Dual Degree B.S.C.E. and B.S.Min.E.

Degree Requirements

Students must meet the following criteria to qualify for a Bachelor of Science in Mining Engineering and Bachelor of Science in Civil Engineering:

- Complete a minimum of 151 credit hours
- Satisfy WVU's undergraduate degree requirements
- Satisfy Statler College's undergraduate degree requirements ([http://catalog.wvu.edu/undergraduate/collegeofengineeringandmineralresources/#policies](http://catalog.wvu.edu/undergraduate/collegeofengineeringandmineralresources/#policies))
- Complete all courses listed in the curriculum requirements with the required minimum grades
- Attain an overall grade point average of 2.00 or better
- Attain a WVU grade point average of 2.00 or better
- Attain a Statler grade point average of 2.00 or better
- A maximum of one math or science course with a grade of D+, D, or D- may apply toward a Statler College degree
- Complete a survey regarding their academic and professional experiences at WVU, as well as post-graduation job placement or continuing education plans

The Statler GPA is computed based on all work taken at WVU with a subject code within Statler College (BIOM, BMEG, CE, CHE, CPE, CS, CSEE, CYBE, EE, ENGR, ENVE, ETEC, IENG, IH&S, MAE, MINE, PDA, PNGE, SAFM, SENG) excluding ENGR 140, ENGR 150, and CS 101. The WVU GPA is computed based on all work taken at West Virginia University. The Overall GPA is computed based on all work taken at West Virginia University and transfer work.

Curriculum Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
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<td>University Requirements</td>
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<tr>
<td>Fundamentals of Engineering Requirements</td>
<td></td>
<td>5</td>
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<tr>
<td>Math and Science Requirements</td>
<td></td>
<td>38</td>
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<tr>
<td>Mining Engineering and Civil Engineering Program Requirements</td>
<td></td>
<td>92</td>
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<td>Total Hours</td>
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University Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>General Education Foundations (GEF) 1, 2, 3, 4, 5, 6, 7, and 8 (31-37 Credits)</td>
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<tr>
<td>Outstanding GEF Requirements 1, 5, 6, 7</td>
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<td>ENGR 191</td>
<td>First-Year Seminar</td>
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Fundamentals of Engineering Requirements

A minimum grade of C- is required in all Fundamentals of Engineering courses.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ENGR 101</td>
<td>Engineering Problem Solving 1</td>
<td>2</td>
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<tr>
<td>Engineering Problem Solving (Select one of the following):</td>
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<tr>
<td>CHE 102</td>
<td>Introduction to Chemical Engineering</td>
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<tr>
<td>ENGR 102</td>
<td>Engineering Problem Solving 2</td>
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</tr>
<tr>
<td>ENGR 103</td>
<td>Introduction to Nanotechnology Design</td>
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<tr>
<td>MAE 102</td>
<td>Introduction to Mechanical and Aerospace Engineering Design</td>
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</tr>
<tr>
<td>Total Hours</td>
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<td>5</td>
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</table>

Math and Science Requirements

A minimum grade of C- is required in all Math and Science courses.

Calculus I (GEF 3): | 4
Dual Degree B.S.C.E. and B.S.Min.E.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MATH 155</td>
<td>Calculus 1</td>
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<tr>
<td>MATH 153</td>
<td>Calculus 1a with Precalculus and Calculus 1b with Precalculus</td>
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<tr>
<td>&amp; MATH 154</td>
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<tr>
<td>MATH 156</td>
<td>Calculus 2 (GEF 8)</td>
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<tr>
<td>MATH 251</td>
<td>Multivariable Calculus</td>
<td>4</td>
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<tr>
<td>MATH 261</td>
<td>Elementary Differential Equations</td>
<td>4</td>
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<tr>
<td>CHEM 115</td>
<td>Fundamentals of Chemistry 1</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 115L</td>
<td>and Fundamentals of Chemistry 1 Laboratory (GEF 2B)</td>
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</tr>
<tr>
<td>GEOL 101</td>
<td>Planet Earth</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 101L</td>
<td>and Planet Earth Laboratory</td>
<td></td>
</tr>
<tr>
<td>GEOL 342</td>
<td>Structural Geology for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 111</td>
<td>General Physics 1</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 111L</td>
<td>and General Physics 1 Laboratory (GEF 8)</td>
<td></td>
</tr>
<tr>
<td>PHYS 112</td>
<td>General Physics 2</td>
<td>4</td>
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<tr>
<td>&amp; 112L</td>
<td>and General Physics 2 Laboratory</td>
<td></td>
</tr>
<tr>
<td>STAT 215</td>
<td>Introduction to Probability and Statistics</td>
<td>3</td>
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<tr>
<td>Total Hours</td>
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**Mining Engineering and Civil Engineering Program Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CE 201</td>
<td>Introduction to Civil Engineering</td>
<td>1</td>
</tr>
<tr>
<td>CE 301</td>
<td>Engineering Professional Development</td>
<td>1</td>
</tr>
<tr>
<td>CE 321</td>
<td>Fluid Mechanics for Civil Engineers</td>
<td>3</td>
</tr>
<tr>
<td>CE 332</td>
<td>Introduction to Transportation Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CE 347</td>
<td>Introduction to Environmental Engineering</td>
<td>4</td>
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<tr>
<td>&amp; 347L</td>
<td>and Introduction to Environmental Engineering Laboratory</td>
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<tr>
<td>CE 351</td>
<td>Introductory Soil Mechanics</td>
<td>4</td>
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<tr>
<td>&amp; 351L</td>
<td>and Introductory Soil Mechanics Laboratory</td>
<td></td>
</tr>
<tr>
<td>CE 361</td>
<td>Structural Analysis 1</td>
<td>4</td>
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<tr>
<td>&amp; 361L</td>
<td>and Structural Analysis 1 Laboratory</td>
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<tr>
<td>CE 479</td>
<td>Integrated Civil Engineering Design-Capstone</td>
<td>3</td>
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<tr>
<td>ECON 201</td>
<td>Principles of Microeconomics (GEF 4)</td>
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<td>IENG 377</td>
<td>Engineering Economy</td>
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<tr>
<td>MAE 241</td>
<td>Statics (minimum grade of C-)</td>
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<tr>
<td>MAE 242</td>
<td>Dynamics</td>
<td>3</td>
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<td>MAE 243</td>
<td>Mechanics of Materials (minimum grade of C-)</td>
<td>3</td>
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<tr>
<td>MAE 320</td>
<td>Thermodynamics</td>
<td>3</td>
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<tr>
<td>MINE 201</td>
<td>Mine Surveying</td>
<td>3</td>
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<tr>
<td>&amp; 201L</td>
<td>and Mine Surveying Laboratory</td>
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<tr>
<td>MINE 205</td>
<td>Underground Mining Systems</td>
<td>3</td>
</tr>
<tr>
<td>MINE 206</td>
<td>Surface Mining Systems</td>
<td>4</td>
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<tr>
<td>MINE 261</td>
<td>Engineering CAD</td>
<td>2</td>
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<tr>
<td>MINE 306</td>
<td>Mineral Property Evaluation</td>
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<tr>
<td>MINE 331</td>
<td>Mine Ventilation</td>
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<tr>
<td>MINE 382</td>
<td>Mine Power Systems</td>
<td>3</td>
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<tr>
<td>MINE 411</td>
<td>Rock Mechanics/Ground Control</td>
<td>4</td>
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<tr>
<td>&amp; MAE 411L</td>
<td>and Advanced Mechatronics Laboratory</td>
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<tr>
<td>MINE 425</td>
<td>Mineral Processing</td>
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<td>&amp; 425L</td>
<td>and Mineral Processing Laboratory</td>
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<tr>
<td>or MINE 427</td>
<td>Coal Preparation</td>
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<tr>
<td>&amp; 427L</td>
<td>and Coal Preparation Laboratory</td>
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<tr>
<td>MINE 471</td>
<td>Mine and Safety Management</td>
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</tr>
<tr>
<td>MINE 483S</td>
<td>Mine Design-Exploration Mapping</td>
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<tr>
<td>MINE 484</td>
<td>Mine Design-Report Capstone</td>
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</table>
+ CE Design Electives * 6
+ CE Open Electives * 6
Total Hours 92

See BSCE degree ([link](http://catalog.wvu.edu/undergraduate/collegeofengineeringandmineralresources/departmentofcivilandenvironmental/#majortext)) for list of electives

### Suggested Plan of Study

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.Min.E. and B.S.C.E. degree program that completes degree requirements in five years is as follows:

#### First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MATH 155 (GEF 3)</td>
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<td>4 MATH 156 (GEF 8)</td>
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<tr>
<td>ENGR 101</td>
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<td>2 ENGR 102</td>
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<td>ENGR 191</td>
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<td>1 PHYS 111</td>
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<tr>
<td>&amp; 111L (GEF 8)</td>
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<td>&amp; 111L (GEF 8)</td>
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<tr>
<td>CHEM 115</td>
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<td>4 GEOL 101</td>
<td>4</td>
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<tr>
<td>&amp; 115L (GEF 2)</td>
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<td>&amp; 101L</td>
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#### Second Year

<table>
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<tbody>
<tr>
<td>CE 201</td>
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<td>1 ENGL 102</td>
<td>3</td>
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<td>MAE 241</td>
<td>3</td>
<td>3 MAE 242</td>
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</tr>
<tr>
<td>MATH 251</td>
<td>4</td>
<td>4 MATH 261</td>
<td>4</td>
</tr>
<tr>
<td>MINE 201</td>
<td>3</td>
<td>3 MINE 206</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 201L</td>
<td></td>
<td></td>
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<tr>
<td>MINE 205</td>
<td>3</td>
<td>3 PHYS 112</td>
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<td></td>
<td>&amp; 112L</td>
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<tr>
<td>MINE 261</td>
<td>2</td>
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#### Third Year

<table>
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<tr>
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<tr>
<td>CE 321</td>
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<td>3 CE 332</td>
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<tr>
<td>GEOL 342</td>
<td>3</td>
<td>3 CE 351 &amp; 351L</td>
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<td>MAE 243</td>
<td>3</td>
<td>3 MINE 331</td>
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<td>MAE 320</td>
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<td>3 MINE 427 &amp; 427L</td>
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#### Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CE 347 &amp; 347L</td>
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<td>MINE 306</td>
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<td>3 CE Design Elective</td>
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| Hours | 13 |
### Fifth Year

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<tr>
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<tbody>
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<td>ECON 201</td>
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<td>CE Open Elective</td>
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<td>4</td>
<td>CE 479</td>
<td>3</td>
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<tr>
<td>&amp; 411L</td>
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<td>MINE 471</td>
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<td>3</td>
<td>MINE 484</td>
<td>4</td>
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<td>MINE 483S</td>
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<td>3</td>
<td>GEF 7</td>
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Total credit hours: 151