Engineering (BS)

To see more about what you will learn in this program, visit the Learning Outcomes website (https://apps.orp.ncsu.edu/pgas/).

Plan Requirements

First Year

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<tr>
<th>Fall Semester</th>
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Spring Semester

Select one of the following Economics courses:
- ARE 201 Introduction to Agricultural & Resource Economics
- ARE 201A Principles of Microeconomics
- EC 201 Fundamentals of Macroeconomics
- EC 205 Fundamentals of Business
- MA 241 Calculus II
- PY 205 & PY 206 Physics for Engineers and Scientists I and II Laboratory
- Engineering Topics Elective (p. 2)
- Engineering Elective 200-Level (p. 2)
- Engineering Elective 300 or 400 Level (p. 16)
- Engineering Elective 400 Level (p. 16)
- BSE Topic Elective (p. 4)

| Hours | 14 |

Second Year

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<th>Fall Semester</th>
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<tr>
<td>MA 242</td>
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Spring Semester

Select one of the following Math Electives:
- MA 303 Linear Analysis
- MA 341 Applied Differential Equations I
- MA 405 Introduction to Linear Algebra
- Basic Science Elective (p. 4)
- Engineering Topics II Elective (p. 2)
- Engineering Elective 200-Level (p. 2)
- Engineering Elective 300 or 400 Level (p. 16)
- Engineering Elective 400 Level (p. 16)
- BSE Topic Elective (p. 4)
- BSE Topic Elective (p. 4)
- BSE Topic Elective (p. 4)

| Hours | 13 |

Third Year

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| Hours | 12 |

Spring Semester

Communication Elective (p. 27)
- Engineering Elective 300 or 400 Level (p. 16)
- Engineering Elective 400 Level (p. 16)
- BSE Topic Elective (p. 4)
- BSE Topic Elective (p. 4)
- BSE Topic Elective (p. 4)

| Hours | 12 |

Total Hours | 103 |

1 A grade of C or higher is required.
2 A grade of C- or higher is required.
3 Students should consult their academic advisors to determine how to complete this requirement.

Code | Title | Hours | Counts towards
--- | --- | --- | ---
GEP Courses |  |
| GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/) | 6 |
| GEP Social Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/) | 3 |
| GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/) | 2 |
| GEP Additional Breadth (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-additional-breadth/) (Humanities/Social Sciences/Visual and Performing Arts) | 3 |
| GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/) | 5 |


Foreign Language Proficiency ([http://catalog.ncsu.edu/undergraduate/gep-category-requirements/foreign-language-proficiency/](http://catalog.ncsu.edu/undergraduate/gep-category-requirements/foreign-language-proficiency/)) (verify requirement)

**Total Hours** 19

### Engineering Topics Electives

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<td>CSC 116</td>
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<td>Probability and Statistics for Engineers</td>
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<td>CE 215</td>
<td>Engineering Mechanics - Dynamics</td>
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<td>CE 225</td>
<td>Mechanics of Solids</td>
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<td>CE 282</td>
<td>Hydraulics</td>
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<td>Principles of Electrical Engineering</td>
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<td>Engineering Statics</td>
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<td>MAE 208</td>
<td>Engineering Dynamics</td>
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<td>Solid Mechanics</td>
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<td>Fluid Mechanics</td>
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<td>Mechanical Properties of Structural Materials</td>
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<td>Structure and Properties of Engineering Materials</td>
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<td>Computer Methods in Biological Engineering</td>
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<td>Introduction to Biological and Agricultural Engineering Methods</td>
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**Basic Science Electives**

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**Engineering Topics III Elective**

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**Communication Electives**

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**Engineering Topics IV Electives**

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### Semester Sequence

This is a sample.

#### First Year

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| CH 101        | Chemistry - A Molecular Science 
                | 3     |
| CH 102        | General Chemistry Laboratory 
                | 1     |
| E 101         | Introduction to Engineering & Problem Solving 
                | 2     |
| E 115         | Introduction to Computing Environments 
                | 1     |
| ENG 101       | Academic Writing and Research 
                | 4     |
| MA 141        | Calculus I 
                | 1     |

**Hours**: 14

#### Spring Semester

Select one of the following Economics courses:

- EC 205 Fundamentals of Economics
- EC 201 Principles of Microeconomics
- ARE 201 Introduction to Agricultural & Resource Economics

**Hours**: 3

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| MA 241        | Calculus II 
                | 1     |
| PY 205        | Physics for Engineers and Scientists I 
                | 3     |
| PY 206        | Physics for Engineers and Scientists I Laboratory 
                | 1     |
| Engineering Topics Elective (p. 2) | 3 |
| GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/) | 1 |

**Hours**: 15

#### Second Year

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| MA 242        | Calculus III 
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| PY 208        | Physics for Engineers and Scientists II 
                | 3     |
| PY 209        | Physics for Engineers and Scientists II Laboratory 
                | 1     |
| Engineering Topics II Elective (p. 2) | 3 |
| Engineering Elective 200-Level (p. 2) | 3 |
| GEP Requirement (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/) | 3 |

**Hours**: 17

#### Spring Semester

Select one of the following Math Electives:

- MA 303 Linear Analysis
- MA 341 Applied Differential Equations I
- MA 405 Introduction to Linear Algebra

Basic Science Elective (p. 4) 4
Engineering Topics II Elective (p. 2) 3

**Hours**: 3

#### Third Year

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**Hours**: 15

#### Fourth Year

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**Hours**: 15

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**Hours**: 15

**Total Hours**: 122-123

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1. A grade of C or higher is required.
2. A grade of C- or higher is required.