

# UNDERGRADUATE STUDENT HANDBOOK

DEPARTMENT OF CIVIL ENGINEERING



**KANSAS STATE**  
**UNIVERSITY**

Carl R. Ice College of Engineering

2118 Fiedler Hall (Main Office)

Kansas State University

Manhattan, KS 66506-5000

(785) 532-5862

[ce@engg.ksu.edu](mailto:ce@engg.ksu.edu)

<http://ce.ksu.edu/>



Fourteenth Edition  
Fall 2021



## 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 to 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 upon 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 Accreditation Board for Engineering and Technology (ABET).** For additional information about the accreditation of the Department of Civil Engineering, see <http://ce.ksu.edu/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 upon 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 back 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 provide details on the procedures and standards of credit transfer: <http://engg.ksu.edu/studentservices/transfer>. 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. 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**

Each student must successfully complete credit-bearing courses/experiences to cover all of the K-State 8 areas:

- Aesthetic Interpretation
- Empirical and Quantitative Reasoning
- Ethical Reasoning and Responsibility
- Global Issues and Perspectives
- Historical Perspectives
- Human Diversity within the U.S.
- Natural and Physical Sciences
- Social Sciences

A minimum of four different course prefixes (e.g., AGECE, MATH, FSHS, HIST) must be represented in the fulfillment of the K-State 8 requirements, because the intent of the K-State 8 is for students to explore the perspectives of disciplines that may be quite different from those of their own majors. Transfer students are required to meet all K-State 8 requirements. For more information, go to: <http://ksu.edu/kstate8/index.html>.

---

**HUMANITIES AND  
SOCIAL SCIENCE  
ELECTIVES**

Students must plan their courses carefully to ensure humanities and social science courses are selected from the **General Education** classes. Consult with your academic advisor before enrolling in these classes. To view Carl R. Ice College of Engineering Humanities and Social Science Electives Course List, visit: <https://engg.ksu.edu/docs/student-services/hss.pdf>.

## **CURRICULUM TRACKS**

The University publishes an Undergraduate Catalog each year that contains all of the current rules and regulations, 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 an archived year can be found by selecting the College & Department tab of the right side of the webpage and then navigating to Civil Engineering under the College of Engineering heading. On this webpage are links to the curriculum and a listing of links to all Civil Engineering undergraduate courses. The curriculum link shows 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 (9) 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 requirements for each track are specified at the end of this handbook. To declare a specialty track, go to the **Ike and Letty Evans Academic Success Center** (located in the Fiedler Learning Commons) and submit a **Change of Curriculum** form.

## **CURRICULUM FLOWCHARTS**

Many courses require successful completion of prerequisite courses. The **flowcharts** 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 curriculum flowchart for each available track, visit: <http://ce.ksu.edu/undergrad/advising>. To complete a flowchart using courses found in your KSIS record, go to: <http://flowcharts.engg.ksu.edu>.

## **COURSE SUBSTITUTIONS**

---

## **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: <http://engg.ksu.edu/current-students/honors-program>.

**ACADEMIC  
PERFORMANCE**

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 (flag is released), a student will be able to add the class on KSIS.

Dropping courses after the 25<sup>th</sup> class day will result in a “W” being recorded on your transcript, and courses cannot be dropped after the 50<sup>th</sup> class day. Consult the Schedule of Classes for the exact dates applicable to each semester. See: <http://courses.ksu.edu/courses/schedules.html>.

**COURSE RETAKE  
POLICY**

---

**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. *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: [http://engg.ksu.edu/docs/student-services/academic\\_warning\\_dismissal\\_policies.pdf](http://engg.ksu.edu/docs/student-services/academic_warning_dismissal_policies.pdf) and <http://engg.ksu.edu/student-services/reinstatement>.

**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). For attendance policy and other CE 015 course requirements, visit: <http://engg.ksu.edu/ASCE>.

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 an extensive 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 in the **Ike and Letty Evans Academic Success Center**. 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 schedule a graduation check, visit: <http://gradcheck.engg.ksu.edu/student>.

**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: [http://kstate.service-now.com/kb\\_view.do?sysparm\\_article=KB13358](http://kstate.service-now.com/kb_view.do?sysparm_article=KB13358).

**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 for MS degree.

To qualify for the concurrent degree program, undergraduate students must have a cumulative GPA of at least 3.25 after completing 80 hours towards the BSCE degree. Typically, it takes students an additional year to complete the concurrent BS/MS program. 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 concurrent BS/MS program.

Students pursuing the research-with-thesis MS degree can use six credit hours of approved 600 or above level courses and three credit hours of independent study (literature review and proposal of their research topic) to count towards both degrees. Students pursuing a coursework-only MS degree can use six credit hours of approved 600 or above level courses to count towards both degrees. Students must satisfy all other requirements established for non-concurrent CE MS students. Students can receive their BS degree upon completion of all requirements established for non-concurrent BS students.

**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/>.

**ACADEMIC SUCCESS CENTER**

For further information and help, visit the **Ike and Letty Evans Academic Success Center** website: <http://engg.ksu.edu/asc/>.

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

Approved by CE Faculty in Spring 2019

Fall Semester			Spring Semester		
Course		Sem. Hrs.	Course		Sem. Hrs.
<b><u>FRESHMAN</u></b>					
CE 015	Engineering Assembly	0	CE 015	Engineering Assembly	0
CE 101	Intro. to Civil Engineering	1	CE 212	Elementary Surveying	3
CE 201	CE Problem Solving I	1	CHM 230	Chemistry II	4
CE 202	CE Graphics	3	PHYS 213	Engineering Physics I	5
CHM 210	Chemistry I	4	MATH 221	Anal. Geom. & Calc. II	4
ENGL 100	Expository Writing I*	3	TOTAL		<u>16</u>
MATH 220	Anal. Geom. & Calc. I	4			
	TOTAL	<u>16</u>			
<b><u>SOPHOMORE</u></b>					
CE 015	Engineering Assembly	0	CE 015	Engineering Assembly	0
CE 301	CE Problem Solving II	1	CE 533	Mech. of Materials	3
CE 333	Statics	3	CE 534	Mech. of Materials Lab	1
GEOL 100	Earth in Action	3	COMM 105	Public Speaking IA	2
MATH 222	Anal. Geom. & Calc. III	4	ECON 110	Prin. Macroeconomics I	3
PHYS 214	Engineering Physics II	5	MATH 340	Elem. Diff. Equations	4
	TOTAL	<u>16</u>	ME 512	Dynamics	3
			TOTAL		<u>16</u>
<b><u>JUNIOR</u></b>					
CE 015	Engineering Assembly	0	CE 015	Engineering Assembly	0
CE 537	Intro. Structural Analysis	3	CE 501	Project Economic Evaluation	1
CE 541	CE Materials I	3	CE 522	Soil Mechanics I	3
DEN 325	Engg. Prof. & Desc. Makg.	1	CE 563	Environ. Engg. Fundamentals	3
ME 513	Thermodynamics I	3	CE 571	Intro. To Transport. Engg.	3
ME 571	Fluid Mechanics	3	ENGL 415	Written Comm. for Engrs.*	3
STAT 510	Intro. Prob. & Stat I	3	Humanities or Social Sci Elective**		3
	TOTAL	<u>16</u>	TOTAL		<u>16</u>
<b><u>SENIOR</u></b>					
CE 015	Engineering Assembly	0	CE 015	Engineering Assembly	0
CE 502	Project Management	1	CE 503	Project Delivery	1
CE 550	Water Resources Engr I	3	CE 585	Civil Engineering Project	3
CE Track Electives***		3	CE Track Electives***		6
CE Design Electives****		6	CE Design Electives****		6
Humanities or Social Sci Elective**		3	TOTAL		<u>16</u>
	TOTAL	<u>16</u>			

\* 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.

\*\* Humanities and Social Science electives are to be selected from general education courses / K-State 8 that are also on the engineering humanities and social sciences elective list and need not be taken in the order listed in the curriculum.

\*\*\* 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.

\*\*\*\* 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..



**PROGRAM OF STUDY ORGANIZER FOR A BS IN CIVIL ENGINEERING AT K-STATE**

Approved by CE Faculty in Spring 2020

<b>Dept.</b>	<b>No.</b>	<b>Course Name [Semester, if not both]</b>	<b>Credit Hours</b>	<b>Prerequisites</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
ECON	110	Principles of Macroeconomics	3	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 221
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	101	Introduction to Civil Engineering	1	
CE	201	CE Problem Solving I	1	
CE	202	Civil Engineering Graphics	3	Plane Geometry
CE	212	Elementary Surveying Engineering	3	Plane Trigonometry
CE	301	CE Problem Solving II	1	CE 201
CE	333	Statics	3	MATH 221 and PHYS 213
CE	501	Project Economic Evaluation	1	Jr. Standing
CE	502	Project Management	1	Jr. Standing
CE	503	Project Delivery	1	CE 501
CE	522	Soil Mechanics I	3	C or better in CE 533, and conc ME 571
CE	533	Mechanics of Materials	3	C or better in CE 333 and pre or conc MATH 222
CE	534	Mechanics of Materials Lab	1	pre or conc CE 533
CE	541	CE Materials I	3	CE 534
CE	537	Introduction to Structural Engineering	3	C or better in CE 533
CE	550	Water Resources Engineering I	3	C or better in STAT 510 and PHYS 213
CE	563	Environmental Engg. Fundamentals	3	C or better in CHM 230 and MATH 222
CE	571	Intro. To Transportation Engineering	3	C or better in CE 212, MATH 221, and PHYS 213
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
COMM	105	Public Speaking	2	None
ENGL	100	Expository Writing I	3	None
GEOL	100	Earth in Action	3	None
ME	512	Dynamics	3	CE 333 and pre or conc MATH 340
ME	513	Thermodynamics I	3	PHYS 213 and MATH 222
ME	571	Fluid Mechanics	3	ME 512 and pre or conc ME 513
STAT	510	Statistics for Engineers	3	MATH 221
		Humanities and Social Science Elect.	6	

\*\*\*\*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 Engineering Student Services Office in Fielder Learning Commons and process a Change of Curriculum form.

\*\*\*\*To finish your Program of Study, obtain the lists of the College-approved General Education Classes, Humanities and Social Science Electives and the Track you have chosen and complete them.

**Program of Study for a BS in Civil Engineering at K-State  
(General Track)**

Approved by CE Faculty Spring 2020

<u>Dept.</u>	<u>No.</u>	<u>Course Name</u> <u>[Semester, if not both]</u>	<u>Credit</u> <u>Hours</u>	<u>Prerequisites</u>
<b>DESIGN ELECTIVES FOR GENERAL TRACK (12 hours required)</b>				
CE	528	Foundation Engineering [F]	3	C or better in CE 522
CE	542	Structural Engineering in Steel [S]	3	C or better in CE 537
or				
CE	544	Structural Engineering in Concrete [F]	3	C or better in CE 537
CE	552	Hydraulic Engineering [S]	3	ME 571 and pre or conc CE 550
CE	565	Water/Waste Engineering [S]	3	CE 550, C or better in CE 563, PHYS 214, and ME 571
CE	572	Highway Engineering [F]	3	C or better in CE 571 and CE 522

**REQUIRED GENERAL TRACK ELECTIVES (9 hours required)**

See Department Approved Track Elective List for the course options.

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

**Program of Study for a BS in Civil Engineering at K-State  
(Construction Engineering Track)**

Approved by CE Faculty Spring 2020

<u>Dept.</u>	<u>No.</u>	<u>Course Name</u> <u>[Semester, if not both]</u>	<u>Credit</u> <u>Hours</u>	<u>Prerequisites</u>
<b>DESIGN ELECTIVES FOR CONSTRUCTION TRACK (12 hours required)</b>				
CE	528	Foundation Engineering [F]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [F]	3	C or better in CE 537
CE	552	Hydraulic Engineering [S]	3	ME 571 and pre or conc CE 550
or				
CE	565	Water/Waste Engineering [S]	3	CE 550, C or better in CE 563, PHYS 214, and ME 571
CE	572	Highway Engineering [F]	3	C or better in CE 571 and CE 522

**REQUIRED CONSTRUCTION TRACK COURSES (6 hours required)**

CE	542	Structural Engineering in Steel [S]	3	C or better in CE 537
CE	680	Economics of Design/Construction [S]	3	Senior standing

**ADDITIONAL CONSTRUCTION TRACK ELECTIVES (3 hours required)**

See Department Approved Track Elective List for the course options.

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

**Program of Study for a BS in Civil Engineering at K-State  
(Environmental Engineering Track)**

Approved by CE Faculty Spring 2020

<u>Dept.</u>	<u>No.</u>	<u>Course Name</u> <u>[Semester, if not both]</u>	<u>Credit</u> <u>Hours</u>	<u>Prerequisites</u>
<b>DESIGN ELECTIVES FOR ENVIRONMENTAL TRACK (12 hours required)</b>				
CE	528	Foundation Engineering [F]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [F]	3	C or better in CE 537
CE	552	Hydraulic Engineering [S]	3	ME 571 and pre or conc CE 550
CE	565	Water/Waste Engineering [S]	3	CE 550, C or better in CE 563, PHYS 214, and ME 571

**REQUIRED ENVIRONMENTAL TRACK COURSES (7 hours required)**

BIOL	198	Principles of Biology	4	
CHM	531	Organic Chemistry I	3	CHM 230 or CHM 250
or				
CHM	350	General Organic Chemistry	3	CHM 230 or CHM 250

**ADDITIONAL ENVIRONMENTAL TRACK ELECTIVES (2 hours required)**

See Department Approved Track Elective List for the course options.

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

**Program of Study for a BS in Civil Engineering at K-State  
(Geotechnical Engineering Track)**

Approved by CE Faculty Spring 2020

<u>Dept.</u>	<u>No.</u>	<u>Course Name</u> <u>[Semester, if not both]</u>	<u>Credit</u> <u>Hours</u>	<u>Prerequisites</u>
<b>DESIGN ELECTIVES FOR GEOTECHNICAL TRACK (12 hours required)</b>				
CE	528	Foundation Engineering [F]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [F]	3	C or better in CE 537
CE	552	Hydraulic Engineering [S]	3	ME 571 and pre or conc CE 550
CE	572	Highway Engineering [F]	3	C or better in CE 571 and CE 522

**REQUIRED GEOTECHNICAL TRACK COURSES (6 hours required)**

*Two of the following three courses:*

CE	641	Civil Engineering Materials I [F]	3	CE 534 and ENGL 415
CE	728	Adv Geotechnical Design [S]	3	CE 528
CE	822	Shear Strength and Slope Stability	3	CE 728

**ADDITIONAL GEOTECHNICAL TRACK ELECTIVES (3 hours required)**

See Department Approved Track Elective List for the course options.

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

**Program of Study for a BS in Civil Engineering at K-State  
(Structural Engineering Track)**

Approved by CE Faculty Spring 2020

<u>Dept.</u>	<u>No.</u>	<u>Course Name</u> <u>[Semester, if not both]</u>	<u>Credit</u> <u>Hours</u>	<u>Prerequisites</u>
<b>DESIGN ELECTIVES FOR STRUCTURAL TRACK (12 hours required)</b>				
CE	528	Foundation Engineering [F]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [F]	3	C or better in CE 537
CE	552	Hydraulic Engineering [S]	3	ME 571 and pre or conc CE 550
CE	572	Highway Engineering [F]	3	C or better in CE 571 and CE 522

**REQUIRED STRUCTURAL TRACK COURSES (6 hours required)**

CE	542	Structural Engineering in Steel [S]	3	C or better in CE 537
CE	732	Adv Structural Analysis I [F]	3	C or better in CE 537

**ADDITIONAL STRUCTURAL TRACK ELECTIVES (3 hours required)**

See Department Approved Track Elective List for the course options.

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

**Program of Study for a BS in Civil Engineering at K-State  
(Transportation / Materials Engineering Track)**

Approved by CE Faculty Spring 2020

<u>Dept.</u>	<u>No.</u>	<u>Course Name</u> <u>[Semester, if not both]</u>	<u>Credit</u> <u>Hours</u>	<u>Prerequisites</u>
<b>DESIGN ELECTIVES FOR TRANSPORTATION / MATERIALS TRACK (12 hours required)</b>				
CE	528	Foundation Engineering [F]	3	C or better in CE 522
CE	544	Structural Engineering in Concrete [F]	3	C or better in CE 537
CE	552	Hydraulic Engineering [S]	3	ME 571 and pre or conc CE 550
CE	572	Highway Engineering [F]	3	C or better in CE 571 and CE 522

**REQUIRED TRANSPORTATION / MATERIALS TRACK COURSES (6 hours required)**

CE	774	Pavement Design [F]	3	CE 522
CE	775	Traffic Engineering [F]	3	CE 572

**ADDITIONAL TRANSPORTATION / MATERIALS TRACK ELECTIVES (3 hours required)**

See Department Approved Track Elective List for the course options.

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

**Program of Study for a BS in Civil Engineering at K-State  
(Water Resources Engineering Track)**

Approved by CE Faculty Spring 2020

<u>Dept.</u>	<u>No.</u>	<u>Course Name</u> <u>[Semester, if not both]</u>	<u>Credit</u> <u>Hours</u>	<u>Prerequisites</u>
<b>DESIGN ELECTIVES FOR WATER RESOURCES TRACK (12 hours required)</b>				
CE	528	Foundation Engineering [F]	3	C or better in CE 522
CE	552	Hydraulic Engineering [S]	3	ME 571 and pre or conc CE 550
CE	565	Water/Waste Engineering [S]	3	CE 550, C or better in CE 563, PHYS 214, and ME 571
<i>One of the following three courses:</i>				
CE	544	Structural Engineering in Concrete [F]	3	C or better in CE 537
CE	542	Structural Engineering in Steel [S]	3	C or better in CE 537
CE	572	Highway Engineering [F]	3	C or better in CE 571 and CE 522
<b>REQUIRED WATER RESOURCES TRACK COURSES (6 hours required)</b>				
<i>Two of the following three courses:</i>				
CE	654	Design of Groundwater Flow Sys [S]	3	ME 571
CE	751	Hydraulics of Open Channels [F]	3	CE 552
CE	752	Adv Hydrology	3	CE 550

**ADDITIONAL WATER RESOURCES TRACK ELECTIVES (3 hours required)**

See Department Approved Track Elective List for the course options.

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



**Program of Study for a BS in Civil Engineering at K-State**  
**(Track Elective Courses)**

Approved by CE Faculty Spring 2020

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

- 1) Any course in the list below:  
CE 528, 542, 544, 552, 565, 572,  
or 600- or 700-level CE courses  
AGRON 605, 746  
BAE 665, 669  
ARE 722, 723, 726  
BIOL 198  
CHE 530  
CHM 350, 531  
GEOG 508, 608  
GEOL 625  
MANGT 420, 430  
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.