

# Civil Engineering B.S.C.E.

131 credits, 2021/2022 Catalog

## First Year

### Fall Semester

3	ENC 1101 Composition I
4	<b>MAC 2281 or MAC 2311 Calculus I</b>
3	<b>CHS 2440 or CHM 2045 Chemistry I</b>
1	<b>CHS 2440L or CHM 2045L Chemistry I Lab</b>
R	EGN 3000 Foundations of Engineering
<u>3</u>	EGN 3000L Foundations of Eng. Lab (TGEC)
14	<i>Total Credits</i>

### Spring Semester

3	ENC 1102 Composition II
4	<b>MAC 2282 or MAC 2312 Calculus II</b>
3	<b>PHY 2048 General Physics I</b>
1	<b>PHY 2048L General Physics I Lab</b>
3	EGN 1113 Intro. to Design Graphics
<u>3</u>	* General Education Core Social Science
17	<i>Total Credits</i>

## Second Year

### Fall Semester

4	<b>MAC 2283 or MAC 2313 Calculus III</b>
3	<b>PHY 2049 General Physics II</b>
1	<b>PHY 2049L General Physics II Lab</b>
3	<b>** EGN 3311 Statics</b>
3	EGN 4453 Numerical & Computer Tools I
3	EGN 3365 Materials I
<u>1</u>	Apply for Progression to Upper Division
17	<i>Total Credits</i>

### Spring Semester

3	MAP 2302 Differential Eq. or EGN 3433 Modeling & Analysis of Eng Systems
3	EGN 3321 Dynamics
3	EGN 3353 Basic Fluid Mechanics
3	EGN 3331 Mechanics of Materials
<u>1</u>	EGN 3331L Mechanics of Materials Lab
13	<i>Total Credits</i>

### Summer

3	EGN 3615 Engineering Economics (TGED)
3	General Ed. Core Humanities Elective
<u>3</u>	ENC 3246 Comm. for Engineers
9	<i>Total Credits</i>

## Third Year

### Fall Semester

3	ENV 4001 Environmental Systems Engineering
3	TTE 4004 Transportation Engineering I
3	EGN 3343 Thermodynamics
3	EGN 3443 Probability & Statistics for Eng (TGEI)
<u>3</u>	EGN 4454 Numerical & Computer Tools II
15	<i>Total Credits</i>

### Spring Semester

3	CES 3102 Structures I
3	CWR 4202 Hydraulics
1	ENV 4004L Environmental Lab
3	GLY 3850 Geology for Engineers
3	CE Track Elective
<u>3</u>	CE Track Elective
16	<i>Total Credits</i>

### Summer

**Recommended Internship/Co-op**  
List Company/employer name and position

## Fourth Year

### Fall Semester

3	CEG 4011 Geotechnical Engineering I
1	CEG 4011L Geotechnical Lab
6	CE Track Elective (two 3-hour classes)
2	General Elective
3	EGN 3373 Intro to Electrical Systems I
<u>1</u>	Apply for Graduation
15	<i>Total Credits</i>

### Spring Semester

3	CGN 3021L Civil Engineering Lab
3	CE Track Elective
3	CE Track Elective
3	CGN 4122 Professional/Ethical Issues in Eng (TGEE)
<u>3</u>	CE Capstone Design Requirement (TGEH)
15	<i>Total Credits</i>

**Note:** Courses in bold must be completed with an overall grade point average of 3.0, see overleaf.

R – Required course

\*\* - High Priority course that begins a five semester sequence

\* Students must meet the Civic Literacy requirement with credit for AMH 2020, POS 2041 and passing the Civic Literacy test.

TGEC = Creative Thinking, TGEI = Information & Data Literacy, TGED = Human & Cultural Diversity,

TGEE = Ethical Reasoning & Civic Engagement, TGEH = High Impact Practice Capstone

## Civil Engineering Requirements for Progression to the Upper Division

- Completion of the following courses with a minimum grade of C and a cumulative **3.0 GPA** (based on best attempt with maximum two attempts) for the following courses:
  - \_\_\_ Calculus I or Engineering Calculus I (MAC2311 or MAC2281)
  - \_\_\_ General Chemistry I or Chemistry for Engineers (CHM2045 & 2045L or CHS 2440 & 2440L)
  - \_\_\_ Calculus II or Engineering Calculus II (MAC2312 or MAC2282)
  - \_\_\_ Physics I with lab (PHY2048 and PHY2048L)
  - \_\_\_ Calculus III or Engineering Calculus III (MAC2313 or MAC 2283)
  - \_\_\_ Physics II with lab (PHY2049 or 2061 and PHY2049L)
- Need a USF GPA and an Overall GPA of 2.00 or better

## Continuation and Graduation Requirements

Reference Catalog: <https://catalog.usf.edu/content.php?catoid=13&navoid=1488>

- Requires a minimum grade of "C-" as well as a **2.50 GPA** (based on best attempt) averaged over the following courses: [EGN 3311 Statics](#), [EGN 3331 Mechanics of Materials](#), [EGN 3353 Basic Fluid Mechanics](#), [EGN 3365 Materials Engineering I](#).
- Unless otherwise stated, the minimum acceptable grade in all BSCE required math, science, engineering, and specialization courses is a C- or higher. A total of only two D grades are allowed in engineering courses. The department must be contacted to find out the specialization courses in which D grades are not allowed.
- Students must have and maintain a minimum 2.0 Semester GPA, 2.0 Math and Science GPA, 2.0 Engineering GPA, 2.0 Specialization GPA, 2.0 USF GPA, and 2.0 Overall GPA.
  - *All math, science and engineering courses must be successfully completed in no more than **two** registered attempts. Grades of W, IF, U, and R are considered attempts.*

## CE TRACK AND CAPSTONE DESIGN REQUIREMENTS (Complete One Track)

<b>Structures/Materials/Geotechnical Track</b> CES 4702 Concepts of Concrete Design (R) 3 CES 4605 Concepts of Steel Design (R) 3 CGN 4851 Concrete Construction Materials (R) 3 CEG 4012 Geotechnical Engineering II or TTE 4005 Transportation Engineering II 3 Technical Elective 3 Technical Elective 3 CES 4750 Capstone Structures/Matrls/Geotech Design 3	<b>Geotechnical/Transportation Track</b> CGN 4851 Concrete Construction Materials (R) 3 CEG 4012 Geotechnical Engineering II (R) 3 TTE 4005 Transportation Engineering (R) 3 Technical Elective 3 Technical Elective 3 Technical Elective 3 CEG 4850 Capstone Geotechnical/Transportation Design 3
<b>Environmental/Water Resources Track</b> ENV 4417 Water Quality and Treatment (R) 3 CWR 4540 Water Resources Engineering (R) 3 CEG 4012 Geotechnical Engineering II or TTE 4005 Transportation Engineering II 3 Technical Elective 3 Technical Elective 3 Technical Elective 3 CWR 4812 Capstone Water Resources/Environmental Design 3	<b>The Program supports the following tech. elective courses:</b> CCE 4031 Construction Management 3 CEG 4012 Geotechnical Engineering II 3 CES 4605 Concepts of Steel Design 3 CES 4702 Concepts of Concrete Design 3 CGN 4851 Concrete Construction Materials 3 CGN 4933 Special Topics in Civil & Environmental Eng*** 3 CWR 4540 Water Resources Engineering I 3 ENV 4417 Water Quality and Treatment 3 ENV 4082 Environmental Field Sampling 3 ENV 4071 Environmental Site Assessment 3 ENV 4612 Green Engineering for Sustainability 3 SUR 2101C Engineering Land Surveying 3 TTE 4003 Transportation and Society 3 TTE 4005 Transportation Engineering II 3

\*\*\* Please see academic advisor for selected special topics courses.

(R) = Required for Track