

# MAJOR IN CIVIL ENGINEERING

## Major Completion Map

Under 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, Civil Engineering majors must achieve a minimum 2.000 grade point average at CSU in all courses in engineering, mathematics, physics, and chemistry as well as courses taken as technical electives.

### Distinctive Requirements for Degree Program:

TO PREPARE FOR FIRST SEMESTER: The curriculum for this major assumes students enter college prepared to take calculus.

#### *Freshman*

Semester 1		Critical	Recommended	AUCC	Credits
CIVE 102	Introduction to Civil and Environmental Engr	X			3
CO 150	College Composition (GT-CO2)	X		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
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> )					3
<b>Total Credits</b>					<b>15</b>

#### *Sophomore*

Semester 3		Critical	Recommended	AUCC	Credits
CHEM 113	General Chemistry II				3
CIVE 202	Numerical Modeling and Optimization	X			3
CIVE 260	Engineering Mechanics-Statics	X			3
MATH 261	Calculus for Physical Scientists III	X			4
Science Technical Elective (See List on Major Requirements Tab)					3
<b>Total Credits</b>					<b>16</b>
Semester 4		Critical	Recommended	AUCC	Credits
CIVE 203	Engineering Systems and Decision Analysis	X			3
CIVE 261	Engineering Mechanics-Dynamics	X			3
CIVE 360	Mechanics of Solids	X			3
MECH 237	Introduction to Thermal Sciences	X			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> )					3
Social and Behavioral Sciences ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences</a> )					3
<b>Total Credits</b>					<b>18</b>

#### *Junior*

Semester 5		Critical	Recommended	AUCC	Credits
CIVE 300	Fluid Mechanics	X			3
CIVE 301	Fluid Mechanics Laboratory				1
CIVE 302	Evaluation of Civil Engineering Materials	X			3
CIVE 367	Structural Analysis		X		3
MATH 340	Intro to Ordinary Differential Equations	X			4

Advanced Writing (<http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing>) 2 3

<b>Total Credits</b>					<b>17</b>
<b>Semester 6</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
CIVE 303	Infrastructure and Transportation Systems	X			3
CIVE 322	Basic Hydrology				3
CIVE 355	Introduction to Geotechnical Engineering				3
CIVE 356	Geotechnical Engineering Laboratory				1
CIVE 467	Design of Reinforced Concrete Structures	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> )				3B	3
CIVE 367 must be completed by the end of Semester 6.		X			

<b>Total Credits</b>					<b>16</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 466	Design and Behavior of Steel Structures				3
Civil Engineering Technical Electives (See List on Major Requirements tab)					6
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

<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 438	Fundamentals of Environmental Engr	X			3
Civil Engineering Technical Electives (See list on Major Requirements tab)		X			9
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>