

# UNDERGRADUATE STUDENT HANDBOOK

DEPARTMENT OF CIVIL ENGINEERING



**KANSAS STATE**  

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**UNIVERSITY**

Carl R. Ice College of Engineering

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Effective Fall 2024



## INTRODUCTION

This Undergraduate Student Handbook is intended to help Civil Engineering (CE) students understand and make effective use of educational opportunities available within the framework of the CE curriculum. With these available opportunities, come responsibilities to carefully plan and effectively use university, college, and department resources to support student development of personal, academic, and professional objectives. The CE faculty and staff as well as others are available to assist students in this endeavor.

The primary responsibility for meeting all graduation requirements rests with the individual student. Although this Handbook references many mandatory requirements of Kansas State University, the Carl R. Ice College of Engineering, and the Department of Civil Engineering, it should not be utilized as a sole source of information to the exclusion of other university, college, and department publications and websites.

Students should be aware that the educational process is constantly evolving. This may result in periodic changes in curriculum requirements. Students are advised that these changes may have an impact on course prerequisites and course offerings that may affect their program of study. The CE Department will make every effort to accommodate students who would be adversely affected by such changes. However, students are responsible for identifying changes and determining the impact of any changes on their course sequencing and, ultimately, their graduation date.

## ACCREDITATION

**The civil engineering undergraduate program is fully accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>.** For additional information about the accreditation of the Department of Civil Engineering, see <https://ce.k-state.edu/academics/accreditation/>.

## DEGREE REQUIREMENTS

Undergraduate students are required to successfully complete **128** credit hours of courses in the approved curriculum that a student is following based on the date the student entered the CE program. Students are always allowed to switch to a newer curriculum but must have an acceptable reason to switch to an older curriculum, such as taking a leave of absence from pursuing an academic degree and returning to campus. Most of the required credit hours are based on required courses specified in the curriculum, but there are some elective courses to allow students to better match their educational and professional objectives.

## TRANSFER

The Carl R. Ice College of Engineering Student Services website on Academic Advising provides details on the procedures and standards of credit transfer: <https://engg.k-state.edu/academics/admissions/>. Before a student decides to take a course at another institution, they should first check to be sure the transfer credit is acceptable as a replacement for an existing course in the K-State CE curriculum.

**TEST-OUT  
PROCEDURES**

The CE Department allows qualified students to avoid repeating coursework in subject areas they have already mastered through non-academic or non-transfer credit means. Students should enroll in the course for which they seek credit by examination and contact the course instructor or department head during the first week of classes for details of the test-out procedure to be followed for the course.

**ACADEMIC  
ADVISOR**

The CE Office Specialist II in the CE Department main office (2118 Fielder Hall) assigns a faculty academic advisor to assist the student during their academic career. Students should consult regularly with their academic advisor for career planning and other academic matters. Every change in course enrollment requires approval by both their academic advisor and the Dean of Engineering or designate. A student can request a change in their academic advisor by submitting a form to the CE Office Specialist II <http://ce.ksu.edu/docs/advising/academic-adviser-change-request.pdf>.

**KSIS**

K-State Student Information System (KSIS) is a web-based database access program. The URL address is <http://ksis.ksu.edu/> and it also can be accessed directly from the University web page <https://www.k-state.edu/>. In addition to students being able to access their Student Information System records and update biographical information such as addresses, name changes, etc., KSIS allows the faculty and staff to release enrollment flags so students can electronically enroll, drop, and add courses. Faculty will also be able to electronically issue permission to individual students to enroll in their classes.

**GENERAL  
EDUCATION  
REQUIREMENTS**

Kansas State University has adopted the [systemwide general education framework](#) to enhance ease of transfer across Kansas institutions of higher education. The framework covers the following six disciplinary areas, and the seventh area is reserved for free electives at K-State. In total, the framework takes up 34-35 credit hours of 100 and 200-level coursework. Students who complete their general education elsewhere are not required to take additional general education coursework at K-State. The list of K-State Core courses that fall under each disciplinary area is available at <https://www.k-state.edu/provost/kstate-core/>. The K-State Core courses that are part of the CE curriculum are provided in the curriculum section of this handbook below.

<b>Disciplinary Area</b>	<b>Credit Hours</b>
1. English	6
2. Communications	3
3. Math & Statistics	3
4. Natural & Physical Science (with lab)	4-5
5. Social & Behavioral Science	6
6. Arts & Humanities	6
7. Institutionally Designated Area	6

## **CURRICULUM TRACKS**

The University publishes an Undergraduate Catalog each year that contains all of the current rules and regulations, the current curriculum for those students entering the program during the catalog year, and the current course descriptions. The catalog for the current year and archived catalogs from prior years can be found at <http://courses.ksu.edu/courses/catalogs/>. Course descriptions and the curriculum for the current or archived year can be found by selecting the College & Department tab and then navigating to Civil Engineering under the College of Engineering heading. The webpage provides links to the curriculum and all CE undergraduate courses. The curriculum link takes to the curriculum for all of the available tracks and the organization of the courses for an eight-semester program.

By default, all civil engineering undergraduate students are assigned to the General Track upon entrance to the CE Program. Students should declare a specialty track by the middle of their junior year, so that their graduation date is not delayed. Twelve (12) credit hours of CE Design electives and nine (6) credit hours of CE Track electives are required in each of the seven tracks: 1) General, 2) Construction Engineering, 3) Environmental Engineering, 4) Geotechnical Engineering, 5) Structural Engineering, 6) Transportation / Materials Engineering, and 7) Water Resources Engineering. The CE design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources. The requirements for each track are specified at the end of this handbook. To declare a specialty track, email the Office of Student Services at [enggss@k-state.edu](mailto:enggss@k-state.edu). The office is located at 1042 Rathbone Hall.

## **DEGREE MAPS**

Many courses require successful completion of prerequisite courses. The **degree maps** are intended to assist students in quickly evaluating their ability to take advanced courses requiring such prerequisites. Care should be taken to verify course requirements that may require new prerequisite courses. To view the latest **CE degree map** for each available track, visit <https://ce.k-state.edu/academics/undergraduate/>.

## **COURSE SUBSTITUTIONS**

Occasionally, the CE faculty will consider a reasonable request to substitute another University course for a required course in the Civil Engineering curriculum. Students making such a request should consult their academic advisor and the Civil Engineering department head or designate. The course substitution request should be made online at <https://engg.k-state.edu/student-success/resources/course-substitution/>.

## **UNIVERSITY HONORS PROGRAM**

The **University Honors Program** offers interested students an intellectual challenge consistent with their abilities and interests. Participation in the University Honors Program will not add to the time required for graduation for most students and should be a challenging and rewarding experience. Interested civil engineering students should contact the Civil Engineering Honors Program advisor for details about the program. For general details visit <https://engg.k-state.edu/student-success/resources/honors-program/>.

**ACADEMIC  
PERFORMANCE**

Students must achieve a minimum GPA of 2.25 in the four Civil Engineering (CE) design elective courses that fulfill their 12-hour CE design elective requirement. These electives must be drawn from at least four of the following design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources. If a student completes more than 12 hours of CE design electives, the best 12 hours will be used to compute the CE Design Elective GPA.

A resident cumulative GPA of **2.30** or better is required for a change of major from any engineering program to civil engineering.

In addition to completing all of the courses in the CE curriculum, the University requires a **2.0** overall GPA to graduate. However, there are also requirements related to performance in selected classes that must be met to graduate. Students should review the requirements outlined in the catalog year that is applicable to their degree program.

**DROPPING/ADDING  
COURSES**

Students should consider with care the consequences of dropping or adding courses. Students should review their academic plans with their academic advisor to assess the impact changes, especially dropping a course, on future semesters.

Students should not change courses agreed upon by their academic advisor, unless their academic advisor agrees with the change. It is acceptable to change sections without contacting your academic advisor.

Students can add and drop courses through KSIS through the first week of classes. To add after the first week of classes, students must obtain permission from the class instructor (instructors may issue permission online or complete a paper form) and have your academic advisor release your flag. Once permission is granted, advisory hold is released and a student will be able to add the class on KSIS.

Dropping courses after the 36<sup>th</sup> calendar days of the term will result in a “W” being recorded on your transcript, and courses cannot be dropped after the 68<sup>th</sup> calendar day of the term. Consult the Course Schedule <http://courses.ksu.edu/courses/schedules.html> for the exact dates applicable to each semester.

**COURSE RETAKE  
POLICY**

The University allows students to **retake** up to five courses to improve the grade and grade point average. Consult the appropriate K-State Undergraduate Catalog for details: <https://catalog.k-state.edu/content.php?catoid=44&navoid=8663>.

**COURSE  
PREREQUISITES**

Faculty carefully consider the need for prerequisite courses for any particular course. As such, all students are required to complete successfully all prerequisite courses including in some cases a letter grade of “C” or better, prior to attempting a course. Students who have not successfully completed prerequisite courses will be dropped from the course.

**INCOMPLETE GRADES POLICY**

The grade of incomplete is normally given only for verifiable personal emergencies. A student's simple failure to complete work within the required time is not a sufficient reason to be given an incomplete. Incompletes are expected to be finished by the conclusion of the next regular academic term or the student's graduation term – whichever is earlier. *If an "I" grade is assigned, the grade automatically becomes an "F" if work is not completed within the granted extension period.*

**ACADEMIC/ WARNING DISMISSAL POLICY**

The University has set specific policies for new and continuing students for academic warning/dismissal policies. See: <https://www.k-state.edu/registrar/students/academicpolicy/academicstanding/index.html> and <https://engg.k-state.edu/docs/student-services/academic-warning-dismissal-policies.pdf>

**ENGINEERING ASSEMBLY POLICIES AND REQUIREMENTS**

Engineering Assembly (CE 015) is a required credit/no credit course for 0 (no) credit hours. An undergraduate student graduating in Civil Engineering must have earned credit for all semesters the student was enrolled in the CE program at K-State. The Engineering Assembly is organized by the KSU Student Chapter of the American Society of Civil Engineers (ASCE) under the supervision of its Faculty Advisor(s).

The penalty for failure to complete the requirements of Engineering Assembly is the same as that of any other required course—the student cannot graduate until requirements are satisfied. In cases where a student has failed to attend or enroll for a semester, the CE Department Head may require another course or a comprehensive written report on an appropriate topic to make-up for the deficiency.

**EARLY ENROLLMENT FOR CONTINUING STUDENTS**

Near the middle of each semester, the University starts the process of enrolling students in classes for the next semester. As a means for expediting and coordinating the advising process, the Department schedules times for students to meet with their faculty advisors before University enrollment begins. Students should sign up for an appointment with their faculty advisor, and follow the specific instructions provided. Online enrollment is not possible until students have met with their advisor and the enrollment flag has been released. Failure to meet with your advisor during the early enrollment period may result in difficulties in scheduling and could delay your graduation.

**ACADEMIC HONOR & INTEGRITY SYSTEM**

Beginning Fall semester 1999, K-State initiated an honor system based on personal integrity, which is presumed to be a sufficient assurance that in academic matters one's work is performed honestly and without unauthorized assistance. Plagiarism and cheating are serious offenses and will be dealt with as appropriate. For details, visit <http://ksu.edu/honor>.

**RETENTION OF STUDENT WORK**

Student projects, assignments, presentations, and models may need to be retained by the faculty for display, use in teaching, course records, accreditation documentation, etc. Students may request photocopies or otherwise copy any work retained by the faculty.

**GRADUATION CHECK**

Two semesters before graduation, students should schedule a **graduation check** with the Assistant Dean at **Office of Student Services** located at 1042 Rathbone Hall. This meeting is used to check that all graduation requirements will be properly fulfilled. If there are discrepancies or inadequacies, they may be addressed in the following semesters before it impacts your graduation date. To request a graduation check, visit <https://engg.k-state.edu/student-success/resources/graduation/>.

**INTENT TO GRADUATE**

All students who expect to fulfill their graduation requirements by the end of a given semester must apply for graduation in KSIS. For help, visit: <https://www.k-state.edu/ksis/help/students/stuGraduationApply.html>.

**DUAL DEGREE PROGRAMS**

Students who wish to pursue interdisciplinary interest in-depth may enroll in a dual-degree program. In general, the second undergraduate degree may be earned with an additional two or three semesters of study.

**GRADUATE PROGRAM**

Major work leading to the Master of Science and Doctor of Philosophy degrees is offered in the areas of specialization in structural analysis and design, geotechnical engineering, water resources and environmental engineering, and transportation and materials engineering.

Students interested in attending graduate school should identify the graduate study area as soon as possible. Undergraduate course selection may be affected by graduate school admission requirements. Students intending to go to graduate school may make very different elective choices than those who are not contemplating advanced degrees. Students considering graduate school should consult with their advisor to explore the possibilities and plan for the future.



**CONCURRENT  
BS/MS PROGRAM**

The civil engineering department offers a concurrent BS/MS degree program in which high-performing students can earn bachelor's and master's degrees with limited overlap of coursework. Students can choose between completing research with thesis or coursework only option. <https://ce.k-state.edu/academics/undergraduate/bs-ms/>.

To qualify for the program, undergraduate students must have a cumulative GPA of at least 3.25 after completing 75 hours toward the BSCE degree. Students must apply for this program before receiving their BSCE degree. Typically, it takes students an additional year to complete the accelerated BS/MS degree. Students must have a CE faculty member, who is also appointed to the KSU Graduate Faculty, agree to serve as their major professor. In accordance with Graduate School policies, students can request a change in major advisor after acceptance into the accelerated BS/MS degree program.

Students pursuing research with thesis option MS degree can use 6 credit hours of approved 600 or 700-level courses and 3 credit hours of independent study (CE 690, CE 790, CE 898, CE 899) to count towards both degrees. Students pursuing a coursework-only option MS degree can use 6 credit hours of approved 600 or 700-level courses to count towards both degrees. Students must satisfy all other requirements established for non-accelerated CE MS students. Students can receive their BS degree upon completion of all requirements established for non-accelerated BS students.

For more detail, visit <https://courses.k-state.edu/courses/catalogs/>, select the undergraduate catalog, go to Degrees and Certificates Offered, and select Accelerated Civil Engineering (BS)/Civil Engineering (MS).

**ENGINEERING  
LICENSURE**

Students are strongly encouraged to become a licensed engineer. It is highly recommended that students take the FE exam in their senior year prior to graduation. Consult the Carl R. Ice College of Engineering website on current students for information about the Fundamentals of Engineering (FE) Exam: <http://engg.ksu.edu/current-students/fe-exam/>.

**OFFICE OF  
STUDENT  
SERVICES**

For further information and help, visit the **Office of Student Services** located at 1042 Rathbone Hall.

**Curriculum for Bachelor of Science in Civil Engineering****Total number of hours required for graduation = 128**

Effective Fall 2024

- **Freshman First Year**

- **Fall Semester (16 credit hours)**

Course	K-State Core*	Credit Hours	Prerequisites
CE 015 Engineering Assembly		0	
CE 202 Civil Engineering Graphics		3	
CHM 210 Chemistry I	KSC 4	4	See University Catalog
DEN 160 Engineering Orientation		1	See University Catalog
DEN 161 Engineering Problem Solving		1	See University Catalog
ENGL 100 Expository Writing I	KSC 1	3	
MATH 220 Analytic Geometry and Calculus I	KSC 3	4	See University Catalog
	<b>TOTAL</b>	<b>16</b>	

\* K-State Core (KSC) course list: <https://www.k-state.edu/provost/kstate-core/>

- **Spring Semester (16 credit hours)**

Course	K-State Core*	Credit Hours	Prerequisites
CE 015 Engineering Assembly		0	
CE 212 Elementary Surveying Engineering		3	MATH 150
CE 301 Civil Engineering Problem Solving		1	C or better in DEN 161
ENGL 200 Expository Writing II	KSC 1	3	ENGL 100
MATH 221 Analytic Geometry and Calculus II	KSC 3	4	C or better in MATH 220
PHYS 213 Engineering Physics I	KSC 4	5	Pre or conc MATH 220
	<b>TOTAL</b>	<b>16</b>	

\* K-State Core (KSC) course list: <https://www.k-state.edu/provost/kstate-core/>

- **Sophomore Second Year**

- **Fall Semester (16 or 17 credit hours)**

Course	K-State Core*	Credit Hours	Prerequisites
CE 015 Engineering Assembly		0	
CE 241 Introduction to CE Materials		3	
CE 333 Statics		3	MATH 221 and PHYS 213
Arts & Humanities: <i>Select courses from the K-State Core list*</i>	KSC 6	3	See University Catalog
Oral Communication: COMM 106 Public Speaking I or COMM 109 Public Speaking IA, Honors	KSC 2	3	See University Catalog
Math-Science Elective: MATH 222 Analytic Geom. & Calculus III or CHM 230 Chemistry II or PHYS 214 Engineering Physics II <sup>#</sup>	KSC 3 KSC 4 KSC 4	4 4 5	See University Catalog
	<b>TOTAL</b>	<b>16/17</b>	

\* K-State Core (KSC) course list: <https://www.k-state.edu/provost/kstate-core/>

<sup>#</sup> Extra credits in PHYS 214 and PHILO 185 can be counted toward track or free elective

➤ **Spring Semester (17 credit hours)**

Course	K-State Core*	Credit Hours	Prerequisites
CE 015 Engineering Assembly		0	
CE 533 Mechanics of Materials		3	C or better in either CE 333 or CE 530
CE 534 Mechanics of Materials Laboratory		1	Pre or conc CE 533
GEOL 100 Earth in Action	KSC 4	3	
MATH 340 Elementary Differential Equations		4	C or better in MATH 221
ME 512 Dynamics		3	CE 333 and pre or conc MATH 340
Social & Behavior Sciences: <i>Select courses from the K-State Core list*</i>	KSC 5	3	See University Catalog
	<b>TOTAL</b>	<b>17</b>	

\* K-State Core (KSC) course list: <https://www.k-state.edu/provost/kstate-core/>

■ **Junior Third Year**➤ **Fall Semester (15 credit hours)**

Course	K-State Core*	Credit Hours	Prerequisites
CE 015 Engineering Assembly		0	
CE 351 Incompressible Fluid Mechanics		3	C or better in either CE 530 or ME 512
CE 501 Project Economic Evaluation		1	Junior Standing
CE 537 Introduction to Structural Analysis		3	C or better in CE 533
STAT 510 Intro. Probability and Statistics I		3	MATH 221
ME 310 Elements of Thermodynamics		2	PHYS 213 and MATH 221
Arts & Humanities: <i>Select courses from the K-State Core list*</i>	KSC 6	3	See University Catalog
	<b>TOTAL</b>	<b>15</b>	

\* K-State Core (KSC) course list: <https://www.k-state.edu/provost/kstate-core/>

➤ **Spring Semester (16 or 18 credit hours)**

Course	K-State Core*	Credit Hours	Prerequisites
CE 015 Engineering Assembly		0	
CE 522 Soil Mechanics I		3	C or better in CE 533 and either CE 351 or ME 571
CE 563 Environmental Engg. Fundamentals		3	CHM 210 and MATH 221
CE 571 Introduction to Transportation Engineering		3	MATH 221, PHYS 213, and C or better in CE 212
ENGL 415 Written Comm. for Engineers**		3	See University Catalog
PHILO 185 Engineering Ethics # or DEN 325 Engg. Professionalism & Decision Making	KSC 6	3	See University Catalog
Social & Behavioral Sciences: <i>Select courses from the K-State Core list*</i>	KSC 5	3	See University Catalog
	<b>TOTAL</b>	<b>16/18</b>	

\* K-State Core (KSC) course list: <https://www.k-state.edu/provost/kstate-core/>

# Extra credits in PHYS 214 and PHILO 185 can be counted toward track or free elective

\*\* Students must complete the appropriate prerequisite credits for ENGL 415 but may only apply 3 hours of ENGL 415 prerequisite credits towards their degree requirements.

**Senior Fourth Year**

➤ **Fall Semester (16 credit hours)**

Course	K-State Core*	Credit Hours	Prerequisites
CE 015 Engineering Assembly		0	
CE 502 Project Management		1	Junior Standing
CE 550 Water Resources Engineering or BAE 560 Hydrology for Biological Systems		3	PHYS 213 and either STAT 510 or BAE 460
Free Elective: <i>Select a course from the K-State Core list*</i>	KSC 7	3	See University Catalog
Choose a Track: <ul style="list-style-type: none"> <li>○ Track electives are to be selected from the list approved by the department to satisfy Track requirements and in consultation with the student's faculty advisor to satisfy the requirements of the Track the student has chosen. See <i>Track Specific Course Options</i> for each track #.</li> <li>○ CE Design electives are to be selected from the list approved by the department to satisfy Track requirements and in consultation with the student's faculty advisor to satisfy the requirements of the Track the student has chosen. See <i>Track Specific Course Options</i> for each track.</li> </ul>		9	See list of Track Specific Course Options
<b>TOTAL</b>		<b>16</b>	

\* K-State Core (KSC) course list: <https://www.k-state.edu/provost/kstate-core/>

# Extra credits in PHYS 214 and PHILO 185 can be counted toward track or free elective

➤ **Spring Semester (13 or 15 or 16 credit hours)**

Course	K-State Core*	Credit Hours	Prerequisites
CE 015 Engineering Assembly		0	
CE 503 Project Delivery		1	Junior Standing
CE 585 Civil Engineering Project		3	See University Catalog
Free Elective: <i>Select a course from the K-State Core list*</i>	KSC 7	3	See University Catalog
Choose a Track: <ul style="list-style-type: none"> <li>○ Track electives are to be selected from the list approved by the department to satisfy Track requirements and in consultation with the student's faculty advisor to satisfy the requirements of the Track the student has chosen. See <i>Track Specific Course Options</i> for each track #.</li> <li>○ CE Design electives are to be selected from the list approved by the department to satisfy Track requirements and in consultation with the student's faculty advisor to satisfy the requirements of the Track the student has chosen. See <i>Track Specific Course Options</i> for each track.</li> </ul>		6 or 8 or 9	See list of Track Specific Course Options
<b>TOTAL</b>		<b>13/15/16</b>	

\* K-State Core (KSC) course list: <https://www.k-state.edu/provost/kstate-core/>

# Extra credits in PHYS 214 and PHILO 185 can be counted toward track or free elective

## Program of Study Organizer for BS in Civil Engineering at K-State

### Required Courses

Effective Fall 2024

Dept.	No.	Course Name	Credit Hours	Prerequisites
<b><u>General Education Requirements</u></b>				
		English (Written Communication)	6	See University Catalog
		Communication (Oral Communication)	3	See University Catalog
		Math & Statistics (Quantitative Literacy)	3	See University Catalog
		Natural & Physical Sciences	4-5	See University Catalog
		Social & Behavioral Sciences	6	See University Catalog
		Arts & Humanities	6	See University Catalog
		Free Electives (Institutionally Designated Area)	6	See University Catalog
<b>TOTAL</b>			<b>34-35</b>	
<b><u>Carl R. Ice College of Engineering Requirements</u></b>				
CHM	210	Chemistry I	4	See University Catalog
CHM	230	Chemistry II	4	CHM 210
DEN	160	Engineering Orientation	1	See University Catalog
DEN	161	Engineering Problem Solving	1	See University Catalog
ENGL	415	Written Communication for Engineers	3	See University Catalog
MATH	220	Analytic Geometry and Calculus I	4	See University Catalog
MATH	221	Analytic Geometry and Calculus II	4	C or better in MATH 220
MATH	222	Analytic Geometry and Calculus III	4	C or better in MATH 221
MATH	340	Elementary Differential Equations	4	C or better in MATH 221
PHYS	213	Engineering Physics I	5	Pre or conc MATH 220
PHYS	214	Engineering Physics II	5	PHYS 213 and MATH 221
<b><u>Civil Engineering Requirements (All Tracks)</u></b>				
CE	015	Engineering Assembly	0	
CE	202	Civil Engineering Graphics	3	
CE	212	Elementary Surveying Engineering	3	MATH 150
CE	241	Introduction to CE Materials	3	
CE	301	CE Problem Solving	1	C or better in DEN 161
CE	333	Statics	3	MATH 221 and PHYS 213
CE	351	Incompressible Fluid Mechanics	3	C or better in either CE 530 or ME 512
CE	501	Project Economic Evaluation	1	Junior Standing
CE	502	Project Management	1	Junior Standing
CE	503	Project Delivery	1	Junior Standing
CE	522	Soil Mechanics I	3	C or better in CE 533 and either CE 351 or ME 571
CE	533	Mechanics of Materials	3	C or better in either CE 333 or CE 530
CE	534	Mechanics of Materials Lab	1	Pre or conc CE 533
CE	537	Intro. to Structural Engineering	3	C or better in CE 533
CE	550	Water Resources Engineering	3	PHYS 213 and either STAT 510 or BAE 460
CE	563	Environmental Engg. Fundamentals	3	CHM 210 and MATH 221
CE	571	Intro. to Transportation Engineering	3	MATH 221, PHYS 213, and C or better in CE 212
CE	585	Civil Engineering Project	3	ENGL 415, 6 hrs of C or better in CE Design Electives, and pre or conc 12 hrs of CE Design Electives
GEOL	100	Earth in Action	3	
ME	310	Elements of Thermodynamics	2	PHYS 213 and MATH 221
ME	512	Dynamics	3	CE 333 and pre or conc MATH 340
PHILO	185	Engineering Ethics	3	See University Catalog
or				
DEN	325	Engg. Prof & Decision Making	1	Sophomore Standing
STAT	510	Statistics for Engineers	3	MATH 221

Note: A Track (General, Construction, Environmental, Geotechnical, Structural, Transportation / Materials, and Water Resources) should be declared before 75 credit hours toward a CE degree are completed. Consult the General Catalog, CE Student Advising Handbook, or advisor about these tracks. To declare a track, go to the Office of Student Services (DUR 1042) and process a Change of Curriculum form.

**Program of Study Organizer for BS in Civil Engineering**  
**Track Specific Course Options**  
**(General Track)**  
 Effective Fall 2024

Dept.	No.	Course Name [Semester offered, if not both]	Credit Hours	Prerequisites
<b>DESIGN ELECTIVES FOR GENERAL TRACK (12 hours required) *</b>				
CE	565	Water/Waste Engineering [Spring]	3	C or better in all – CE 351 or ME 571, CE 550, and CE 563
CE	528	Foundation Engineering [Fall]	3	C or better in CE 522
CE	542	Structural Engineering in Steel [Spring]	3	C or better in CE 537
CE	544	Structural Engineering in Concrete [Fall]	3	C or better in CE 537
CE	441	Design of CE Materials [Spring]	3	C or better in both CE 241 and CE 534
CE	572	Highway Engineering [Fall]	3	C or better in both CE 522 and CE 571
CE	552	Hydraulic Engineering [Spring]	3	C or better in either CE 351 or ME 571, and pre or conc CE 550

**GENERAL TRACK ELECTIVES (6 hours required)**

See the *Department Approved Track Elective List* for the course options.

**TOTAL CREDIT HOURS REQUIRED FOR BS IN CIVIL ENGINEERING = 128**

\* The design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources.

**Program of Study Organizer for BS in Civil Engineering**  
**Track Specific Course Options**  
**(Construction Engineering Track)**

Effective Fall 2024

Dept.	No.	Course Name [Semester offered, if not both]	Credit Hours	Prerequisites
<b>REQUIRED DESIGN ELECTIVES (12 hours required) *</b>				
CE	528	Foundation Engineering [Fall]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [Fall]	3	C or better in CE 537
CE	572	Highway Engineering [Fall]	3	C or better in both CE 522 and CE 571
CE	552	Hydraulic Engineering [Spring]	3	C or better in either CE 351 or ME 571, and pre or conc CE 550
or				
CE	565	Water/Waste Engineering [Spring]	3	C or better in all – CE 351 or ME 571, CE 550, and CE 563
<b>REQUIRED TRACK ELECTIVES (6 hours required)</b>				
CE	441	Design of CE Materials [Spring]	3	C or better in both CE 241 and CE 534
CE	542	Structural Engineering in Steel [Spring]	3	C or better in CE 537
<b>TOTAL CREDIT HOURS REQUIRED FOR BS IN CIVIL ENGINEERING = <u>128</u></b>				

\* The design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources.

**Program of Study Organizer for BS in Civil Engineering**  
**Track Specific Course Options**  
**(Environmental Engineering Track)**

Effective Fall 2024

Dept.	No.	Course Name [Semester offered, if not both]	Credit Hours	Prerequisites
<b>REQUIRED DESIGN ELECTIVES (12 hours required) *</b>				
CE	528	Foundation Engineering [Fall]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [Fall]	3	C or better in CE 537
CE	552	Hydraulic Engineering [Spring]	3	C or better in either CE 351 or ME 571, and pre or conc CE 550
CE	565	Water/Waste Engineering [Spring]	3	C or better in all – CE 351 or ME 571, CE 550, and CE 563
<b>REQUIRED TRACK ELECTIVES (6 hours required)</b>				
BIOL	263	Ecology of Env. Problems (Fall)	3	See University Catalog
or				
BIOL	330	Public Health Biology (Fall)	3	See University Catalog
CHM	531	Organic Chemistry I	3	See University Catalog
or				
CHM	350	General Organic Chemistry	3	See University Catalog
<b>TOTAL CREDIT HOURS REQUIRED FOR BS IN CIVIL ENGINEERING = <u>128</u></b>				

\* The design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources.



**Program of Study Organizer for BS in Civil Engineering**  
**Track Specific Course Options**  
**(Geotechnical Engineering Track)**

Effective Fall 2024

Dept.	No.	Course Name [Semester offered, if not both]	Credit Hours	Prerequisites
<b>REQUIRED DESIGN ELECTIVES (12 hours required) *</b>				
CE	528	Foundation Engineering [Fall]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [Fall]	3	C or better in CE 537
CE	552	Hydraulic Engineering [Spring]	3	C or better in either CE 351 or ME 571, and pre or conc CE 550
CE	572	Highway Engineering [Fall]	3	C or better in both CE 522 and CE 571
<b>REQUIRED TRACK ELECTIVES (3 hours required)</b>				
CE	728	Adv Geotechnical Design [Spring]	3	CE 528

**ADDITIONAL TRACK ELECTIVES (0 or 2 or 3 hours required)**

See the *Department Approved Track Elective List* for the course options

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**TOTAL CREDIT HOURS REQUIRED FOR BS IN CIVIL ENGINEERING = 128**

\* The design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources.

**Program of Study Organizer for BS in Civil Engineering**  
**Track Specific Course Options**  
**(Structural Engineering Track)**

Effective Fall 2024

Dept.	No.	Course Name [Semester offered, if not both]	Credit Hours	Prerequisites
<b>REQUIRED DESIGN ELECTIVES (12 hours required) *</b>				
CE	528	Foundation Engineering [Fall]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [Fall]	3	C or better in CE 537
CE	552	Hydraulic Engineering [Spring]	3	C or better in either CE 351 or ME 571, and pre or conc CE 550
CE	572	Highway Engineering [Fall]	3	C or better in both CE 522 and CE 571
<b>REQUIRED TRACK ELECTIVES (6 hours required)</b>				
CE	542	Structural Engineering in Steel [Spring]	3	C or better in CE 537
CE	732	Adv Structural Analysis I [Fall]	3	C or better in CE 537
<b>TOTAL CREDIT HOURS REQUIRED FOR BS IN CIVIL ENGINEERING = <u>128</u></b>				

\* The design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources.

**Program of Study Organizer for BS in Civil Engineering  
Track Specific Course Options**

**(Transportation / Materials Engineering Track)**

Effective Fall 2024

<b>Dept.</b>	<b>No.</b>	<b>Course Name</b> [Semester offered, if not both]	<b>Credit Hours</b>	<b>Prerequisites</b>
<b>REQUIRED DESIGN ELECTIVES (12 hours required) *</b>				
CE	528	Foundation Engineering [Fall]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [Fall]	3	C or better in CE 537
CE	552	Hydraulic Engineering [Spring]	3	C or better in either CE 351 or ME 571, and pre or conc CE 550
CE	572	Highway Engineering [Fall]	3	C or better in both CE 522 and CE 571
<b>REQUIRED TRACK ELECTIVES (6 hours required)</b>				
<i>Two of the following three courses**</i>				
CE	774	Pavement Design [Fall]	3	C or better in CE 522
CE	775	Traffic Engineering [Fall]	3	CE 572
CE	441	Design of CE Materials [Spring]	3	C or better in both CE 241 and CE 534

**TOTAL CREDIT HOURS REQUIRED FOR BS IN CIVIL ENGINEERING = 128**

\* The design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources.

\*\* Either CE 441, CE 774, or CE 775 can be replaced with another acceptable CE Track Elective.

**Program of Study Organizer for BS in Civil Engineering**  
**Track Specific Course Options**  
**(Water Resources Engineering Track)**

Effective Fall 2024

Dept.	No.	Course Name [Semester offered, if not both]	Credit Hours	Prerequisites
<b>REQUIRED DESIGN ELECTIVES (12 hours required) *</b>				
CE	528	Foundation Engineering [Fall]	3	C or better in CE 522
CE	552	Hydraulic Engineering [Spring]	3	C or better in either CE 351 or ME 571, and pre or conc CE 550
CE	565	Water/Waste Engineering [Spring]	3	C or better in all – CE 351 or ME 571, CE 550, and CE 563
CE	542	Structural Engineering in Steel [Spring]	3	C or better in CE 537
or CE	544	Structural Engineering in Concrete [Fall]	3	C or better in CE 537
or CE	572	Highway Engineering [Fall]	3	C or better in both CE 522 and CE 571
<b>REQUIRED TRACK ELECTIVES (6 hours required)</b>				
<i>Two of the following three courses**</i>				
CE	654	Design of Grnd-water Flow Sys [Spring]	3	ME 571
CE	751	Hydraulics of Open Channels [Fall]	3	CE 552
CE	752	Adv Hydrology	3	CE 550
<b>TOTAL CREDIT HOURS REQUIRED FOR BS IN CIVIL ENGINEERING = <u>128</u></b>				

\* The design elective courses selected should cover at least four different design areas: Environmental, Geotechnical, Structural, Transportation/Materials, and Water Resources.

\*\* Either CE 654, CE 751 or CE 752 can be replaced with another acceptable CE Track Elective.

## **Program of Study Organizer for BS in Civil Engineering Track Elective Courses**

Effective Fall 2024

Use one or a combination of the available five options below.

- 1) Any course in the list below:  
CE 411, 528, 542, 544, 552, 565, 572,  
or 600- or 700-level CE courses  
AGRON 605, 746  
BAE 626, 643, 663, 664, 665, 669  
ARE 722, 723, 726  
BIOL 198  
CHE 530  
CHM 350, 531  
GEOG 508, 608  
GEOL 625  
LEAD 405  
MANGT 220, 230  
MATH 515, 551, 632  
ME 610, 720  
PLAN 667, 668  
STAT 703, 705
- 2) Any course needed to satisfy a minor in either:  
Agronomy  
Business  
Chemistry  
Community Planning  
Computer Science  
Economics  
Entrepreneurship  
Geography  
Geology  
Geophysics  
Leadership Studies  
Management  
Manufacturing Systems  
Mathematics  
Nuclear Engineering  
Physics
- 3) Any course needed to satisfy a secondary major in either:  
Natural Resources and Environ. Science  
Biological Engineering
- 4) Any course needed to satisfy a certificate in either:  
Computer Science  
Data Analysis  
Geographic Information Systems
- 5) Any course recommended by the student's academic advisor and approved by the Civil Engineering Undergraduate Program Director.