DUAL BACHELOR OF SCIENCE WITH A MAJOR IN CIVIL ENGINEERING AND MASTER OF SCIENCE IN THE FIELD OF STRUCTURAL ENGINEERING

The School of Engineering and Applied Science offers a dual bachelor of science with a major in civil engineering (http://bulletin.gwu.edu/engineering-applied-science/civil-environmental-engineering/bs-civil-engineering/) and master of science in the field of structural engineering (https://www.programs.gwu.edu/graduate/structural-engineering/) degree program. The program allows students to take up to 9 graduate credits as part of their undergraduate program, thereby decreasing the number of credits normally required for the master’s degree. All requirements for both degrees must be fulfilled.

Students interested in the dual degree program should confer with the department’s graduate adviser early in their junior year. Visit the program website (https://www.cee.seas.gwu.edu/five-year-dual-degree-program-bs-and-ms-civil-engineering/) for additional information.

REQUIREMENTS

Recommended program of study

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>First semester</strong></td>
<td></td>
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<tr>
<td>CE 1010</td>
<td>Introduction to Civil and Environmental Engineering</td>
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<tr>
<td>CHEM 1111</td>
<td>General Chemistry I *</td>
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<tr>
<td>MATH 1231</td>
<td>Single-Variable Calculus I *</td>
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<tr>
<td>SEAS 1001</td>
<td>Engineering Orientation</td>
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<tr>
<td>UW 1020</td>
<td>University Writing *</td>
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<tr>
<td>One humanities or social sciences elective **</td>
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<tr>
<td><strong>Second semester</strong></td>
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<tr>
<td>CSci 1121</td>
<td>Introduction to C Programming</td>
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<tr>
<td>MAE 1004</td>
<td>Engineering Drawing and Computer Graphics</td>
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<tr>
<td>MATH 1232</td>
<td>Single-Variable Calculus II *</td>
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<tr>
<td>PHYS 1021</td>
<td>University Physics I *</td>
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<td>One humanities or social sciences elective **</td>
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<tr>
<td><strong>Third semester</strong></td>
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<tr>
<td>APSC 2057</td>
<td>Analytical Mechanics I</td>
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<tr>
<td>APSC 2113</td>
<td>Engineering Analysis I</td>
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<tr>
<td>MATH 2233</td>
<td>Multivariable Calculus *</td>
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<tr>
<td>PHYS 1022</td>
<td>University Physics II *</td>
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<td>One humanities or social sciences elective **</td>
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<tr>
<td><strong>Fourth semester</strong></td>
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<tr>
<td>APSC 2058</td>
<td>Analytical Mechanics II</td>
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<tr>
<td>CE 2210</td>
<td>Engineering Computations</td>
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<tr>
<td>CE 2220</td>
<td>Introduction to the Mechanics of Solids</td>
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<tr>
<td>CE 2710</td>
<td>Introduction to Transportation Engineering</td>
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<tr>
<td>GEOL 1001</td>
<td>Physical Geology</td>
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<td>One humanities or social sciences elective **</td>
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<tr>
<td><strong>Fifth semester</strong></td>
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<tr>
<td>APSC 3115</td>
<td>Engineering Analysis III</td>
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<tr>
<td>CE 3110W</td>
<td>Civil Engineering Materials</td>
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<tr>
<td>CE 3111W</td>
<td>Civil Engineering Materials Lab</td>
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<tr>
<td>CE 3230</td>
<td>Structural Theory I</td>
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<tr>
<td>CE 3720</td>
<td>Highway Engineering and Design</td>
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<td>MAE 3126</td>
<td>Fluid Mechanics I</td>
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<td>One humanities or social sciences course **</td>
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<td><strong>Sixth semester</strong></td>
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<tr>
<td>CE 3240</td>
<td>Structural Theory II</td>
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<tr>
<td>CE 3310</td>
<td>Reinforced Concrete Structures</td>
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<tr>
<td>Civil engineering elective</td>
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<tr>
<td>CE 3520</td>
<td>Environmental Engineering I: Water Resources and Water Quality</td>
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<td>CE 3521</td>
<td>Environmental Engineering Laboratory</td>
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<tr>
<td>CE 3610</td>
<td>Hydraulics</td>
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<td>CE 3611</td>
<td>Hydraulics Laboratory (One humanities or social sciences elective)</td>
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<td>One humanities or social sciences elective **</td>
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<td><strong>Seventh semester</strong></td>
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<tr>
<td>CE 4320</td>
<td>Metal Structures</td>
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1 Dual Bachelor of Science with a Major in Civil Engineering and Master of Science in the Field of Structural Engineering
<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CE 4341</td>
<td>Senior Design Project I</td>
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<tr>
<td>CE 4410</td>
<td>Introduction to Geotechnical Engineering</td>
</tr>
<tr>
<td>CE 4411</td>
<td>Geotechnical Engineering Laboratory</td>
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<tr>
<td>CE 4530</td>
<td>Environmental Engineering II: Water Supply and Pollution Control</td>
</tr>
<tr>
<td>CE 4620</td>
<td>Hydrology and Hydraulic Design</td>
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One engineering elective

**Eighth semester**

<table>
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CE 4330W</td>
<td>Contracts and Specifications</td>
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<tr>
<td>CE 4342</td>
<td>Senior Design Project II</td>
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<tr>
<td>CE 6403</td>
<td>Foundation Engineering</td>
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</tbody>
</table>

Two engineering electives

One CE master of science course

**Ninth semester**

Four CE master of science courses

**Tenth semester**

Four CE master of science courses

*Course satisfies the university general education requirement in math, science, and writing.

**At least two social and behavioral sciences courses must be selected from the University General Education Requirement list; [http://bulletin.gwu.edu/university-regulations/general-education/](http://bulletin.gwu.edu/university-regulations/general-education/) the remaining course must be selected from either the University General Education Requirement list or the SEAS General Education Requirement list [http://www.seas.gwu.edu/sites/www.seas.gwu.edu/files/downloads/HSS%20Form%20Fall%202015%20Admits%201_0.pdf](http://www.seas.gwu.edu/sites/www.seas.gwu.edu/files/downloads/HSS%20Form%20Fall%202015%20Admits%201_0.pdf). At least one humanities course must be selected from the University General Education Requirement list; [http://bulletin.gwu.edu/university-regulations/general-education/](http://bulletin.gwu.edu/university-regulations/general-education/) the remaining courses must be selected from either the University General Education Requirement list or the SEAS General Education Requirement list [http://www.seas.gwu.edu/sites/www.seas.gwu.edu/files/downloads/HSS%20Form%20Fall%202015%20Admits%201_0.pdf](http://www.seas.gwu.edu/sites/www.seas.gwu.edu/files/downloads/HSS%20Form%20Fall%202015%20Admits%201_0.pdf).

A complete list of engineering electives can be found on the department's website [http://www.cee.seas.gwu.edu/programs-degrees/].