

CIVIL ENGINEERING

125-127 Semester Hours

LOWER-DIVISION COURSES

FALL		SPRING	
*FST 101 – Succeeding & Engaging at SIUE	1	ENG 102 – English Composition II ³	3
IE 106 – Engineering Problem Solving	3	MATH 152 – Calculus II (BPS)	5
CHEM 131 – Engineering Chemistry ⁺ (BPS)	4	PHYS 141 – Physics I for Engineering ⁺⁺ (BPS)	3
CHEM 135 – Engineering Chemistry Lab ⁺ (EL)	1	PHYS 151L – University Physics Lab I ⁺⁺ (EL)	1
ENG 101 – English Composition I ¹	3	ACS 103 – Interpersonal Communication Skills ⁴ (EUSC)	3
MATH 150 – Calculus I ² (QR)	5		
TOTAL	17	TOTAL	15
FALL		SPRING	
CE 204 – Engineering Graphics & CAD	3	CE 206 – Civil Engineering Surveying ⁺⁺⁺⁺	2
CE 240 – Statics	3	CE 242 – Mechanics of Solids	3
MATH 250 – Calculus III (BPS)	4	MATH 305 – Differential Equations I (BPS)	3
PHYS 142 – Physics II for Engineering ⁺⁺⁺ (BPS)	3	ME 262 – Dynamics	3
PHYS 152L – University Physics Lab II ⁺⁺ (EL)	1	Breadth-Life Science ⁵ (BLS)	3
		ECON 111 - Macroeconomics	3
TOTAL	14	TOTAL	17

Admission to upper-division courses requires satisfactory completion of lower-division core courses (see catalog for specific requirements). An “APPLICATION FOR ADMISSION TO UPPER-DIVISION ENGINEERING COURSES” form must also be completed and approved. This form is available online and in the Engineering Student Services Office. A special five-year BS/MS degree program is available for qualified students. Information can be found online.

UPPER-DIVISION COURSES

FALL		SPRING	
CE 315 – Fluid Mechanics	3	CE 343 – Structural Engineering II	3
CE 330 – Engineering Materials	2	CE 354 – Geotechnical Engineering	3
CE 330L – Engineering Materials Lab	1	CE 354L – Geotechnical Engineering Lab	1
CE 342 – Structural Engineering I	3	CE 376 – Transportation Engineering	3
CS 145 – Intro to Computing for Engineers ⁺⁺⁺⁺	3	CE 380 – Environmental Engineering	3
Breadth-Fine & Performing Arts (BFPA)	3	STAT 380 – Statistics for Applications (BICS)	3
Interdisciplinary Studies (IS) ⁷ (EGC) ⁷ EUSC ⁶	3		
TOTAL	18	TOTAL	16
FALL		SPRING	
CE 416 – Hydrology, CE 455 – Foundations, or CE 459 – Soil Improvement Methods. (Students need to select <u>one</u> of the three courses).	3	CE 415L – Applied Fluids Lab	1
CE 460 – Municipal Infrastructure Design	3	CE 493 – Engineering Design	3
CE Elective I ⁷	3	CE Elective II ⁷	3
CE Selective ⁸	3	CE Elective III ⁷	3
PHIL 323 – Engr Ethics and Prof (BHUM) ⁹	3	IE 345 – Engineering Economic Analysis	3
Preparation for Fundamental of Engr Exam ¹⁰	0	Health Experience ¹¹ (EH)	0/2
TOTAL	15	TOTAL	13/15

Declaration of Major: Students interested in any of the majors offered by the School of Engineering should seek advisement from the School of Engineering when they initially enroll in the University and should declare a major as soon as possible. Students admitted to programs offered by the School of Engineering shall have met University admission requirements, successfully completed any required academic development and high school deficiency courses, eligibility to enroll in MATH 125 – Pre-Calculus, and have a cumulative GPA of 2.0 or better in any completed University course work.

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION.

**FOR MORE INFORMATION CONTACT
CIVIL ENGINEERING DEPARTMENT OFFICE: (618) 650-2533.**

Effective Fall 2019

*FST 101 – for first time freshmen only. Must be taken in the first semester.

+CHEM 121A/125A are acceptable substitutes in lieu of CHEM 131/135.

++Physics I for Engineering - co-requisites: MATH 152 and PHYS 151L. Prerequisites: ACT Math subscore of 28 or higher *or* high school physics grade of B or higher *or* Physics Readiness Exam Score 09 *or* PHYS 140.

+++Physics II for Engineering - prerequisites: PHYS 141 with a grade of C or higher *or* PHYS 151 with a grade of C or higher; MATH 152 with a grade of C or higher; PHYS 151L with a grade of C or higher.

++++CNST 264 is an acceptable substitute for CE 206.

++++CS 140 is an acceptable substitute in lieu of CS 145.

¹ENG 101 must be successfully completed within the First 30 Hours.

²Quantitative Reasoning (QR) 101 must be successfully completed within the First 60 Hours. MATH 150 successfully completed (with a grade of 'C' or better) will fulfill this requirement.

³ENG 102 must be successfully completed within the First 45 Hours.

⁴ACS 103 must be successfully completed within the First 30 Hours. ACS 103 can be used as a Foundations course, and will also fulfill the EUSC requirement. If ACS 101 is taken instead of ACS 103, the EUSC requirement will have to be met by another appropriate course.

⁵Students must select a life science course other than physics and chemistry. Department approved courses include BIOL 111, BIOL 140, GEOG 202, BIOL 150, BIOL 151, BIOL 203⁶, BIOL 204, BIOL 205⁶, BIOL 220, BIOL 240A, BIOL 240B, ENSC 340.

⁶Interdisciplinary Studies (IS) Courses must be taken at the junior/senior level class standing. This requirement is not waived with completion of transfer associate degree or IAI-GECC. It is recommended that students choose a course to meet this general education requirement and Global Cultures (EGC). Selecting one of the following: IS 324, 326, 336, 340, 352, 353, 363, 375, 377, 400 or 401 will satisfy both the requirement of an IS course and the GLOBAL CULTURES (GC) requirements.

In addition, IS 352 and 375 will fulfill the EGC, EUSC and IS requirements. If a course is not selected that meets two general education requirements, then a course from the list of GC courses must also be taken.

⁷Students seeking to become licensed structural engineers (SE) in the State of Illinois should take 18 hours of structural engineering in upper division. CE 342, CE 343 and CE 493-STR plus any three structural electives meet this requirement.

⁸CE SELECTIVE COURSES: Any 400-level CE course, CNST 403, CNST 411, CNST 415, CNST 425, CNST 442, CNST 451, CNST 452, ECE 210, ENSC 401, ENSC 402, ENSC 412/GEOG 412, ENSC 419, ENG 491, GEOG 418, IE 463, MATH 462, ME 310, ME 452, ME 470, STAT 410, STAT 480a or b.

⁹PHIL 323 will fulfill the RA 101 requirement.

¹⁰Students are strongly encouraged but not required to take the FE exam before graduation.

¹¹Students may be able to complete the Health Experience (EH) as an approved project or activity; if so, an additional course is not needed. (See academic advisor for approved project or activity). In addition, *BIOL 203 or *BIOL 205 will fulfill a BLS and EH requirement. *Prerequisite/s required courses.

Enrollment in Upper-Division CE Courses:

The requirements for enrollment in upper-division CE courses are: satisfactory completion of all University and School of Engineering admission requirements; satisfactory completion (C or better) of CHEM 131, 135; CE 204, 206, 240, 242; ENG 101, 102; IE 106; MATH 150, 152, 250, 305; ME 262; PHYS 141, 151L, 142, 152L; and ACS 103, with a GPA of 2.0 for non-transfer students, transfer students from articulated programs, and Illinois resident transfer students (2.25 for other transfer students); and an approved application for enrollment in upper-division engineering courses.

CE ELECTIVES

Not all elective courses are offered every year. The courses to be offered are selected from the list below on the basis of student demand and faculty availability.

Environmental/Water Resources	Transportation	Structural	Geotechnical
CE 416 – Engineering Hydrology	CE 435 – Pavement Design	CE 435 – Pavement Design	CE 435 – Pavement Design
CE 486 – Wastewater Treatment Design	CE 473 – Travel Demand Forecasting	CE 441 – Timber Design	CE 455 – Foundation Design
CE 487 – Water Treatment Design	CE 474 – Computer Simulation	CE 443 – Masonry Design	CE 457 – Soil Mechanics in Engineering
CE 492-GIS in Hydrologic Analysis	CE 475 – Transportation Planning	CE 445 – Adv Structural Analysis	CE 492-10 – Geological and Geotechnical Engineering
CE 492-Water Resource Management	CE 476 – Traffic Studies	CE 446 – Adv Concrete Design	CE 492-11 – Advanced Foundation Engineering
		CE 449 – Adv Steel Design	CE 492-12 Env. Geotechnics
		CE 455 – Foundation Design	

University Requirements (Non-General Education)

- Bachelor of Science Degree Requires completion of 8 lecture courses in life (BLS* or LS*), physical (BPS* or PS*) or social science (BSS* or SS*) including 2 with labs (EL*)
- Minimum of 120 semester hours must be completed.
- Minimum GPA of 2.0 must be achieved.