

Civil Engineering, BCE

Civil Engineering majors are trained to eventually become licensed, practicing civil engineers. Civil Engineers design, build, manage, and plan civil infrastructure including structures, roads, traffic controls, water and wastewater systems and construction operations. Marquette Civil Engineering majors typically go on to work for consulting engineering firms, municipalities and other government organizations, regulatory agencies and industries. Civil Engineering majors also may go on to graduate school or to work for research and educational institutions.

Program Educational Objectives - Civil Engineering Degree

To carry out the mission of the college of engineering and the mission of the department described previously, the department of civil, construction and environmental engineering has established the following educational objectives for its undergraduate civil engineering degree program. Students graduating with the Bachelor of Science degree in civil engineering will:

- Continue to participate in the civil engineering profession or in other related and/or emerging fields
- Engage in life-long learning through achievement of graduate degrees, advanced research and/or other continuous professional development opportunities including attending professional conferences and seminars
- Achieve professional licensure and certification after attaining the required years of professional experiences
- Become leaders in their professional societies and civic communities

Civil engineering is the art and science used in the construction of facilities which people need in their environment — land, water and air. Airports, buildings, bridges, dams, harbors, highways, irrigation systems, transportation systems, sewerage and water supply systems are examples of the types of facilities which are the responsibility of the civil engineer.

Since the beginning of civilization, people have been building with the use of engineering principles. Modern society depends on this contribution from the civil engineer, whose education is systematically developed from a strong background in mathematics and the physical and engineering sciences. The civil engineer must relate to society and fellow men and women and be aware of how the engineering principles can be applied for the benefit of others.

Civil engineers are also stewards of the land, its resources and environment. Many civil engineers are involved in activities such as watershed and environmental planning, sustainable resource development and environmental protection.

The civil engineering degree program develops the analysis and design capabilities of the student in the study of structures and systems. The application of computers and pertinent software is used throughout the major. A broad educational program can be selected or some specialization is possible through advised elective course selection. The environmental engineering major within the civil engineering degree provides the student with a fundamental background in civil engineering and specialization in the field of environmental engineering.

The construction engineering degree provides the student with general engineering skills and the management and finance background for entry into the field of construction engineering.

The curriculum provides the graduate with the necessary education to begin a professional career without further formal education, while also affording those students who enter graduate studies the preparation to further their education in a field of specialization.

DEGREE REQUIREMENTS

All engineering students must successfully complete the curriculum prescribed in the Undergraduate Bulletin by the college at the time they are admitted or readmitted as degree candidates. This includes the requirements of the minimum number of degree hours earned, all required courses and an approved elective program, a C (2.000) average in all Marquette credits applied toward the degree, and a C (2.000) average in all Opus College of Engineering courses. Note: The BS in Biomedical Engineering requires a minimum 2.500 in all Marquette work. The Engineering Leadership concentration requires a minimum 2.800 in all Marquette work. The BS in Biomedical Engineering requires a minimum 2.500 in all Opus College of Engineering courses. The BS in Biomedical Engineering requires a minimum 2.500 GPA in all biomedical engineering major courses. A minimum of 60 credits must be taken at Marquette University. The final 30 credits must be taken at Marquette University or in an approved study abroad program unless given prior approval from the Office of the Provost. The 32 credit hours of upper division course work must be taken at Marquette University. At least 15 credit hours of course work in the major must be completed at Marquette University.

The following conditions apply under special circumstances:

1. If all degree credit is earned in continuous study in engineering at Marquette, the fulfillment of all degree requirements is normally straightforward. Students making an inter-college curriculum change have credits earned in a previous curriculum allocated to the new curriculum by the Office of Academic Affairs through consultations with the appropriate department chair or their designate.
2. Students who have interrupted their enrollment from the university are normally obliged to follow the curriculum in effect at the time of readmission or more directly they must complete the courses prescribed by their department at the time of readmission. Normally, this is defined in concert with the Director of Student Studies and Records in consultation with department chair or their designate. Policies and regulations that are in effect at the time of return apply to all students, regardless of the term of initial enrollment.

- Transfer students coming into engineering degree programs have their previous credits evaluated and applied toward the specific engineering degree they are pursuing, at the time of admission.
- Students may elect to repeat courses at Marquette using the Course Repeat (<https://bulletin.marquette.edu/policies/repeated-courses/>) policy. The repeated course grade is used in the computation of the GPA. The first grade is removed from the GPA. The original grade remains on the student's record. Students must complete and submit a Request to Repeat an Undergraduate Course form. Note: For Opus College of Engineering students, the Course Repeat cannot be used more than five times throughout their career.
- Credit/No Credit (CR/NC), Satisfactory/Unsatisfactory (S/U) grades do not affect the student's GPAs, only degree hours earned. The same rule applies to credit added through Advanced Placement programs, Credit by Examination and CLEP exams.
- Any variation from standard degree requirements must be accompanied by approved Curriculum Substitution and/or Allowance Request forms, which are available on the Engineering Academic Advising Center (<http://www.marquette.edu/engineering/academic-advising-center/>) website.

College GRADUATION REQUIREMENT

A degree of Bachelor of Science in Biomedical Engineering, Bachelor of Science in Civil Engineering, Bachelor of Science in Construction Engineering, Bachelor of Science in Computer Engineering, Bachelor of Science in Electrical Engineering or Bachelor of Science in Mechanical Engineering may be conferred on students who successfully complete the curriculum prescribed for the degree, and who have satisfied the following requirements:

- The Opus College of Engineering graduates students three times each year (May, August, and December).
- Students who plan to graduate must apply for a degree through the submission of an Application for Graduation no later than the deadline posted in the Academic Calendar (<http://www.marquette.edu/calendar/>).
- Graduation requirements include:
It is the responsibility of students to know and fulfill all university and college requirements. Note: In addition, students are required to adhere to the following college graduation requirements.
 - Minimum of 128-134 earned credit hours, depending on the major chosen.
 - Minimum 2.000 GPA in all Marquette work. The BS in Biomedical Engineering requires a minimum 2.500 in all Marquette work. The Engineering Leadership concentration requires a minimum 2.800 in all Marquette work.
 - Minimum 2.000 GPA in all Opus College of Engineering courses. The BS in Biomedical Engineering requires a minimum 2.500 in all Opus College of Engineering courses.
 - The BS in Biomedical Engineering requires a minimum 2.500 GPA in all biomedical engineering major courses.
 - Completion of all required courses and an approved elective program.
- Students are cautioned to enter their last term with a clear understanding that they are satisfying all degree requirements. Students should view their Academic Advisement (AA) Graduation Checklist in CheckMarq. If any requirements appear as - Not Satisfied, the Engineering Academic Advising Center (<http://www.marquette.edu/engineering/academic-advising-center/>) may be consulted to resolve any concerns.
- All curricular modifications must be accompanied by approved Curriculum Substitution and/or Allowance Request forms, which are available through the Engineering Academic Advising Center (<http://www.marquette.edu/engineering/academic-advising-center/>) website.
- All degree requirements must be completed on schedule and according to deadlines established in the Academic Calendar. Incomplete grades and late exams delay graduation for at least one term.
- A final check of students' degree requirements is made by the students' departments and the director of Student Studies and Records during the last term and students are notified if they fail to meet any requirements. However, this may be too late to adjust the term course load.
- In addition, the Opus College of Engineering adheres to the University Commencement Policy (<https://bulletin.marquette.edu/policies/commencement/>).

University Graduation Requirement

Undergraduate Graduation Policy

Students are required to graduate at the end of the term in which all degree requirements are completed. Degree requirements are those requirements, including university, college and all other requirements necessary to earn a minimum of one undergraduate degree and any declared degrees/majors/minors/concentrations. That is, additional degrees/majors/minors/concentrations may be earned; however, they must be completed in the same term as the first degree/primary major is completed. Except in the case of readmission, undergraduate students must meet the graduation requirements which are stated in the Undergraduate Bulletin issued for the year in which they entered Marquette. Substitutions or waivers for specific courses required for degree completion may occur, as determined by the college and/or the Marquette Core Curriculum committee.

Students who have interrupted their enrollment from the university, are normally obliged to follow the degree/major/minor/concentration requirements in effect at the time of readmission. Policies that are in effect at the time of the return, apply to all students, regardless of the term of initial enrollment. Students are responsible for keeping themselves informed of the requirements which apply in their particular cases. Students have faculty advisers available who assist in planning and implementing their plan of studies; however, it is ultimately each student's responsibility to know and fulfill the requirements for graduation specified for the selected plan. This should be done not only by utilization of specific advisers, but also with Academic Advisement, the university's online degree audit tool on CheckMarq provided to all undergraduates. With Academic Advisement, students track their

degree progress until graduation. It is the responsibility of students to immediately bring any discrepancies found in Academic Advisement to the attention of their college.

A candidate for a baccalaureate degree must meet the following graduation requirements:

1. In all undergraduate colleges and programs, a minimum of 120 credits earned and a cumulative grade point average of 2.000 is required for a Marquette undergraduate degree.
2. Credits required to be completed in residence at Marquette:
 - a. A minimum of 45 total credits must be completed at Marquette. Up to 15 of the 45 credits may be completed through an approved study abroad program.
 - b. A minimum of 32 upper-division credits must be completed at Marquette. This may include upper-division credits from an approved study abroad program.
 - c. The final 30 credits needed to complete a Marquette undergraduate degree must be completed at Marquette, unless those credits are earned in an approved study abroad program, or are earned as part of a written/contractual agreement with another institution, in which Marquette students participate during the final year of their degree program.
 - d. A minimum of one-half of credits in the major, minor, and concentration not attached to a major must be completed at Marquette.
3. Students must attend all courses, lectures, or any other exercises that are required, even though, in some cases such activities receive no recognition in terms of credit hours.
4. Students' records must be cleared of all grades that are not permanent, i.e., grades of I, IC, IE and NG.
5. Students must file the online application for a degree by the deadline published in the Academic Calendar (<https://www.marquette.edu/central/registrar/calendars-exams-schedules.php>); however, because students are required to graduate at the end of the term in which all university, degree requirements are complete, the university reserves the right to graduate a student without a graduation application on file. If the university exercises this option, there is no guarantee students will be able to participate in Commencement.
6. Commencement is held in May, after the spring term. Participation in Commencement does not mean students are graduated. See the Commencement Policy (<https://bulletin.marquette.edu/policies/commencement/>) in this section for further details.
7. Exceptions to this Graduation Requirements policy must be approved by the Office of the Provost, except:
 - the course and bulletin year exceptions listed in the 'Graduation Requirements' section above (as approved by the college)
 - number 3 above (as approved by the college)
 - the dean's office in the college where the student's program resides may exempt up to 6 of the final 30 credits from being completed in residence (number 2c above)

For additional college requirements, consult the Degree Requirements listed for each undergraduate program in this bulletin.

Special Note for 2023-2024: Students who attended Cardinal Stritch University in a bachelor's degree program during the 2022-2023 year and directly transfer to a bachelor's degree program at Marquette University in Fall 2023 or Spring 2024 with fewer than 45 credits remaining in their Marquette program are exempted from the standard Marquette residency requirement (items 2-6 listed above). In lieu of the standard residency requirement, exempted students must complete all remaining credits for their undergraduate degree at Marquette. Exempted students are expected to remain continuously enrolled (fall and spring terms) at Marquette until the completion of their bachelor's degree.

Graduation Latin Honors

The grade point average is used to compute graduation Latin honors. The computation is made by dividing the total number of grade points earned at Marquette University by the total number of grade point hours earned. The official Marquette GPA of all students is calculated by the student information system and this GPA is not rounded up or down for any reason. To graduate with Latin honors, candidates must be pursuing their first bachelor's degree, earned at least 60 grade point hours and 60 degree hours at Marquette University, normally as a junior and senior. First bachelor's degree is defined as the first bachelor's degree earned from any institution. When students earn a concurrent additional bachelor's degree (i.e., finish in the same term as the first bachelor's degree), the additional degree is also eligible for Graduation Latin Honors, if the first bachelor's degree qualifies.

Graduates whose grade point average is 3.500, graduate with cum laude (Latin for 'with honor'); graduates whose grade point average is 3.700, graduate with magna cum laude (Latin for 'with great honor'); and graduates whose grade point average is 3.900, graduate with summa cum laude (Latin for 'with highest honor'). Graduation Latin honors are recorded on diplomas, noted in the published lists of graduates at Commencement and recorded on students' transcript.

Graduation Record

The academic record of students is frozen once the degree is posted and may not be altered thereafter, unless required to do so by law and/or a documented university error is discovered after the degree is posted. This includes, but is not limited to: all relevant grade point averages, grades, additional information relating to the degree(s), major(s), minor(s), concentration(s), Latin Honors and academic censure.

Marquette Core Curriculum (MCC) - 30 Credits

Foundation Tier - 15 Credits

Code	Title	Hours
ENGL 1001 or HOPR 1955H	Foundations in Rhetoric Core Honors First-Year Seminar	
PHIL 1001 or PHIL 1001H	Foundations in Philosophy Honors Foundations in Philosophy	
THEO 1001 or THEO 1001H	Foundations in Theology: Finding God in all Things Honors Foundations in Theology: Finding God in all Things	
CORE 1929 or CORE 1929H	Foundations in Methods of Inquiry Honors Foundations in Methods of Inquiry	
Engaging Social Systems and Values 1 (ESSV1)		

Engaging Social Systems and Values 1 (ESSV 1) Course Options

Some faculty-led study abroad courses have also been approved for ESSV1, consult the MCC website (<https://www.marquette.edu/core-curriculum/mcc-study-abroad.php>) for a complete list.

Code	Title	Hours
ANTH 1001	Being Human	3
EDUC 1001	Child and Adolescent Development and Learning	3
ENGL 2020	Texts, Social Systems and Values	3
ENGL 2030	Global Literatures	3
HEAL 1025	Culture and Health ¹	3
HIST 1101	Introduction to American History	3
HIST 1601	Difference and Democracy	3
HIST 1701	Engaging the World	3
HOPR 2956H	Honors Engaging Social Systems and Values 1: Engaging the City	3
INGS 1001	Introduction to Gender and Sexualities Studies	3
SOCI 1001	Principles of Sociology	3
SOWJ 1001	Introduction to Social Welfare and Justice	3
SPAN 3300	Peoples and Cultures of Spain	3
SPAN 3310	Peoples and Cultures of Latin America	3

¹ Honors (H) designation of same course number also fulfills MCC requirement.

Discovery Tier - 12 Credits

Students must complete **four** Discovery Tier courses, all from the **same** Discovery Theme. These four courses must include one course from each of the three content areas (Humanities, Natural Science and Mathematics, and Social Science), and one elective (an additional course from any of the three content areas). A maximum of two courses in the Discovery Tier can be applied toward a primary major. Additional dual counting may be allowed towards college-level requirements.

Students declare their Discovery Theme using the Discovery Tier Declaration Form (<https://www.marquette.edu/central/registrar/how-do-i-declare-change-mcc-discovery-tier-theme.php>) in CheckMarq.

For students who participate in a full-time (12 credits or more) Marquette-approved study abroad program, one study abroad course (minimum 2.5 transfer credits awarded) may fulfill the elective requirement of the Discovery Tier. Any additional MCC requirements may be fulfilled only when the approved transfer equivalent is an exact match to a specific MCC course.

Discovery Themes

The five discovery theme options are listed below. See additional information and course listings (<https://bulletin.marquette.edu/resources-opportunities/marquette-core-curriculum/#discoverythemestext>).

- Basic Needs and Justice
- Cognition, Memory and Intelligence

- Crossing Boundaries: The Movement of People, Goods and Ideas
- Expanding Our Horizons
- Individuals and Communities

Culminating Course - 3 Credits

Code	Title	Hours
CORE 4929	The Service of Faith and Promotion of Justice	
or CORE 4929H	Honors Service of Faith and Promotion of Justice	

ENGAGING SOCIAL SYSTEMS AND VALUES 2 (ESSV2) - ONE COURSE or Experience Required

Students must complete a course or approved experience that is designated "ESSV2." This requirement can be completed via one of the four Discovery Tier courses or through other degree requirements.

Some faculty-led study abroad courses have also been approved for ESSV2, consult the MCC website (<https://www.marquette.edu/core-curriculum/mcc-study-abroad.php>) for a complete list.

Code	Title	Hours
ADPR 4750	Strategic Communication in a Culturally Diverse Marketplace	3
ADVE 3986	Internship in Advertising	3
ANTH 3100	Urban Anthropology	3
ANTH 3986	Internship in Anthropology	3
ANTH 4986	Advanced Internship in Anthropology	3
ARBC 3200	Culture and Civilization of the Middle East (WRIT)	3
ARBC 3220	Arab and Muslim Women in the United States (WRIT)	3
ARSC 4953	Seminar In Urban Social Issues	3
BISC 3929	Reflective Analysis of Global Dental Brigade	0
BISC 4460	Practical Cases in Medicine	3
BULA 4001	Business Law for Accounting	3
CCOM 4986	Corporate Communication Internship	0-3
CHNS 3215	Chinese Cuisine and Culture	3
CMST 3120	Interpersonal Communication	3
CMST 4986	Internship in Communication Studies	0-3
CNEN 3860	Construction Materials and Methods	3
COMM 4986	Internship in Communication	0-3
CRLS 2540	Surveillance, Law and Society	3
CRLS 3150	Reentry and Life After Incarceration	3
CRLS 3170	Policy and Practice for Children Impacted by Incarceration	3
CRLS 3986	Internship and Seminar in Criminology and Law Studies	3
CRLS 4986	Advanced Internship and Seminar in Criminology and Law Studies	3
DGMD 3986	Internship in Digital Media	3
EDUC 4965	Student Teaching: Middle/Secondary	15
EDUC 4966	Student Teaching: Elementary/Middle	15
EDUC 4986	Community-Engaged Internship 1	3
EDUC 4987	Community-Engaged Internship 2	3
ENGL 2001	Ways of Knowing (WRIT)	3
ENGL 3140	Sociolinguistics	3
ENGL 3249	Creativity and Community	3
ENGL 3250	Life-Writing, Creativity and Community (WRIT)	3
ENGL 3261	Poetry and Community (WRIT)	3
ENGL 3780	Water Is Life: Indigenous Art and Activism in Changing Climates (WRIT)	3
ENGL 4221	The Rhetoric of Martin Luther King, Jr. and Malcolm X (WRIT)	3

ENGL 4222	Feminist Rhetorics (WRIT)	3
ENGL 4223	The Rhetoric of Black Protest (WRIT)	3
ENGL 4230	Writing Center Theory, Practice and Research (WRIT)	4
ENGL 4453	Romanticism and Nature (WRIT)	3
ENGL 4631	Toni Morrison (WRIT)	3
ENGL 4825	Native American / Indigenous Literatures (WRIT)	3
ENGL 4826	Global Indigenous Literatures (WRIT)	3
ENGL 4988	Practicum in Literature and Language Arts	1-3
EXPH 4986	Exercise Physiology Practicum 2	6-16
GEEN 2960	Engineering Social Systems and Values	0
GRMN 3540	Heckling Hitler	3
GRMN 3550	German Reunification: The Collision of Two Worlds	3
HESC 3929	Global Brigades Reflective Analysis	0
HIST 4120	American Immigration	3
HIST 4125	Latinx Civil Rights Movements	3
HIST 4135	African-American History	3
HIST 4140	American Urban History	3
HIST 4155	A History of Native America	3
HIST 4247	Comparative Homefronts during the Second World War	3
INPS 2010	Introduction to Peace Studies	3
JOUR 3986	Internship in Journalism	0-3
JOUR 4986	Internship in Journalism	0-3
LLAC 1010	Working Without Borders	3
LLAC 3220	Cultures and Foodways	3
LLAC 3250	Linguistic Diversity and Social Justice	3
MANA 3035	Diversity in Organizations	3
MARQ 3929	Engaging Social Systems and Values Reflective Analysis	0
MARQ 3961	International Service Learning - Living Justice: Accompaniment in an Unjust World	3
NURS 3956H	Honors Nursing Practicum 1	1
NURS 3965	Community and Population Health Nursing - Clinical ¹	2
PHIL 3502	Narrating Freedom: Gender, Race and Mass Incarceration	3
PHIL 3507	Global Justice	3
PHTH 4512	Culture and Disability	3
PSYC 3201	Introductory Social Psychology	3
PSYC 3420	Health Psychology	3
PURE 3986	Internship in Public Relations	0-3
SOCI 3700	Social Movements, Protest and Change	3
SOCI 3986	Internship and Seminar in Sociology	3
SOCI 4986	Advanced Internship and Seminar in Sociology	3
SOWJ 3170	Policy and Practice for Children Impacted by Incarceration	3
SOWJ 3400	Advocacy and Social Change: Theory and Practice	3
SOWJ 3986	Internship in Social Welfare and Justice	3
SOWJ 4700	Global Aid and Humanitarianism	3
SOWJ 4986	Advanced Internship in Social Welfare and Justice	3
SPAN 3001	Advanced Communication in Spanish	3
SPAN 4150	Spanish in the United States	3
THAR 3620	Multicultural Playwrights	3
THAR 4986	Internship in Theatre Arts	0-3
THEO 2500	Theologies of Nonviolence ¹	3
THEO 3250	Contemplation and Action	3
THEO 3350	Christian-Muslim Dialogue	3
THEO 3600	Theology Engaging Culture	3

THEO 4270	The Many Faces of U.S. Catholicism	3
THEO 4400	Christian Faith and Justice ¹	3

¹ Honors (H) designation of same course number also fulfills MCC requirement.

WRITING INTENSIVE COURSES (WRIT) - ONE COURSE REQUIRED

Students must complete a course that is designated "WRIT." This requirement can be completed via one of their four Discovery Tier courses or through other degree requirements.

Some faculty-led study abroad courses have also been approved, consult the MCC website (<https://www.marquette.edu/core-curriculum/mcc-study-abroad.php>) for a complete list.

Code	Title	Hours
ACCO 4000	Accounting Communications	3
ADPR 2200	Media Writing	3
ANTH 2101	Cultural Anthropology	3
ARBC 3200	Culture and Civilization of the Middle East (ESSV2)	3
ARBC 3210	Arabic Literature in English Translation	3
ARBC 3220	Arab and Muslim Women in the United States (ESSV2)	3
BIOL 4102	Experimental Molecular Biology	3
BIOL 4202	Experimental Genetics	3
BIOL 4302	Experimental Cell Biology	3
BIOL 4402	Experimental Ecology and Field Biology	3
BIOL 4403	Tropical Ecology in Panama	3
BIOL 4502	Experimental Neurobiology	3
BIOL 4702	Experimental Physiology	3
BIOL 4802	Experimental Microbiology	3
BISC 4325	Endocrinology	3
BUAD 4010	Business in Film	3
BULA 3001	Legal and Ethical Environment of Business	3
CCOM 3250	Corporate Writing	3
CMST 3000	Theories in Communication Studies	3
CRLS 3050	Methods of Criminological Research	3
CRLS 3150	Reentry and Life After Incarceration	3
EDUC 4000	Educational Inquiry 2: Advanced Topics	3
EDUC 4540	Philosophy of Education	3
ELEN 3025	Electrical Instrumentation Laboratory	2
ENGL 2001	Ways of Knowing (ESSV2)	3
ENGL 2011	Books that Matter	3
ENGL 2012	Well Versed	3
ENGL 3000	Introduction to Literary Studies	3
ENGL 3210	Writing Practices and Processes	3
ENGL 3220	Writing for Workplaces	3
ENGL 3221	Technical Writing	3
ENGL 3222	Writing for Health and Medicine	3
ENGL 3240	Introduction to Creative Writing	3
ENGL 3241	Crafting the Short Story	3
ENGL 3242	Writing Science Fiction and Fantasy	3
ENGL 3245	Creative Nonfiction	3
ENGL 3250	Life-Writing, Creativity and Community (ESSV2)	3
ENGL 3261	Poetry and Community (ESSV2)	3
ENGL 3301	Here Be Monsters	3
ENGL 3302	Crossing Over	3
ENGL 3410	Drama	3

ENGL 3462	Introduction to Gothic Fiction	3
ENGL 3513	Modern Irish Literature	3
ENGL 3514	Contemporary Irish Literature	3
ENGL 3517	Memory and Forgetting in Contemporary Historical Fiction	3
ENGL 3751	The Art of War	3
ENGL 3761	Medicine and Literature	3
ENGL 3762	Disability and Literature	3
ENGL 3780	Water Is Life: Indigenous Art and Activism in Changing Climates (ESSV2)	3
ENGL 3785	LGBTQ+ Narratives: Literature, Film, Theory	3
ENGL 3841	Global Hip Hop	3
ENGL 3860	The Russian Novel and the Search for Meaning	3
ENGL 4210	Writing, Literacy, and Rhetoric Studies	3
ENGL 4220	Rhetorical Theories and Practices ¹	3
ENGL 4221	The Rhetoric of Martin Luther King, Jr. and Malcolm X (ESSV2)	3
ENGL 4222	Feminist Rhetorics (ESSV2)	3
ENGL 4223	The Rhetoric of Black Protest (ESSV2)	3
ENGL 4224	Radical Writing: An Invitation to the Self	3
ENGL 4230	Writing Center Theory, Practice and Research (ESSV2)	4
ENGL 4250	Creative Writing: Fiction	3
ENGL 4260	Creative Writing: Poetry	3
ENGL 4303	Studies in the Medieval Imagination	3
ENGL 4311	Themes in Medieval Literature	3
ENGL 4331	Shakespeare	3
ENGL 4402	The Novel to 1900	3
ENGL 4412	Transatlantic Literature, 1700-1900	3
ENGL 4422	British Literature of the Long 18th Century	3
ENGL 4423	Legal Fictions of the Enlightenment	3
ENGL 4453	Romanticism and Nature (ESSV2)	3
ENGL 4472	British Literature of the Victorian Period, 1837-1900	3
ENGL 4616	Moby-Dick	3
ENGL 4631	Toni Morrison (ESSV2)	3
ENGL 4715	Children's Literature	3
ENGL 4730	What Is a Book?	3
ENGL 4734	The Epic	3
ENGL 4738	Poetry	3
ENGL 4739	Words to Worlds	3
ENGL 4755	Law and Literature	3
ENGL 4765	Material Cultures	3
ENGL 4786	Women Writers	3
ENGL 4810	Comparative Race and Ethnic Studies	3
ENGL 4820	Studies in Critical Race and Ethnic Studies	3
ENGL 4825	Native American / Indigenous Literatures (ESSV2)	3
ENGL 4826	Global Indigenous Literatures (ESSV2)	3
ENGL 4830	Africana Literatures	3
ENGL 4932	Topics in Writing	3
ENGL 4954	Seminar in Creative Writing	3
ENGL 4997	Capstone	3
EXPH 4020	Clinical Case Management in Exercise Science	3
FREN 4110	Advanced Grammar and Written Expression in French	3
FREN 4270	French Holocaust Writings in English Translation	3
FREN 4280	Creative Writing in French	3
GRMN 3500	The Modern German Short Story	3

GRMN 3505	The Modern German Short Story in English	3
HIST 1301	History of Latin America	3
HIST 3104	The Civil War Era	3
HIST 4210	The Black Death	3
HIST 4460	Race and History of South Africa	3
HIST 4955	Undergraduate Seminar in History	3
JOUR 4150	Investigative Reporting	3
MANA 3002	Business and Its Environment	3
MLSC 4180	Concepts in Clinical Education Methods and Practicum	2
NURS 4000	Quality and Safety in Nursing	3
PHIL 3505	Philosophy and Film	3
PHIL 3610	Ancient Philosophy	3
PHIL 4540	Philosophy of Education	3
PHTH 7505	Patient/Client Management 3 ²	2
PHTH 7974	Clinical Education Experience 1 ³	4
POSC 3101	Writing and Argumentation in Political Science	3
PURE 3600	Public Relations Writing	3
SOCI 3050	Methods of Social Research	3
SPAN 3001	Advanced Communication in Spanish	3
SPAN 3005	Advanced Communication in Spanish for Heritage Speakers	3
SPAN 3500	Texts, Images and Critical Thinking in Spanish	3
SPAN 3505	Texts, Images, and Critical Thinking in Spanish for Heritage and Native Speakers	3
SPAN 4700	Creative Writing in Spanish	3
STCM 3400	Writing for Strategic Communication	3
THAR 4600	Playwriting	3
THEO 3130	Miracles ¹	3
THEO 3530	Theology and Economics ¹	3
THEO 4210	History and Theology of the Christian East	3
THEO 4300	The Question of God in a Secular Age ¹	3
THEO 4460	Religion, Science and Ethics	3

¹ Honors (H) designation of same course number also fulfills MCC requirements.

² With PHTH 7974 Clinical Education Experience 1

³ With PHTH 7505 Patient/Client Management 3

Grade Minimums & Additional Information

- A grade of C or better is required in Honors MCC courses. A passing grade is required in non-Honors MCC courses.
- Review the Marquette Core Curriculum (<https://bulletin.marquette.edu/resources-opportunities/marquette-core-curriculum/>) section of the bulletin for additional information, including transfer student requirements and Discovery Theme details.

Areas of Study

The breadth of courses offered is well-suited to allow specialization in one of the major divisions of this branch of engineering. However, it is not necessary to make a commitment to only one area of concentration while in the undergraduate college. The curriculum at Marquette permits students to prepare themselves in civil engineering and construction engineering by completing the courses which provide the necessary fundamentals and the opportunity to select elective courses to acquire additional educational depth in one or more of the areas of specialization. All of the electives which the department offers are open to students who satisfy the required prerequisites. Selection of the courses for a general program requires careful planning between the student and an academic adviser. Students in the civil engineering and construction engineering and management degree programs have the option to select technical elective courses in the following areas.

General Civil Engineering (CE)

The diverse needs of people and society for many types of constructed facilities give a broad range to civil engineering and construction engineering practice. The following listing of courses are considered general civil engineering technical electives that cross boundaries of the civil, construction and environmental engineering professions.

Code	Title	Hours
CEEN 4310	Geographical Information Systems in Engineering and Planning	3
CEEN 4340	Urban Planning for Civil Engineers (Design)	3
CEEN 4350	Law for Engineers	3
CEEN 4505	Air Quality Engineering	3
CEEN 4715	Sustainable Engineering (Design)	3
GEEN 4810	Industrial Ecology and Sustainable Design	3

Construction Engineering (CNEN)

Construction projects of all types require management as well as the traditional engineering skills. Those students who want to focus more on construction engineering and management may prefer to pursue a bachelor of science degree in construction engineering and management. Students interested in specializing in construction engineering and management while still earning a degree in civil engineering may select courses from the following list as their technical electives.

Code	Title	Hours
CNEN 3860	Construction Materials and Methods	3
CNEN 4815	Mechanical and Electrical Systems for Buildings	3
CNEN 4830	Construction Planning, Scheduling, and Control (Design)	3
CNEN 4840	Construction Cost Analysis and Estimating	3
CNEN 4845	Construction Equipment and Methods (Design)	3

Environmental and Water Resources Engineering (ENWR)

The environmental and water resources engineering area deals with the control and improvement of human surroundings using principles developed in civil engineering. The environmental/water resources engineer is responsible for conceiving and designing systems for water supply, waste water treatment and disposal, air pollution control, solid and hazardous waste management and design of water resources systems. Those students that wish to focus more on environmental and water resources engineering may prefer to pursue a major in environmental engineering within the civil engineering degree program. Students interested in specializing in environmental engineering while earning a degree in civil engineering may select courses from the following list as their technical electives.

Code	Title	Hours
CEEN 4230	Urban Hydrology and Stormwater Management (Design)	3
CEEN 4505	Air Quality Engineering	3
CEEN 4515	Environmental Chemistry	3
CEEN 4520	Industrial Wastewater Management (Design)	3
CEEN 4525	Treatment Plant Design and Operation (Design)	3
CEEN 4530	Hazardous and Industrial Waste Management (Design)	3
CEEN 4535	Environmental Engineering Microbiology	3
CEEN 4550	Water Resources Planning and Management (Design)	3
CEEN 4715	Sustainable Engineering (Design)	3
CEEN 4615	Highway Planning and Design	3
GEEN 4810	Industrial Ecology and Sustainable Design	3

Structural Engineering and Structural Mechanics (SESM)

The structural engineering and structural mechanics area focuses on the planning, analysis, design and construction of various types of structures including buildings, bridges, miscellaneous structures (e.g. amusement park rides, sign supports, earth retaining structures) and foundations for these systems. Students will learn to analyze and design structures in structural steel and reinforced concrete. They will also learn to analyze and design foundations for structures. Students interested in specializing in structural engineering and structural mechanics may select courses from the following list as their technical electives.

Code	Title	Hours
CEEN 4145	Advanced Strength and Applied Stress Analysis	3
CEEN 4411	Matrix Structural Analysis	3
CEEN 4431	Advanced Structural Steel Design (Design)	3
CEEN 4441	Advanced Reinforced Concrete Design (Design)	3
CEEN 4450	Bridge Design (Design)	3

Transportation Engineering and Materials (TEMA)

The transportation engineering and materials area focuses on engineering analysis and design of urban streets, highways, intersections, interchanges, interstate highways and airports. This area of study also focuses on pavement engineering and the materials used in the construction of roadways along with traffic engineering (e.g. design, operations and traffic management). Students interested in specializing in transportation engineering and materials may select courses from the following list as their technical electives.

Code	Title	Hours
CEEN 4615	Highway Planning and Design (Design)	3
CEEN 4640	Traffic Characteristics and Design (Design)	3
CEEN 4650	Pavement Design (Design)	3
CEEN 4660	Pavement Management	3

Civil Engineering Major

Freshman

First Term	Hours	Second Term	Hours
CEEN 1200		3 CEEN 1210	3
CHEM 1001		4 CHEM 1002	4
MATH 1450		4 MATH 1455	4
ENGL 1001 or ESSV1 (MCC)		3 ENGL 1001 or ESSV1 (MCC)	3
PHIL 1001 or THEO 1001 (MCC)		3 PHIL 1001 or THEO 1001 (MCC)	3
	17		17

Sophomore

First Term	Hours	Second Term	Hours
CEEN 2320		3 CEEN 3320	3
GEEN 2110		3 GEEN 2120	3
GEEN 2952		1 GEEN 2130	3
CORE 1929 (MCC)		3 Basic Science elective ¹	3
MATH 2451		4 MATH 4720	3
PHYS 1003		4	
	18		15

Junior

First Term	Hours	Second Term	Hours
CEEN 3160		3 CEEN 3210	3
CEEN 3410		3 CEEN 3430	3
CEEN 3510		3 CEEN 3440	3
MEEN 3320		3 CEEN 3610	3
DSCV (MCC) ^{2,3}		3 CNEN 3810	3
	15		15

Senior

First Term	Hours	Second Term	Hours
CEEN Technical elective		3 CEEN 4998	4
CEEN Technical elective (Design)		3 CEEN Technical elective	3
DSCV (MCC) ^{2,3}		3 CEEN Technical elective (Design)	3

DSCV (MCC) ^{2,3}	3 CORE 4929 (MCC)	3
Cross-disciplinary Engineering elective ⁴	3 DSCV (MCC) ^{2,3}	3
	15	16

Total Credit Hours: 128

- ¹ A basic science elective in addition to the CHEM and PHYS courses outlined above must be selected in areas such as biology, geology and meteorology, subject to approval by the CCEE Department.
- ² The four courses in the Discovery Tier (DSCV) of the MCC must be completed in the same theme and include the following content areas: Humanities (HUM), Social Science (SSC), Natural Science and Mathematics (NSM) and one elective (ELE), which is an additional course from any of the three content areas. A maximum of two courses in the Discovery Tier can apply towards a primary major.
- ³ Students must also complete the Writing Intensive (WRIT) and Engaging Social System and Values 2 (ESSV2) requirements of the MCC. These requirements can be fulfilled through designated courses in the Discovery Tier or other degree requirements.
- ⁴ Either EECE 2010 Electric Circuits 1, EECE 2030 Digital Electronics, or MEEN 3310 Thermodynamics 1.

Technical Elective Requirements

All civil engineering majors must complete 12 credits of technical electives from the courses listed previously under the areas of study. A minimum of 6 credits of civil engineering design is required and must be selected from those courses designated as design (Design).

University Policies

- Academic Advising (<https://bulletin.marquette.edu/policies/academic-advising/>)
- Academic Censure - Undergraduate (<https://bulletin.marquette.edu/policies/academic-censure/undergraduate/>)
- Academic Integrity (<https://bulletin.marquette.edu/policies/academic-integrity/>)
- Academic Misconduct (<https://bulletin.marquette.edu/policies/academic-misconduct-policy/>)
- Academic Program Definitions (<https://bulletin.marquette.edu/policies/academic-programs-defined/>)
- Academic Standing (<https://bulletin.marquette.edu/policies/academic-standing/>)
- Accelerated Degree Programs (<https://bulletin.marquette.edu/policies/accelerated-degree-programs/>)
- Advanced Standing Credit - Undergraduate (<https://bulletin.marquette.edu/policies/advanced-standing-undergraduate/>)
- Attendance - Undergraduate (<https://bulletin.marquette.edu/policies/attendance/undergraduate/>)
- Audit - Undergraduate (<https://bulletin.marquette.edu/policies/audit/>)
- Awarding Diplomas and Certificates (<https://bulletin.marquette.edu/policies/awarding-diplomas-certificates/>)
- Background Checks, Drug Testing (<https://bulletin.marquette.edu/policies/background-checks-drug-testing/>)
- Class Rank (<https://bulletin.marquette.edu/policies/class-rank/>)
- Classification - Undergraduate (<https://bulletin.marquette.edu/policies/classification-undergraduate/>)
- Commencement (<https://bulletin.marquette.edu/policies/commencement/>)
- Conferral of Degrees and Certificates (<https://bulletin.marquette.edu/policies/conferral-degrees-certificates/>)
- Course Levels (<https://bulletin.marquette.edu/policies/course-levels/>)
- Credit Hour (<https://bulletin.marquette.edu/policies/credit/>)
- Credit Load - Undergraduate (<https://bulletin.marquette.edu/policies/credit-load/undergraduate/>)
- Examinations (Midterm and Final) - Undergraduate (<https://bulletin.marquette.edu/policies/examinations-midterm-final-undergraduate/>)
- Faculty Grading (<https://bulletin.marquette.edu/policies/faculty-grading/>)
- Family Education Rights and Privacy Act-FERPA (<https://bulletin.marquette.edu/policies/ferpa/>)
- Grade Appeals (<https://bulletin.marquette.edu/policies/grade-appeals/>)
- Grading System - Undergraduate and Health Science Professional (<https://bulletin.marquette.edu/policies/grading-system/undergraduate-healthscienceprofessional/>)
- Graduation - Undergraduate (<https://bulletin.marquette.edu/policies/graduation/undergraduate/>)
- Immunization and Tuberculosis Screening Requirements (<https://bulletin.marquette.edu/policies/immunization-and-tuberculosis-screening/>)
- Last Date of Attendance/Activity (<https://bulletin.marquette.edu/policies/last-dateof-attendance-activity/>)
- Major and Minor Declaration - Undergraduate (<https://bulletin.marquette.edu/policies/major-declaration/>)
- Medical Withdrawal (<https://bulletin.marquette.edu/policies/medical-withdrawal/>)
- Military Call to Active Duty or Training (<https://bulletin.marquette.edu/policies/militarycall-active-duty-training/>)
- Non-Degree Undergraduate Students (<https://bulletin.marquette.edu/policies/non-degree-undergraduate-students/>)
- Readmission - Undergraduate (<https://bulletin.marquette.edu/policies/readmission/>)

- Registration - Undergraduate (<https://bulletin.marquette.edu/policies/registration/undergraduate/>)
- Repeated Courses - Undergraduate (<https://bulletin.marquette.edu/policies/repeated-courses/undergraduate/>)
- Second Language Course Placement - Undergraduate (<https://bulletin.marquette.edu/policies/second-language-course-placement-undergraduate/>)
- Second/Additional Bachelor Degree (<https://bulletin.marquette.edu/policies/second-additional-bachelor-degree/>)
- Student Data Use and Privacy (<https://bulletin.marquette.edu/policies/student-data-use-privacy/>)
- Study at Other Institutions - Undergraduate (<https://bulletin.marquette.edu/policies/study-institutions/>)
- Transcripts-Official (<https://bulletin.marquette.edu/policies/transcripts-official/>)
- Transfer (Internal) to Another Undergraduate College within the University (<https://bulletin.marquette.edu/policies/transfer-internal-another-undergraduate-college-within-university/>)
- Transfer Course Credit - Undergraduate (<https://bulletin.marquette.edu/policies/transfer-course-credit-policy/undergraduate/>)
- Withdrawal - Undergraduate (<https://bulletin.marquette.edu/policies/withdrawals/undergraduate/>)

College of Engineering Policies

- Absence from Final Exams, Incomplete (I) Grade (<https://bulletin.marquette.edu/engineering/policies/absence-finals-incomplete-grade/>)
- Academic Dismissal/Probation/College Academic Alert (CAA) (<https://bulletin.marquette.edu/engineering/policies/dismissal-probation-college-alert/>)
- Academic Integrity (<https://bulletin.marquette.edu/engineering/policies/academic-integrity/>)
- Academic Load (<https://bulletin.marquette.edu/engineering/policies/academic-load/>)
- Accreditation (<https://bulletin.marquette.edu/engineering/policies/accreditation/>)
- Admission Requirements (<https://bulletin.marquette.edu/engineering/policies/admission-requirements/>)
- Articulation Agreements (<https://bulletin.marquette.edu/engineering/policies/articulation-agreements/>)
- Course and Grade Limitations (<https://bulletin.marquette.edu/engineering/policies/course-grade-limitations/>)
- Credit/No Credit (CR/NC) Grading Option (<https://bulletin.marquette.edu/engineering/policies/credit-no-credit-grading-option/>)
- Curriculum Substitution and/or Allowance Petition (<https://bulletin.marquette.edu/engineering/policies/curriculum-substitution-allowance-petition/>)
- Dean's List (<https://bulletin.marquette.edu/engineering/policies/deans-list/>)
- Degrees Offered (<https://bulletin.marquette.edu/engineering/policies/degrees-offered/>)
- Electives (<https://bulletin.marquette.edu/engineering/policies/electives/>)
- Grade Appeals for Engineering Courses (<https://bulletin.marquette.edu/engineering/policies/grade-appeals-engineering-courses/>)
- Repeating Courses (<https://bulletin.marquette.edu/engineering/policies/repeating-courses/>)
- Simultaneous Enrollment in Two Academic Programs (<https://bulletin.marquette.edu/engineering/policies/simultaneous-enrollment-two-academic-programs/>)
- Transfer Credit from Other Programs (<https://bulletin.marquette.edu/engineering/policies/transfer-credit-programs/>)
- Undergraduate Independent Study (<https://bulletin.marquette.edu/engineering/policies/undergraduate-independent-study/>)