

Bachelor of Science in Civil Engineering

Curriculum

The Bachelor of Science in Civil Engineering degree requires 128 credits. For credit toward the degree, a grade of "C" or better must be received in each course listed. In addition, all prerequisites for each mathematics, science or engineering course must be completed with a grade of "C" or better before enrollment is permitted. The degree components are listed below.

General Studies		
College Writing 1 (1), (2)	ENC 1101	3
College Writing 2 (1), (2)	ENC 1102	3
Intellectual Foundations Program: Society and Human Behavior Courses (1), (3)		6
Intellectual Foundations Program: Global Citizenship Courses (1), (3)		6
Intellectual Foundations Program: Creative Expressions Courses (1), (3)		6
Total		24

Basic Mathematics and Sciences		
Calculus with Analytic Geometry 1 (1), (4)	MAC 2311	4
Calculus with Analytic Geometry 2 (1), (4)	MAC 2312	4
Calculus with Analytic Geometry 3	MAC 2313	4
Engineering Mathematics 1	MAP 3305	3
Probability and Statistics for Engineers	STA 4032	3
General Chemistry 1 (1)	CHM 2045	3
General Chemistry Lab 1 (1)	CHM 2045L	1
General Physics for Engineers 1 (1), (5)	PHY 2048	3
General Physics 1 Lab	PHY 2048L	1
Physics for Engineers 2 (1), (5)	PHY 2044	3
General Physics 2 Lab	PHY 2049L	1
Basic Science Elective (1):		
Physical Geology/Evolution of the Earth or	GLY 2010C	4 or
Biological Principles and Biological Principles Lab	BSC 1010, 1010L	4
Fundamentals of Surveying	SUR 2104C	3
Total		34

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Engineering Fundamentals		
Fundamentals of AutoCAD	CGN 2327	3
Fundamentals of Engineering	EGN 1002	3
Computer Applications in Engineering 1	EGN 2213	3
Statics	EGN 3311	3

Dynamics	EGN 3321	3
Strength of Materials	EGN 3331	3
Fundamentals of Surveying	SUR 2104C	3
Fundamentals of Surveying	SUR2101	2
Fundamentals of Surveying Lab	SUR2101L	1
Engineering Thermodynamics	EGN 3343	3
Total		21

Professional Core (6)		
Soil Mechanics (7)	CEG 3011C	3
Foundation Engineering	CEG 4012	3
Analysis of Structures (7)	CES 3102C	3
Structural Steel Design	CES 4605	3
Reinforced Concrete Design	CES 4702	3
Civil Engineering Materials (7)	CGN 3501C	3
Undergraduate Research in Civil Engineering 1	CGN 3910	1
Civil, Environmental and Geomatics Engineering Design 1 (2), (7) (Title change eff. summer 2015.)	CGN 4803C	3
Civil, Environmental and Geomatics Engineering Design 2 (2), (7) (Title change eff. summer 2015.)	CGN 4804C	3
Undergraduate Research in Civil Engineering 2	CGN 4911	4
Applied Hydraulics (7)	CWR 3201C	3
Hydrologic Engineering	CWR 4202	3
Environmental Science and Engineering (7)	ENV 3001C	3
Water and Wastewater Treatment Systems	ENV 4514	3
Introduction to Transportation Engineering (7)	TTE 3004C	3
Transportation Planning and Logistics (7)	TTE 4005C	3
Total		43

Technical Electives, 6 credits from the list below (8)		
Construction Project Management	CCE 4031	3
Pavement Design	CEG 4126	3
GIS Application in Civil Engineering	CGN 4321	3
Advanced Hydraulic Systems	CWR 4223	3
Stormwater Modeling and Management	CWR 4307	3
Introduction to Terrestrial Laser Scanning	SUR 4150C	3
Transportation Operations and Logistics Management	TTE 4105	3
Total		6

Notes:

(1) Contributes to University Core Curriculum requirements.

- (2) Contributes to Writing Across Curriculum (Gordon Rule) writing requirement.
- (3) Intellectual Foundations Program courses, totaling 6,-must be selected to satisfy Writing Across Curriculum (Gordon Rule) writing requirements.
- (4) Contributes to Gordon Rule mathematics requirement.
- (5) PHY 2048 and PHY 2049 (4 credits each) are acceptable substitutes, but only 6 credits will apply toward the degree.
- (6) All professional core courses contain a communications component (writing or speaking).
- (7) Includes a 1-credit laboratory.
- (8) 6 credits may be taken from Department of Civil, Environmental and Geomatics Engineering graduate courses—this is highly recommended for students planning to pursue the B.S./M.S.

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Sample Four-Year Program of Study for Bachelor of Science in Civil Engineering

First Year, Fall (14 credits)		
College Writing 1	ENC 1101	3
General Chemistry 1 (eff. spring 2015)	CHM 2045	3
General Chemistry Lab 1 (eff. spring 2015)	CHM 2045L	1
Calculus with Analytic Geometry 1	MAC 2311	4
Fundamentals of Engineering	EGN 1002	3

First Year, Spring (14 credits)		
College Writing 2	ENC 1102	3
<u>General</u> Physics for Engineers 1	PHY 2048	3
General Physics 1 Lab	PHY 2048L	1
Calculus with Analytic Geometry 2	MAC 2312	4
Fundamentals of AutoCAD	CGN 2327	3

First Year, Summer (6 credits)		
Fundamentals of Surveying	SUR 2104C	3
Fundamentals of Surveying	SUR2101	2
Fundamentals of Surveying Lab	SUR2101L	1
Intellectual Foundations Course		3

Second Year, Fall (14 credits)		
Physics for Engineers 2	PHY 2044	3
General Physics 2 Lab	PHY 2049L	1
Calculus with Analytic Geometry 3	MAC 2313	4
Statics	EGN 3311	3
Intellectual Foundations Course		3

Second Year, Spring (16 credits)		
Strength of Materials	EGN 3331	3
Engineering Mathematics 1	MAP 3305	3
Computer Applications in Engineering 1	EGN 2213	3
Basic Science Elective:		
Physical Geology/Evolution of the Earth or	GLY 2010C	4 or
Biological Principles and Biological Principles Lab	BSC 1010, 1010L	4
Intellectual Foundations Course		3 6

Second Year, Summer (6 credits)		
Analysis of Structures	CES 3102C	3
Intellectual Foundations Course		3
Fundamentals of Surveying	SUR 2104C	3
Engineering Thermodynamics	EGN 3343	3

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Third Year, Fall (12 credits)		
Civil Engineering Materials	CGN 3501C	3
Applied Hydraulics	CWR 3201C	3
Environmental Science and Engineering	ENV 3001C	3
Intellectual Foundations Course		3
Analysis of Structures	CES 3102C	3
Probability and Statistics for Engineers	STA 4032	3
Introduction to Transportation Engineering	TTE 3004C	3



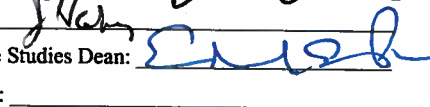
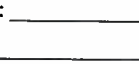

Third Year, Spring (13 credits)		
Soil Mechanics	CEG 3011C	3
Introduction to Transportation Engineering	TTE 3004C	3
Dynamics	EGN 3321	3
Undergraduate Research in Civil Engineering 1	CGN 3910	1
Intellectual Foundations Course		3
Environmental Science and Engineering	ENV 3001C	3

Third Year, Summer (3 credits)		
Probability and Statistics for Engineers	STA 4032	3

Fourth Year, Fall (15 credits)		
Foundation Engineering	CEG 4012	3
Structural Steel Design	CES 4605	3
Reinforced Concrete Design	CES 4702	3
Civil, Environmental and Geomatics Engineering	CGN 4803C	3

Design 1 (Title change eff. summer 2015.)		
Civil Engineering Technical Elective		3
Undergraduate Research in Civil Engineering 2	CGN 4911	4

Fourth Year, Spring (15 credits)		
Civil, Environmental and Geomatics Engineering Design 2 (Title change eff. summer 2015.)	CGN 4804C	3
Transportation Planning and Logistics	TTE 4005C	3
Water and Wastewater Treatment Systems	ENV 4514	3
Hydrologic Engineering	CWR 4202	3
Civil Engineering Technical Elective		3

Approved by:	Date:
Department Chair: 	10/02/15
College Curriculum Chair: 	10/02/2015
College Dean: 	10/16/2015
UUPC Chair: 	11/12/15
Undergraduate Studies Dean: 	11/13/15
UFS President: _____	_____
Provost: _____	_____