

# CIVIL ENGINEERING (BS)

## Degree Requirements

Code	Title	Hours
<b>General Education Requirements</b>		<b>51</b>
<b>Major Requirements</b>		
<i>Civil Engineering Requirements</i>		
Complete the following:		
EG 101	Intro to Engineering & Design (or EG 201 for LINK students)	2
ST 315	Applied Probability-Statistics	3
EG 231	Intro to Ethics and Economics	3
EG 283	Statics	3
EG 284	Dynamics	3
EG 315	Mechanics of Materials	3
EG 360	Fluid Mechanics	3
CE 102	Intro to Civil Engineering	2
CE 204	Surveying Fundamentals	2
CE 205	Surveying Fundamentals Lab	1
CE 314	CE Materials	3
CE 315	CE Materials Lab-W	1
CE 340	Soil Mechanics	3
CE 341	Geotechnical Laboratory-W	1
CE 352	Intro to Transportation	3
CE 353	Transp-Geometric Design <sup>1</sup>	3
CE 360	Water Resources Engineering I	2
CE 367	Hydraulics Laboratory - W	1
CE 370	Intro to Enviro Eng	3
CE 374	Intro to Environmental Eng Lab	1
CE 384	Structural Analysis	3
CE 385	Structural Analysis Lab	1
CE 431	Civil Engineering Design I	2
CE 432	Civil Engineering Design II	4
CE 440	Intro to Geotech Eng <sup>1</sup>	3
CE 460	Water Resources Engineering II <sup>1</sup>	3
CE 470	Water-Wastewater Trtmt Design <sup>1</sup>	3
CE 471	Water-Wastewater Design Lab	1
<i>Science Elective</i>		
Select one of the following: 4		
BLY 101 & 101L	Life Science I and Life Science I Laboratory	
BLY 121 & 121L	General Biology I and General Biology I Lab	
GEO 101 & 101L	Environmental Geography and Environmental Geography Lab	
GEO 102 & 102L	Earth and the Environment and Earth and the Environment Lab	
GY 111 & 111L	Physical Geology and Physical Geology Lab	
MAS 134 & 134L	Ocean Science and Ocean Science Lab	

*Civil Engineering Structural Design*

Select one of the following:		4
CE 480 & CE 481	Design of Steel Structures and Steel Design Lab <sup>1</sup>	
CE 485 & CE 486	Reinforced Concrete Design and Reinforced Concrete Design Lab <sup>1</sup>	
<i>Civil Engineering Technical Electives <sup>2</sup></i>		
A. Select one of the following:		3
CE 442	Foundation Engineering	
CE 466	Coastal and Harbor Eng	
CE 474	Industrial Waste Treatment	
CE 480 & CE 481	Design of Steel Structures and Steel Design Lab	
CE 482	Timber Design	
CE 485 & CE 486	Reinforced Concrete Design and Reinforced Concrete Design Lab	
CE 490	Special Topics	
B. Select one of the following:		3-4
CE 410	Construction Engineering	
CE 412	Mgmt & Sustainability of C.I.	
EG 450	Intro to Systems Engineering	
GIT 460	Intro to GIT	
<b>Minor Requirements</b>		
A minor is not required for this degree program		0
<b>Total Hours</b>		<b>131-132</b>

## Footnote

<sup>1</sup> Students must complete all five terminal subdiscipline courses (CE 353, CE 440, CE 460, CE 470 and structural design course) with a "C" grade or better.

<sup>2</sup> Two technical electives are required, at least one of which must be a "design-oriented" course. Students can take two courses from List A (design oriented) or one course from List A and one course from List B (non-design oriented).

## General Education Requirements

Code	Title	Hours
<b>Area I – Written Composition</b>		
A. Complete the following:		
EH 101	English Composition I (Students who earn an English ACT score of 27, or a written SAT score of 610, can opt out of EH 101.)	3
EH 102 or EH 105	English Composition II or Honors Composition - H	3
<b>Area II – Humanities &amp; Fine Arts</b>		
A. Select one of the following: 3		
EH 215	Brit Lit before 1785	
EH 216	Brit Lit after 1785	
EH 225	Am Lit before 1865	
EH 226	Am Lit after 1865	
EH 235	World Lit before 1650	
EH 236	World Lit after 1650	
B. Select one of the following: 3		
ARH 100	Survey of Art	

ARH 103	Art History I	
ARH 123	Art History II	
ARS 101	Art Appreciation	
DRA 110	Introduction to Theatre	
MUL 101	Introduction to Music	
C. Complete the following:		
CA 110	Public Speaking	3
<b>Area III – Natural Sciences &amp; Mathematics</b>		
Complete the following:		
MA 125	Calculus I	4
CH 131 & 131L	General Chemistry I and General Chemistry I Lab	4
CH 132 & 132L	General Chemistry II and General Chemistry II Lab	4
PH 201 & 201L	Calculus-Based Physics I and Calculus-Based Physics I Lab	4
<b>Area IV – History, Social &amp; Behavioral Sciences</b>		
A. Select 3 hours from the following: 3		
HY 101	HY of Western Civilization I	
HY 102	HY of Western Civilization II	
HY 135	US History to 1877	
HY 136	US History since 1877	
B. Select 3 hours from the following: 3		
AN 100	Intro to Cultural Anthropology	
AN 101	Intro Archaeology-Bio Anthro	
CA 100	Intro to Communication	
CA 211	Interpersonal Comm	
ECO 215	Prin of Microeconomics	
ECO 216	Prin of Macroeconomics	
GEO 114	People, Places, Environment	
GEO 115	World Regional Geography	
GS 101	Intro to Gender Studies	
IS 100	Global Issues	
IST 201	Seasons of Life	
PSC 130	Intro to US Government	
PSY 120	Introduction to Psychology	
PSY 250	Life Span Development	
SY 109	Introductory Sociology	
SY 112	Social Problems	
C. Select a further 3 hours from either List A or B above in Area IV 3		
<b>Area V</b>		
Complete the following:		
MA 126	Calculus II	4
MA 227	Calculus III	4
MA 238	Differential Equations I	3
<b>Total Hours</b>		<b>51</b>

### Additional Information

It is important that students make adequate progress in the Civil Engineering program. Satisfactory completion of a set of fundamental courses is required before a student is allowed to take advanced courses. Professional Component Standing (PCS) is awarded by the Chair of the

Department when the student completes the College of Engineering PCS requirements and the CCEE Departmental PCS requirements.

### College of Engineering PCS Courses

Minimum Grade C

Code	Title	Hours
EH 101	English Composition I	3
EH 102	English Composition II	3
CH 131	General Chemistry I (+Lab CH 131L)	4
MA 125	Calculus I	4
MA 126	Calculus II	4
PH 201	Calculus-Based Physics I (+Lab PH 201L)	4

### Civil, Coastal, and Environmental Engineering PCS Courses

Minimum Grade C

Code	Title	Hours
CH 132	General Chemistry II (+Lab CH 132L)	4
MA 227	Calculus III	4
CE 102	Intro to Civil Engineering	2

Students who fail to maintain at least a 2.00 GPA overall at the University of South Alabama may be required to take or repeat appropriate courses as specified by the department chair to correct their deficiencies and may not be permitted to continue in 300- and 400-level engineering courses.

## Graduation Plan

(131 Total Hours)

The Sample 4-year plan is designed as a guide for students preparing for their course selections. This information provides only a suggested schedule. Actual course selections should be made in consultation with an advisor. Courses listed as Milestones are required to obtain the Professional Component Standing (PCS). Two designated writing (W) courses are required with at least one course chosen from offerings in the student's major or minor. Courses carrying this required credit are identified in the University Bulletin by a W after the course title.

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
MA 125	Calculus I <sup>1</sup>	4
CH 131 & 131L	General Chemistry I and General Chemistry I Lab <sup>1</sup>	4
EG 101	Intro to Engineering & Design	2
EH 101	English Composition I <sup>1</sup>	3
General Education	Area II, Or IV <sup>2</sup>	3
<b>Milestone Notes</b>		
Must complete at least 12 hours with a 2.0 or higher GPA		
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
MA 126	Calculus II <sup>1</sup>	4
CH 132 & 132L	General Chemistry II and General Chemistry II Lab <sup>1</sup>	4
EH 102	English Composition II <sup>1</sup>	3
CE 102	Intro to Civil Engineering <sup>1</sup>	2
PH 201	Calculus-Based Physics I <sup>1</sup>	4
<b>Milestone Notes</b>		
MA 125	Calculus I	
CH 131 & 131L	General Chemistry I and General Chemistry I Lab	

EH 101 or EH 105	English Composition I or Honors Composition - H	
<b>Hours</b>		<b>17</b>
<b>Second Year</b>		
<b>Fall</b>		
MA 227	Calculus III <sup>1</sup>	4
Select one of the following:		4
BLY 101	Life Science I (and Lab)	
BLY 121	General Biology I (and Lab)	
GY 111	Physical Geology (and Lab)	
GEO 101	Environmental Geography (and Lab)	
GEO 102	Earth and the Environment (and Lab)	
MAS 134	Ocean Science (and Lab)	
CE 204	Surveying Fundamentals <sup>1</sup>	2
CE 205	Surveying Fundamentals Lab <sup>1</sup>	1
EG 283	Statics <sup>1</sup>	3
General Education	Area II or IV <sup>2</sup>	3
<b>Milestone Notes</b>		
PH 201 & 201L	Calculus-Based Physics I and Calculus-Based Physics I Lab	
MA 126	Calculus II	
CH 132 & 132L	General Chemistry II and General Chemistry II Lab	
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
MA 238	Differential Equations I	3
ST 315	Applied Probability-Statistics	3
EG 284	Dynamics	3
EG 315	Mechanics of Materials	3
General Education	Area II or IV <sup>2</sup>	3
General Education	Area II or IV <sup>2</sup>	3
<b>Milestone Notes</b>		
MA 227	Calculus III (Science Elective)	
EG 283	Statics (Science Elective)	
EH 102	English Composition II (Science Elective)	
Science Elective		
CE 204	Surveying Fundamentals	
CE 205	Surveying Fundamentals Lab	
<b>Hours</b>		<b>18</b>
<b>Third Year</b>		
<b>Fall</b>		
CE 314	CE Materials	3
CE 315	CE Materials Lab-W	1
CE 352	Intro to Transportation	3
CE 384	Structural Analysis	3
CE 385	Structural Analysis Lab	1
EG 231	Intro to Ethics and Economics	3
EG 360	Fluid Mechanics	3
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
CE 340	Soil Mechanics	3
CE 341	Geotechnical Laboratory-W	1
CE 353	Transp-Geometric Design	3
CE 360	Water Resources Engineering I	2
CE 367	Hydraulics Laboratory - W	1
CE 370	Intro to Enviro Eng	3
CE 374	Intro to Environmental Eng Lab	1
General Education	Area II or IV <sup>2</sup>	3
<b>Milestone Notes</b>		
Apply for graduation		
<b>Hours</b>		<b>17</b>

**Fourth Year****Fall**

CE 431	Civil Engineering Design I	2
CE 440	Intro to Geotech Eng	3
CE 470	Water-Wastewater Trtmt Design	3
CE 471	Water-Wastewater Design Lab	1
CE 480 or CE 485	Design of Steel Structures or Reinforced Concrete Design	3
CE 481 or CE 486	Steel Design Lab or Reinforced Concrete Design Lab	1
CE 460	Water Resources Engineering II	3

**Hours** **16****Spring**

CE 432	Civil Engineering Design II	4
Technical Elective	Civil Engineering Electives <sup>2</sup>	3
Technical Elective	Civil Engineering Electives <sup>2</sup>	3
General Education	Area II or IV <sup>2</sup>	3

**Hours** **13****Total Hours** **131**

<sup>1</sup> Courses required for Professional Component Standing (PCS) with a "C" grade or better.

<sup>2</sup> See Degree Requirements

**Notes**

- Students must make a 2.0 GPA in CE major courses to graduate.
- Students must complete all five terminal subdiscipline courses (CE 353, CE 440, CE 460, CE 470, and Structural Design) with a "C" grade or better.
- Students who earn an English ACT score of 27, or a written SAT score of 610, can opt out of EH 101
- **Students not Term 1 - Calculus I ready will exceed the 131 hours required for this degree. If math is not started prior to Fall-Year 1, the four-year graduation timetable is likely to be extended. Students with ACT Math scores 21 and below should begin math courses in the summer before Fall-Year 1.**