRUCTION-ENGINEERING-MANAGEMENT-BS/](https://guide.wisc.edu/undergraduate/engineering/civil-environmental-engineering/civil-engineering-bs/civil-engineering-construction-engineering-management-bs/))**

LEARNING OUTCOMES**LEARNING OUTCOMES**

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and

welfare, as well as global, cultural, social, environmental, and economic factors

- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

FOUR-YEAR PLAN

FOUR-YEAR PLAN SAMPLE FOUR-YEAR PLAN

First Year

Fall	Credits Spring	Credits
MATH 221	5 MATH 222	4
CHEM 109	5 E M A 201	3
INTEREGR 170	3 CIV ENGR 159 or M E 231	2
or LIBERAL STUDIES	LIBERAL STUDIES or	3
ENGR COMM 1	3 INTEREGR 170	
	GEOSCI 100 or 106	3
	16	15

Second Year

Fall	Credits Spring	Credits
MATH 234	4 MATH 319 or 320	3
E M A 202	3 E M A 303	3
CIV ENGR 320	3 E M A/M E 307	1
BIOLOGY ELECTIVE	3 CIV ENGR 310	3
STAT 324	3 INTEREGR 275	2
	ECON 101, 102, or 111	4
	16	16

Third Year

Fall	Credits Spring	Credits
CIV ENGR 311	3 CIV ENGR 340	3
CIV ENGR/G L E 330	3 CIV ENGR 370	3
CIV ENGR/G L E 291	4 CIV ENGR/E M A 395	3
ETHNIC STUDIES	3 CIV ENGR 461	3
INTEREGR 397	3 PHYSICS 202 or 208	5
	16	17

Fourth Year

Fall	Credits Spring	Credits
CIV ENGR DESIGN ELECTIVE	3 CIV ENGR 578	4
ENGR ELECTIVE	3 CIV ENGR DESIGN ELECTIVE	3
CIV ENGR ELECTIVE	3 ENGR ELECTIVE	3

CIV ENGR 494	3 LIBERAL STUDIES	3
ENV STUDIES ELECTIVE	3 ENGR OUTSIDE OF CIV ENGR	3
ENGR ELECTIVE	1	
	16	16

Total Credits 128

ADVISING AND CAREERS

ADVISING AND CAREERS ADVISING

Every College of Engineering undergraduate has an assigned academic advisor (<https://engineering.wisc.edu/student-services/undergraduate-student-advising/>). Academic advisors support and coach students through their transition to college and their academic program all the way through graduation.

Advisors help students navigate the highly structured engineering curricula and course sequencing, working with them to select courses each semester.

When facing a challenge or making a plan toward a goal, students can start with their academic advisor. There are many outstanding resources at UW-Madison, and academic advisors are trained to help students navigate these resources. Advisors not only inform students about the various resources, but they help reduce the barriers between students and campus resources to help students feel empowered to pursue their goals and communicate their needs.

Students can find their assigned advisor in their MyUW Student Center.

ENGINEERING CAREER SERVICES

Engineering Career Services (<https://ecs.wisc.edu>) (ECS) assists students in finding work-based learning experiences such as co-ops and summer internships, exploring and applying to graduate or professional school, and finding full-time professional employment.

ECS offers two large career fairs per year, assists students with resume building and developing interviewing skills, hosts skill-building workshops, and meets one-on-one with students to discuss offer negotiations.

Students are encouraged to engage with the ECS office early in their academic careers. For more information on ECS programs and workshops, visit: <https://ecs.wisc.edu>.

CERTIFICATION/LICENSURE

CERTIFICATION/LICENSURE

Licensure as a Professional Engineer is expected of civil engineers. Information on steps needed to obtain licensure is available from the National Council for the Examination of Engineers and Surveyors (NCEES) at <https://ncees.org/engineering/>.

ACCREDITATION

ACCREDITATION

Accredited by the Engineering Accreditation Commission of ABET (<https://www.abet.org/>), <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Civil and Similarly Named Engineering Programs.

PROGRAM#EDUCATIONAL OBJECTIVES#FOR THE BACHELOR OF SCIENCE IN CIVIL ENGINEERING

We recognize that our graduates will choose to use the knowledge and skills that they have acquired during their undergraduate years to pursue a wide variety of career and life goals, and we encourage this diversity of paths. Whatever path our graduates may choose, we expect them to be meeting the following objectives at least three to five years after graduation:

1. Design and construct both natural and built processes and systems to efficiently meet determined needs using technical knowledge; modern tools; design principles; ethical practice; and communication, leadership, and team skills.
2. Investigate natural and built systems by using measurements, experiments, and analysis tools.
3. Understand, anticipate, and incorporate economic, environmental, political, social, safety, ethical and global considerations in the design, investigation, and construction of natural and built systems.
4. Engage in lifelong learning to keep pace with the continuous evolution of policies, procedures, technologies and tools for engineering analysis, design, and decision making.
5. Serve others through participation in professional and/or civic activities and responsibilities.

Note: Undergraduate Student Outcomes, number of degrees conferred, and enrollment data are made publicly available at the Civil Engineering#Undergraduate Program website (<https://engineering.wisc.edu/programs/degrees/civil-engineering-bs/>). (In this Guide, the program's Student Outcomes are available through the "Learning Outcomes" tab.)