

# MAJOR IN ENVIRONMENTAL ENGINEERING

## Major Completion Map

I can't change any of these, however, in the second paragraph "To Prepare for First Semester" it states, "To qualify for graduation, ENGINEERING SCIENCE majors must...." And it should read ENVIRONMENTAL ENGINEERING MAJORS please.

### 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, engineering science 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>