

# Civil Engineering B.S.C.E.

## Degree Requirements: 130 Credit Hours

See Core Curriculum for required courses in Area A1 through Area E.

	Credit Hours
<b>General Requirements (Core A - E)</b>	42
<b>Additional Requirements</b>	4
<b>Area F - Courses Appropriate to Major</b>	
CHEM 1310 Comprehensive General Chemistry	4
CENG 1133 Engineering Graphics for Civil and Construction Engineers	3
MATH 2160 Elementary Linear Algebra	3
MATH 2242 Calculus II	4
MATH 2243 Calculus III	4
<b>Specific Requirements</b>	
Carryover from Area A2	1
Carryover from Area D	1
CENG 1731 Civil Engineering Computations	3
ENGR 2231 Engineering Mechanics I	3
ENGR 2232 Dynamics of Rigid Bodies	3
ENGR 3233 Mechanics of Materials	3
MATH 3230 Ordinary Differential Equations	3
STAT 2231 Introduction to Statistics I	3
<b>Major Requirements</b>	
CENG 2131 Civil Engineering Fluid Mechanics	3
CENG 2231 Surveying	3
or TCM 2233 Construction Surveying	
CENG 3131 Introduction to Environmental Engineering	3
CENG 3132 Introduction to Water and Wastewater Treatment	3
CENG 3135 Construction Cost Control and Finance	3
or TCM 3331 Construction Finance	
CENG 3232 Soil Mechanics	3
CENG 3233 Civil Engineering Materials	3
CENG 3331 Structural Analysis	3
CENG 3333 Reinforced Concrete Design	3
CENG 4135 Highway Design	3
CENG 4331 Structural Steel Design	3
CENG 4518 Introduction to Senior Project	1
CENG 4539 Senior Project	3
Select 6 credit hours from the following recommended technical elective courses: <sup>3</sup>	6
CENG 4133 Transportation Systems	
CENG 4232 Foundation Design	
CENG 4730 Experiential Learning in Civil and Construction Engineering - COOP	
CENG 4890 Special Problems in Civil Engineering	
CENG 5090 Selected Topics in Civil Engineering	
CENG 5133 Water Supply and Wastewater Collection Systems	
CENG 5136 Watershed Management	
CENG 5137 Engineering Hydrology and Hydraulics	

CENG 5138	Water and Sanitation for International Development	
CENG 5139	Advanced Water and Wastewater Treatment	
CENG 5231	Pavement Analysis and Design	
CENG 5232	Foundation Design	
CENG 5234	Asphalt Mix Design	
CENG 5331	Advanced Structural Analysis	
CENG 5332	Prestressed Concrete Design	
CENG 5333	Advanced Reinforced Concrete Design	
CENG 5334	Advanced Structural Steel Design	
CENG 5335	Structural Dynamics	
CENG 5336	Introduction to Finite Elements	
CENG 5337	Advanced Strength	
CENG 5338	Theory of Elasticity	
CENG 5339	Theory of Elastic Stability	
CENG 5431	Advanced Surveying	
CENG 5432	Introduction to GIS in Surveying-Geomatics and Transportation	
CENG 5433	Drainage & Erosion Control	
CENG 5434	Surveying History & Law	
CENG 5435	Introduction to Terrestrial LiDAR	
CENG 5436	Introduction to Close-Range Photogrammetry	
TCM 5330	Green Building and Sustainable Construction	
TCM 5333	Building Information Modeling	
TCM 5431	Construction Cost Estimating	
TCM 5433	Proj Planning/Scheduling	
	OR other appropriate topics approved by the Department Chair.	
<b>Free Elective</b>		
Select 3 credit hours of Free Electives		3
<b>Total Credit Hours</b>		<b>130</b>

<sup>1</sup> While Calculus I (MATH 1441) is 4 credit hours, only 3 credit hours will count toward fulfilling Area A2. The remaining credit hour will be applied toward Specific Requirements.

<sup>2</sup> The listed courses are recommended in the Core Areas noted and may be prerequisites for major courses.

<sup>3</sup> The 6 hours listed for technical electives must be upper division courses in order to meet the 39 upper division hours requirement.

## Other Program Requirements

- A minimum grade of "C" is required for all CENG courses.
- A minimum grade of "C" is required for all prerequisite courses.
- A minimum grade of "C" is required for all Technical Elective courses.
- At least 33 credit hours of approved upper division Engineering credit hours must be earned at Georgia Southern.
- At least 100 hours of Departmental pre-approved community service must be completed prior to graduation clearance.
- Students must take the Fundamentals of Engineering (FE) Exam prior to Graduation.

## Honors in Civil Engineering

To graduate with Honors in Civil Engineering a student must:

- Be admitted in the University Honors Program
- Complete a Honors thesis (in a minimum of two regular semesters) for a total of 3-credit hours in Honors Research (HONS 4999)
- Maintain a 3.3 institution grade point average, including a 3.5 minimum GPA in all major courses applied towards graduation

## **Advisement**

CEC Office of Student Services, Room 1208, Allen E. Paulson College of Engineering and Computing, Telephone: (912) 478-4877.