

# 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>text)
- 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

Code	Title	Hours
	University Requirements	16
	Fundamentals of Engineering Requirements	5
	Math and Science Requirements	38
	Mining Engineering and Civil Engineering Program Requirements	92
	Total Hours	151

## University Requirements

Code	Title	Hours
	General Education Foundations (GEF) 1, 2, 3, 4, 5, 6, 7, and 8 (31-37 Credits)	
	Outstanding GEF Requirements 1, 5, 6, 7	15
ENGR 191	First-Year Seminar	1
	Total Hours	16

## Fundamentals of Engineering Requirements

Code	Title	Hours
	A minimum grade of C- is required in all Fundamentals of Engineering courses.	
ENGR 101	Engineering Problem Solving 1	2
	Engineering Problem Solving (Select one of the following):	3
CHE 102	Introduction to Chemical Engineering	
ENGR 102	Engineering Problem-Solving 2	
ENGR 103	Introduction to Nanotechnology Design	
MAE 102	Introduction to Mechanical and Aerospace Engineering Design	
	Total Hours	5

## Math and Science Requirements

Code	Title	Hours
	A minimum grade of C- is required in all Math and Science courses. *	
	Calculus I (GEF 3):	4

MATH 155	Calculus 1	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
CHEM 115 & 115L	Fundamentals of Chemistry 1 and Fundamentals of Chemistry 1 Laboratory (GEF 2B)	4
GEOL 101 & 101L	Planet Earth and Planet Earth Laboratory	4
GEOL 342	Structural Geology for Engineers	3
PHYS 111 & 111L	General Physics 1 and General Physics 1 Laboratory (GEF 8)	4
PHYS 112 & 112L	General Physics 2 and General Physics 2 Laboratory	4
STAT 215	Introduction to Probability and Statistics	3
Total Hours		38

## Mining Engineering and Civil Engineering Program Requirements

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

CE Design Electives <sup>+</sup>	6
CE Open Electives <sup>+</sup>	6
<b>Total Hours</b>	<b>92</b>

+

See BSCE degree (<http://catalog.wvu.edu/undergraduate/collegeofengineeringandmineralresources/departementofcivilandenvironmental/#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

Fall	Hours	Spring	Hours
MATH 155 (GEF 3)		4 MATH 156 (GEF 8)	4
ENGR 101		2 ENGR 102	3
ENGR 191		1 PHYS 111 & 111L (GEF 8)	4
CHEM 115 & 115L (GEF 2)		4 GEOL 101 & 101L	4
ENGL 101 (GEF 1)		3 GEF 6	3
GEF 5		3	
		17	18

### Second Year

Fall	Hours	Spring	Hours
CE 201		1 ENGL 102	3
MAE 241		3 MAE 242	3
MATH 251		4 MATH 261	4
MINE 201 & 201L		3 MINE 206	4
MINE 205		3 PHYS 112 & 112L	4
MINE 261		2	
		16	18

### Third Year

Fall	Hours	Spring	Hours
CE 321		3 CE 332	3
GEOL 342		3 CE 351 & 351L	4
MAE 243		3 MINE 331	3
MAE 320		3 MINE 427 & 427L	4
STAT 215		3	
		15	14

### Fourth Year

Fall	Hours	Spring	Hours
CE 347 & 347L		4 CE 301	1
CE 361 & 361L		4 CE Design Elective	3
MINE 306		3 CE Design Elective	3
MINE 382		3 IENG 377	3
		CE Open Elective	3
		14	13

**Fifth Year**

<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>
ECON 201		3 CE Open Elective	3
MINE 411 & 411L		4 CE 479	3
MINE 471		3 MINE 484	4
MINE 483S		3 GEF 7	3
		<hr/>	<hr/>
		13	13

Total credit hours: 151