

CIVIL ENGINEERING

2022 – 2023 Curriculum

*Fall Only **Spring Only

Student: _____

Date: _____

CUID: _____

Advisor: _____

FRESHMAN YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	4	CH 1010 & 1011 General Chemistry		3	ENGR 1410 & 1411 Programming and Problem Solving ⁴
	3	ENGL 1030 & 1031 Composition and Rhetoric		2	ENGR 2100 & 2101 CAD and Engineering Applications
	3	ENGR 1020 & 1021 Engineering Disciplines and Skills ¹		3	GEOL 1010 Physical Geology
	4	MATH 1060 Calculus of One Variable I ²		1	GEOL 1030 Physical Geology Lab
	3	Arts & Humanities <i>OR</i> Social Science Req ³		4	MATH 1080 Calculus of One Variable II
				3	PHYS 1220 Physics with Calculus I
				1	PHYS 1240 Physics Lab I
	17			17	
SOPHOMORE YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	3	CE 2010 Statics		4	CE 2060 & 2061 Structural Mechanics
	2	CE 2100 & 2101 Springer: Intro to Civil Engr. Design I		2	CE 2080 Dynamics
	3	CE 2550 & 2551 Geomatics		3	CE 2200 & 2201 Springer: Intro to Civil Engr. Design II
	4	MATH 2060 Calculus of Several Variables		2	CE 3520 Economic Evaluation of Projects
	3	PHYS 2210 Physics with Calculus II		4	MATH 2080 Int. to Ordinary Differential Eqn.
	3	PHYS 2230 Physics Lab II			
	16			15	
JUNIOR YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	3	CE 3010 Structural Analysis		3	CE 3110 Transportation Engineering Planning and Design
	3	CE 3310 Construction Engineering and Management		4	CE 3210 & 3211 Geotechnical Engineering
	3	CE 3410 Intro to Fluid Mechanics		3	CE 3420 Applied Hydraulics and Hydrology
	1	CE 3430 Intro to Fluid Mechanics Lab		1	CE 3530 Professional Seminar
	4	CE 3510 & 3511 Civil Engineering Materials		3	EES 4010 Environmental Engineering
	3	MATH 3020 Statistics for Science and Engineering		3	Studio Technical Req ⁵
	17			17	
SENIOR YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	3	Arts & Humanities <i>OR</i> Social Science Req ³		3	CE 4590 & 4591 Capstone Design Project
	3	Design Technical Requirement ⁶		3	Arts & Humanities <i>OR</i> Social Science Req ³
	3	Global Challenges Requirement ³		3	Arts & Humanities (Literature) Req ³
	3	Technical Requirement ⁷		3	Design Technical Requirement ⁶
	3	Technical Requirement Restricted ⁸		3	Technical Requirement ⁷
	15			15	
129 Total Semester Hours					
GENERAL EDUCATION REQUIREMENTS					
Literature	Non-Literature	Social Science (SC REACH Act, if required)	Social Science (from a different department)	Global Challenges (ENGR 1020 at Clemson or another course)	Global Challenges -3000 or 4000 level Or if already met with Tech Requirement, then need Dept Arts & Humanities/Social Sci Req
CHANGE OF MAJOR REQUIREMENTS: C grade or higher in each class and a 2.6 Clemson cumulative GPA					
CH 1010	ENGL 1030	ENGR 1020	ENGR 1410	MATH 1060	PHYS 1220

Students should always refer to the Academic Catalog for course descriptions and for course pre-requisites, corequisites, and concurrent enrollment requirements. Academic Catalog can be found here: <https://www.clemson.edu/registrar/academic-catalogs/>. Advisors will assist students in scheduling courses to fulfill the requirements of the degree program; nevertheless, it is the responsibility of the student to fulfill the relevant requirements of the degree.

Footnotes

¹ ENGR 1050 and ENGR 1060; or ENGR 1510 and ENGR 1520 may be substituted for ENGR 1020.

² Depending on a student's Clemson Mathematics Placement Test score, MATH 1040 and MATH 1070 may be substituted for MATH 1060; or the student may be required to take MATH 1050 before enrolling in MATH 1060.

³ See General Education requirements. Three of these credits must also satisfy the South Carolina REACH Act Requirement. See the South Carolina REACH Act Requirement in the Academic Regulations section.

⁴ ENGR 1640 or the combination of ENGR 1070, ENGR 1080 and ENGR 1090 may be substituted for ENGR 1410.

⁵ Select CE 4080 or CE 4110.

⁶ Six credits selected from the following: CE 4210 or CE 4240; CE 4020, CE 4040, CE 4060, CE 4070 or CE 4080; CE 4110 or CE 4560; CE 4420 or CE 4470; EES 4020.

⁷ Select from BE 4840, CE 4010, CE 4020, CE 4040, CE 4060, CE 4070, CE 4080, CE 4100, CE 4110, CE 4120, CE 4210, CE 4240, CE 4330, CE 4340, CE 4350, CE 4360, CE 4380, CE 4390, CE 4420, CE 4430, CE 4460, CE 4470, CE 4480, CE 4560, CE 4570, CE 4620, CE 4820, CE 4910, CRP 4120, CSM 3040**, CSM 3050**, EES 4020, EES 4100, EES 4300, EES 4800**, EES 4840, EES 4850, EES 4860, GEOG 3030**, GEOL 3000**, GEOL 4210**, LAW 3220**, LAW 3330**, ME 3100**, and MSE 2100**. Students may select only one of their technical requirements from courses marked with a double asterisk. Technical Requirements and electives may be used to complete an emphasis area in one or more of the following fields:

- **Construction Engineering and Management Emphasis Area** (12 credits total) - Nine credits selected from CE 4330, CE 4340, CE 4350, CE 4360, CE 4380, CE 4390, approved CE 4900, approved CE 4910; and three credits selected from CE 4020, CE 4040, CE 4060, CE 4070, CE 4110, CE 4210, CE 4240, CE 4330, CE 4340, CE 4360, CE 4380, CE 4390, CE 4560, CE 4570, approved CE 4900, approved CE 4910, CSM 3040, CSM 3050, CSM 3510, CSM 4530.
- **Construction Materials Emphasis Area** (12 credits total) - Six credits selected from CE 4560, CE 4570, approved CE 4910; and six credits selected from CE 4020, CE 4110, CE 4210, CE 4240, CE 4330, CE 4340, CE 4470, CE 4560, CE 4570, approved CE 4900, approved CE 4910.
- **Environmental Engineering Emphasis Area** (12 credits total) - Six credits selected from CE 4470, CE 4820, EES 4020, EES 4100, EES 4110, EES 4300, EES 4500, EES 4510, EES 4750, EES 4800; and six credits selected CE 4470, CE 4820, CE 4900, EES 4020, EES 4100, EES 4110, EES 4300, EES 4500, EES 4510, EES 4750, EES 4800, any 3000- or 4000-level ENSP course, HIST 3920.
- **Geotechnical/Geoenvironmental Engineering Emphasis Area** (12 credits total) - Six credits selected from CE 4210, CE 4240, approved CE 4900, approved CE 4910; and six credits selected from CE 4020, CE 4210, CE 4240, CE 4560, CE 4570, CE 4820, approved CE 4900, approved CE 4910, EES 4800, EES 4840, GEOL 3000, GEOL 4210.
- **Structural Engineering Emphasis Area** (12 credits total) - Nine credits selected from CE 4010, CE 4020, and CE 4060; and three additional credits selected from CE 4040, CE 4070, CE 4080, CE 4210, CE 4240, and approved CE 4900.
- **Transportation Systems Emphasis Area** (12 credits total) - Six credits selected from CE 4100, CE 4110, CE 4120; and six credits selected from CE 4100, CE 4110, CE 4120, CE 4210, CE 4240, CE 4330, CE 4340, CE 4470, CE 4560, CE 4820, approved CE 4900, approved CE 4910, CRP 4120, EES 4300, GEOG 3030, MGT 3050, STAT 3300.
- **Water Resources Engineering Emphasis Area** (12 credits total) - Six credits selected from CE 4420, CE 4430, CE 4460, CE 4470, CE 4620; and six credits selected from CE 4420, CE 4430, CE 4460, CE 4470, CE 4620, CE 4820, approved CE 4900, approved CE 4910, EES 4020.

⁸ Select from BE 4840, CE 4100, CE 4110, CE 4120, CE 4210, CE 4240, CE 4560, CE 4820, CRP 4120, EES 4020, EES 4100, EES 4300, EES 4840, EES 4850, and EES 4860.

NOTES:

1. CH 1010, ENGL 1030, ENGR 1020 (or ENGR 1050 and ENGR 1060 if substituted for ENGR 1020), ENGR 1410 (or ENGR 1070, ENGR 1080, and ENGR 1090 if substituted for ENGR 1410), MATH 1060, MATH 1080, and PHYS 1220 must be passed with a grade of C or better.
2. Civil Engineering students enrolling in any CE course (except CE 3110, CE 3510, or CE 4590) must have a grade of C or better in the prerequisites for that course.
3. A transfer course may not be used to satisfy the General Education Global Challenges Requirement. While a transfer course may fulfill other degree requirements, students must enroll in a Clemson course(s) on the Global Challenges list to fulfill the Global Challenges Requirement.