

# ENVIRONMENTAL 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		4	CH 1020 & 1021 General Chemistry
	3	ENGL 1030 & 1031 Composition and Rhetoric		3	ENGR 1410 & 1411 Programming and Problem Solving <sup>4</sup>
	3	ENGR 1020 & 1021 Engineering Disciplines and Skills <sup>1</sup>		4	MATH 1080 Calculus of One Variable II
	4	MATH 1060 Calculus of One Variable I <sup>2</sup>		3	PHYS 1220 Physics with Calculus I
	3	Arts & Humanities <i>OR</i> Social Science Req <sup>3</sup>		3	Arts & Humanities <i>OR</i> Social Science Req <sup>3</sup>
	<b>17</b>			<b>17</b>	
SOPHOMORE YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	3	BIOL 1030 General Biology I <sup>5</sup>		2	CE 2080 Dynamics
	1	BIOL 1050 General Biology Lab I <sup>5</sup>		3	CE 2010 Survey of Organic Chemistry <sup>6</sup>
	3	CE 2010 Statics		4	EES 2020 & 2021 Environmental Engr Fundamentals I
	3	EES 2010 Environmental Engr Fundamentals I		2	ENGR 2100 and 2101 CAD and Engineering Applications <sup>7</sup>
	4	MATH 2060 Calculus of Several Variables		4	MATH 2080 Int. to Ordinary Differential Eqn.
	3	PHYS 2210 Physics with Calculus II			
	<b>17</b>			<b>15</b>	
JUNIOR YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	2	EES 3030 Water Treatment Systems		3	CE 3410 Intro to Fluid Mechanics
	2	EES 3040 Wastewater Treatment Systems		1	CE 3430 Intro to Fluid Mechanics Lab
	1	EES 3050 Water and Wastewater Treatment Lab		3	EES 4850 Hazardous Waste Management
	3	MATH 3020 Statistics for Science and Engineering		3	EES 4860 Environmental Sustainability
	4	MICR 3050 & 3051 General Microbiology		3	GEOL 1010 Physical Geology <sup>8</sup>
	3	General Education Requirement <sup>3</sup>		1	GEOL 1030 Physical Geology Lab <sup>8</sup>
				3	ME 3100 Thermodynamics and Heat Transfer
	<b>15</b>			<b>17</b>	
SENIOR YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	3	EES 4300 Air Pollution Engineering		3	EES 4750 & 4751 Capstone Design Project
	1	EES 4500 Professional Seminar		3	Engineering or Science Req <sup>10</sup>
	3	EES 4800 Environmental Risk Assessment		3	Engineering or Science Req <sup>10</sup>
	3	EES (BE) 4840 Municipal Solid Waste Management		3	General Education Req <sup>3</sup>
	2	Engineering Economics Req <sup>9</sup>		3	Humanities <i>OR</i> Social Science Req <sup>11</sup>
	3	Engineering or Science Req <sup>10</sup>		3	Oral Communication Req <sup>3</sup>
	<b>15</b>			<b>18</b>	
<b>131 Total Semester Hours</b>					
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 2.0 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

<sup>1</sup> The combination of ENGR 1050 and ENGR 1060 or the combination of ENGR 1510 and ENGR 1520 may be substituted for ENGR 1020.

<sup>2</sup> 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.

<sup>3</sup> See General Education Requirements. Three General Education credits must also satisfy the South Carolina REACH Act R-requirement. See the South Carolina REACH Act Requirement in the Academic Regulations section.

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

<sup>5</sup> BIOL 1100 may be substituted for BIOL 1030 and BIOL 1050.

<sup>6</sup> CH 2230 may be substituted.

<sup>7</sup> ENGR 2080 may be substituted.

<sup>8</sup> PES 2020 may be substituted for GEOL 1010 and GEOL 1030.

<sup>9</sup> Select CE 3520 or IE 3840.

<sup>10</sup> Select from BCHM 3050, BE 3220, BE 4150, BE 4220, BE 4240, BE 4400, BE 4640, BIOL 4100, BIOL 4430, BIOL 4440, CE 2060, CE 2550, CE 3210, CE 3310, CE 3420, CE 4430, CE 4470, CE 4820, CH 3300, CH 3310, CH 4130, ECE 2070, ECE 2080, EES 3000, EES 3010, EES 4000, EES 4100, EES 4110, EES 4120, EES 4140, EES 4270, EES 4370, EES 4910, EES 4950, ENSP 4000, GEOL 2700, GEOL 3000, GEOL 3180, GEOL 4210, GEOL 4820, MATH 3110, MATH 3650, MATH 4340, ME 4260, MICR 4100, MSE 4150, MSE 4160, MSE 4280, MSE 4530, MSE 4580, MSE 4610, PES 4850, PHYS 2400, PHYS 2450, PHYS 4200.

<sup>11</sup> See the Policy on Humanities and Social Sciences for Engineering Curricula.

### NOTES:

1. The following courses must be completed with a grade of C or better: CE 2010, CE 2080, CE 3410, CH 1010, ENGL 1030, ENGR 1020 (or ENGR 1050 and ENGR 1060 or ENGR 1510 and ENGR 1520 if substituted for ENGR 1020), MATH 1060, MATH 1080, MATH 2060, MATH 2080, PHYS 1220, and PHYS 2210.
2. Depending on a student's math placement, they may be invited to take part in the General Engineering Learning Community where they complete the following courses: ENGR 1000, ENGR 1010, ENGR 1100, ENGR 1110, ENGR 1510, ENGR 1520, and ENGR 1640. The combination of ENGR 1510 and ENGR 1520 may be substituted for ENGR 1020. ENGR 1640 may be substituted for ENGR 1410.
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.