CIVIL AND INFRASTRUCTURE ENGINEERING BS
2015 – 2016

CONTACT INFORMATION
• Honors College Advisor: Kathleen Alligood (alligood@gmu.edu)
• Department Acting Chair: Liza Wilson Durant (ldurant2@gmu.edu)
• Associate Director for Undergraduate Programs: Lisa Nolder (snolder@gmu.edu)

Once students begin attending Mason and declare a major they should see both their Honors College and their major department advisor for advising. Once students begin attending Mason and declare a major they should see both their Honors College and their major department advisor for advising. Students must confirm their major requirements with their department advisor and with PatriotWeb’s Degree Evaluation.

Note for students in the Volgenau School: Be aware of termination and repeat policies as outlined in the catalog. Students who get a warning that they will be terminated from the Volgenau School for GPA have one semester to either (1) meet the department’s requirements, or (2) change major; otherwise, they will have the “Terminated from Volgenau” designation placed on their transcript.

ADVISING SHEET
  o Honors College Requirement
  ♦ Department Requirement
  ▲ College Requirement

<table>
<thead>
<tr>
<th>1st Year – 1st Semester (Fall)</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>o HNRS 110: Research Methods (Grade C or better required)</td>
<td>4</td>
</tr>
<tr>
<td>♦ MATH 113: Analytic Geometry and Calculus I (a placement exam is required)</td>
<td>4</td>
</tr>
<tr>
<td>♦ ENGR 107 or 107H: Introduction to Engineering</td>
<td>2</td>
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<tr>
<td>♦ CHEM 251: General Chemistry for Engineers</td>
<td>4</td>
</tr>
<tr>
<td>♦ ECON 103 or 103H: Contemporary Microeconomics</td>
<td>3</td>
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<td>Semester Total</td>
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<thead>
<tr>
<th>1st Year – 2nd Semester (Spring)</th>
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<tbody>
<tr>
<td>o HNRS 122: Reading the Arts</td>
<td>3</td>
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<tr>
<td>♦ MATH 114: Analytic Geometry and Calculus II (prerequisite: C or better in MATH 113) or MATH 116: Honors Analytic Geometry and Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>♦ CDS 130: Computing for Scientists (CS 112 may substitute)</td>
<td>3</td>
</tr>
<tr>
<td>♦ PHYS 160 or 160H and PHYS 161: University Physics I (pre- or co-requisite: MATH 114 or MATH 116)</td>
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<th>2nd Year – 1st Semester (Fall)</th>
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<tbody>
<tr>
<td>o HNRS 131: Contemporary Society in Multiple Perspectives</td>
<td>3</td>
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<tr>
<td>♦ MATH 213: Analytic Geometry and Calculus III or MATH 215</td>
<td>3</td>
</tr>
<tr>
<td>♦ Department-approved humanities and/or social science elective</td>
<td>3</td>
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<tr>
<td>♦ PHYS 260 or 260H and 261: University Physics II (Pre- or co-requisite: MATH 213 or MATH 215)</td>
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</tr>
<tr>
<td>♦ CEIE 203: Geomatics and Engineering Graphics</td>
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<td>2nd Year – 2nd Semester (Spring)</td>
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<tr>
<td>♦ HNRS 353: Technology in the Contemporary World (grade of C or better required)</td>
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<tr>
<td>♦ MATH 214: Elementary Differential Equations</td>
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<tr>
<td>♦ CEIE 210: Statics</td>
<td>3</td>
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<tr>
<td>♦ CEIE 240: Hydraulics</td>
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<tr>
<td>♦ STAT 344: Probability and Statistics for Engineers and Scientists I</td>
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<td>Semester Total</td>
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<tr>
<th>3rd Year – 1st Semester (Fall)</th>
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<tbody>
<tr>
<td>♦ HNRS 240: Reading the Past</td>
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<tr>
<td>♦ ENGR 310: Mechanics of Materials</td>
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<tr>
<td>♦ CEIE 331: Soil Mechanics</td>
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<tr>
<td>♦ CEIE 301: Engineering and Economic Models in Civil Engineering</td>
<td>3</td>
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<tr>
<td>♦ CEIE 304: Junior Engineering Competency Exam</td>
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<td>♦ CEIE 340: Water Resource Engineering</td>
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<td>♦ PHYS 266: Introduction to Thermodynamics</td>
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<th>3rd Year – 2nd Semester (Spring)</th>
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<tbody>
<tr>
<td>♦ CEIE 370: Construction Systems</td>
<td>3</td>
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<tr>
<td>♦ CEIE 355: Environmental Engineering and Science</td>
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<tr>
<td>♦ BIOL 377: Applied Ecology</td>
<td>3</td>
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<tr>
<td>♦ CEIE 311: Structural Analysis</td>
<td>3</td>
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<tr>
<td>♦ CEIE 360: Introduction to Transportation Engineering</td>
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<tbody>
<tr>
<td>♦ CEIE 400: Civil Engineering Planning and Management</td>
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<tr>
<td>♦ CEIE 404: Senior Engineering Competency Exam</td>
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<tr>
<td>♦ CEIE 409: Professional Practice and Management in Engineering</td>
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</tr>
<tr>
<td>♦ CEIE 4xx: Approved Civil Engineering Technical Core Elective</td>
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<tr>
<th>4th Year – 2nd Semester (Spring)</th>
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<tbody>
<tr>
<td>♦ CEIE 490: Senior Design Project</td>
<td>3</td>
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<tr>
<td>♦ CEIE 4xx: Approved Civil Engineering Technical Core Elective</td>
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</tr>
<tr>
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| Total Hours | 121 |
NOTES

1. MATH 113 fulfills the quantitative reasoning requirement for the Honors College. A placement exam is required for registering for the course. See math.gmu.edu for placement test days and times.

2. CHEM 211 or 211H will substitute for CHEM 251

3. The Honors sections of these courses can be used to satisfy Honors College Requirement 3.

4. Civil Engineering requirements include 21 credit hours of department-approved humanities and/or social science electives. Of these, 16 credit hours are provided by the Honors College curriculum and 3 credits, by ECON 103 or 103H. The remaining 2 credits must be approved by the CEIE faculty advisor with the goal of best meeting the general education needs of the student.

5. A total of 21 credit hours of CEIE Technical Elective courses must be selected. The first four CEIE technical core elective courses (12 credit hours) must be selected from four different specialty areas from among the six Civil Engineering specialty areas:

- construction engineering (CEIE 471 - Construction Administration or CEIE 472 - Building Information Modeling )
- environmental engineering (CEIE 450 - Environmental Engineering Systems or CEIE 453 - Water and Wastewater Treatment Processes )
- geotechnical engineering (CEIE 431 - Foundation Design or CEIE 435 - Introduction to Engineering Geology )
- structural engineering (CEIE 412 - Structural Steel Design or CEIE 413 - Reinforced Concrete Design )
- transportation engineering (CEIE 461 - Traffic Engineering or CEIE 462 - Urban Transportation Planning )
- water resources engineering (CEIE 440 - Water Supply and Distribution or CEIE 442 - Open Channel Flow ).

The remaining 9 credit hours of the CEIE Technical Elective courses may be selected from any CEIE 4XX course. One 3 credit hour course of those remaining credit hours may be from related advanced science or engineering course offerings. Approval from the student’s academic advisor is required before a non-CEIE course is taken to meet senior technical elective requirements for the degree.

HONORS REQUIREMENTS (see advising section of Honors College website for further details)

- All Honors College students earning a BS degree must complete Requirements 1 and 2 of the Honors College Curriculum, including taking 3 courses under Requirement 2. In general, it is expected that those students earning a BS will take HNRS 122, HNRS 131, and HNRS 240 to fulfill Requirement 2. Students earning a BS degree must complete Requirement 3 by taking two additional Honors courses beyond Requirements 1 and 2 of
the Honors College Curriculum. These courses must be approved by your Honors College advisor in your Plan of Study.