

# Civil Engineering

131 credits, 2019/2020 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    |
| <u>3</u> | EGN 3365 Materials I                     |
| 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>           |

### Internship/Co-op

List Company/employer name and position

## Fourth Year

### Fall Semester

|          |  |
|----------|--|
| 3        | CEG 4011 Geotechnical Engineering I    |
| 1        | CEG 4011L Geotechnical Lab             |
| 3        | CE Track Elective                      |
| 3        | CE Track Elective                      |
| 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 3021 Civil Engineering Lab                     |
| 3        | CE Track Elective                                  |
| 3        | CE Capstone Design Requirement (HIP)               |
| 3        | CGN 4122 Professional/Ethical Issues in Eng (ERCE) |
| <u>3</u> | CE Track Elective                                  |
| 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 or passing the Civic Literacy test.

TGE = Tampa General Education; C = Creative Thinking, I = Information & Data Literacy, D = Human & Cultural Diversity

ERCE = Ethical Reasoning & Civic Engagement HIP = High Impact Practice Capstone

## Entrance Requirements for B. S. in Civil Engineering

- Completion of the following courses with a minimum grade of C and a cumulative **3.0 GPA** (based on best attempt) 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 Requirements:

- 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.
- A minimum GPA of 2.00 in the following categories must be maintained at all times: Overall, USF, Math/Science, Engineering Courses and Specialization Courses.
- *All math, science and engineering courses must be successfully completed in no more than **two** registered attempts. Grades of W, I, IF, U, R, and M are considered attempts. Registration that is canceled for non-payment is also considered an attempt.*

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

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

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

(R) = Required for Track