

# MAJOR IN ENVIRONMENTAL ENGINEERING

## Major Completion Map

### Distinctive Requirements for Degree Program:

**TO DECLARE MAJOR:** Engineering is a controlled major: students are admitted into the major only if they meet established academic

standards. Please see competitive major requirements or the advisor in the Department for more information.

**TO PREPARE FOR FIRST SEMESTER:** The curriculum for this major assumes students enter college prepared to take calculus. To qualify for graduation, Environmental Engineering majors must achieve a minimum 2.000 grade point average at CSU in all courses in engineering, mathematics, computer science, statistics, physics, and chemistry as well as courses taken as technical electives.

### Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CIVE 102	Introduction to Civil and Environmental Engr	X			3
CO 150	College Composition (GT-CO2)			1A	3
MATH 160	Calculus for Physical Scientists I (GT-MA1)	X		1B	4
PH 141	Physics for Scientists and Engineers I (GT-SC1)	X		3A	5
<b>Total Credits</b>					<b>15</b>

Semester 2		Critical	Recommended	AUCC	Credits
CHEM 111	General Chemistry I (GT-SC2)			3A	4
CHEM 112	General Chemistry Lab I (GT-SC1)			3A	1
CIVE 103	Engineering Graphics and Computing	X			3
MATH 161	Calculus for Physical Scientists II (GT-MA1)	X		1B	4
Select one group from the following:					4

#### Group A:

BZ 110 Principles of Animal Biology (GT-SC2)

BZ 111 Animal Biology Laboratory (GT-SC1)

#### Group B:

BZ 120 Principles of Plant Biology (GT-SC1)

#### Group C:

LIFE 102 Attributes of Living Systems (GT-SC1)

**Total Credits** **16**

### Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
CHEM 113	General Chemistry II				3
CHEM 114	General Chemistry Lab II				1
CIVE 202	Numerical Modeling and Optimization	X			3
CIVE 260	Engineering Mechanics-Statics	X			3
MATH 261	Calculus for Physical Scientists III				4
Diversity, Equity, and Inclusion ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion</a> )				1C	3
<b>Total Credits</b>					<b>17</b>

Semester 4		Critical	Recommended	AUCC	Credits
CHEM 245	Fundamentals of Organic Chemistry				4
CIVE 203	Engineering Systems and Decision Analysis				3
CIVE 261	Engineering Mechanics-Dynamics	X			3
CIVE 360	Mechanics of Solids				3
MECH 237	Introduction to Thermal Sciences	X			3
<b>Total Credits</b>					<b>16</b>

### Junior

Semester 5		Critical	Recommended	AUCC	Credits
CIVE 300	Fluid Mechanics	X			3
CIVE 301	Fluid Mechanics Laboratory				1
CIVE 355	Introduction to Geotechnical Engineering				3

CIVE 356	Geotechnical Engineering Laboratory				1
MATH 340	Intro to Ordinary Differential Equations	X			4
Select one course from the following:					3
AREC 202	Agricultural and Resource Economics (GT-SS1)			3C	
ECON 202	Principles of Microeconomics (GT-SS1)			3C	
<b>Total Credits</b>					<b>15</b>
<b>Semester 6</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
CIVE 322	Basic Hydrology		X		3
CIVE 339	Environmental Engineering Concepts				3
CIVE 442	Air Quality Engineering				3
MIP 300	General Microbiology				3
Advanced Writing ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing</a> )		X		2	3
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )				3B	3
BZ 110/BZ 111 or BZ 120 or LIFE 102 must be completed by the end of Semester 6.		X			
<b>Total Credits</b>					<b>18</b>
<b>Senior</b>					
<b>Semester 7</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
CIVE 401	Hydraulic Engineering				3
CIVE 402	Senior Design Principles	X		4A,4B	3
CIVE 439	Applications of Environmental Engr Concepts	X			3
ERHS 446	Environmental Toxicology	X			3
Engineering Technical Elective (See List on Requirements tab)					3
Historical Perspectives ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives</a> )		X		3D	3
<b>Total Credits</b>					<b>18</b>
<b>Semester 8</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
CIVE 403	Senior Project Design	X		4C	3
CIVE 441	Water Quality Analysis and Treatment	X			3
Technical Elective (See List on Requirements Tab)		X			3
Engineering Technical Elective (See List on Requirements tab)		X			3
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )		X		3B	3
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
<b>Total Credits</b>					<b>15</b>
<b>Program Total Credits:</b>					<b>130</b>