**Bachelor of Science in Civil Engineering**

**Curriculum**   
The Bachelor of Science in Civil Engineering degree requires128 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.

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| **General Studies** | | |
| College Writing 1 (1), (2) | ENC 1101 | 3 |
| College Writing 2 (1), (2) | ENC 1102 | 3 |
| [Intellectual Foundations Program:](http://www.fau.edu/academic/registrar/PREcatalog/degreerequirements.php#intellectual) Society and Human Behavior Courses (1), (3) |  | 6 |
| [Intellectual Foundations Program:](http://www.fau.edu/academic/registrar/PREcatalog/degreerequirements.php#intellectual) Global Citizenship Courses (1), (3) |  | 6 |
| [Intellectual Foundations Program:](http://www.fau.edu/academic/registrar/PREcatalog/degreerequirements.php#intellectual) Creative Expressions Courses (1), (3) |  | 6 |
| **Total** | | **24** |

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| **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 |
| 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** |

[topofpage](http://www.fau.edu/academic/registrar/PREcatalog/engineering.php#topofpage)

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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** |

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| **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) | CGN 4803C | 3 |
| Civil, Environmental and Geomatics Engineering Design 2 (2), (7) | CGN 4804C | 3 |
| ~~Undergraduate Research in Civil Engineering 2~~ | ~~CGN 4911~~ | ~~1~~ |
| 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** |

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| **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.

[topofpage](http://www.fau.edu/academic/registrar/PREcatalog/engineering.php#topofpage)

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

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| **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 |

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| **First Year, Spring (14 credits)** | | |
| College Writing 2 | ENC 1102 | 3 |
| 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 |

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| **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 |

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| **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 |

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| **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~~ |

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| **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~~ |

[topofpage](http://www.fau.edu/academic/registrar/PREcatalog/engineering.php#topofpage)

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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~~ |

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| **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~~ |

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

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| **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 Design 1 | CGN 4803C | 3 |
| Civil Engineering Technical Elective |  | 3 |
| ~~Undergraduate Research in Civil Engineering 2~~ | ~~CGN 4911~~ | ~~1~~ |

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| **Fourth Year, Spring (15 credits)** | | |
| Civil, Environmental and Geomatics Engineering Design 2 | 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 |

