

Construction Management, B.S.

Degree Offered

- Bachelor of Science (B.S.)

Nature of the Program

The WVU Construction Management program blends classroom instruction with hands-on, project-based learning to prepare you for leadership roles in the construction industry. The curriculum will teach you to integrate technical knowledge, management skills, and emerging technologies, ensuring that you are prepared to address modern challenges in construction and infrastructure development.

General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef/>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

Code	Title	Hours
General Education Foundations		
F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Reasoning		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must meet the following criteria to qualify for a Bachelor of Science in Construction Management degree:

- Complete a minimum of 120 credit hours
- Satisfy WVU's undergraduate degree requirements
- Satisfy Statler College's undergraduate degree requirements
- 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 [Construction Management Program](#) 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 towards 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 (AI, BIOM, BMEG, CE, CHE, CPE, CS, CSEE, CYBE, EE, ENGR, ENVE, ETEC, IENG, MAE, MINE, MPGE, MSEN, PDA, PNGE, ROBE, SAFM, SENG) excluding ENGR 140, ENGR 150, and CS 404.~~ The WVU GPA is computed based on all work taken at WVU. The Overall GPA is computed based on all work taken at WVU and transfer work.

Curriculum Requirements

Code	Title	Hours
	University Requirements	25
	Fundamentals of Engineering Requirements	5
	Math and Science Requirements	13
	Construction Management Program Requirements	77
Total Hours		120

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, and 8	21
ENGR 191	First-Year Seminar	1
	General Electives	3
Total Hours		25

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	
CS 110 & 110L	Introduction to Computer Science and Introduction to Computer Science Laboratory	
ENGR 102	Engineering Problem Solving 2	
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		
MATH 150 or MATH 155	Applied Calculus (GEF 3) Calculus 1	3
MATH 151 or MATH 156	Applied Calculus 2 Calculus 2	3
STAT 211	Elementary Statistical Inference (GEF 8)	3
PHYS 101 & 101L	Introductory Physics 1 and Introductory Physics 1 Laboratory (GEF 2)	4
Total Hours		13

Construction Management Program Requirements

Code	Title	Hours
A minimum GPA of 2.0 is required for all Construction Management Program Requirements		
ACCT 201	Principles of Accounting 1	3
CE 201	Introduction to Civil Engineering	1
CE 210 & 210L	Introduction to Computer Aided Design and Drafting for Civil Engineers and Introduction to Computer Aided Design and Drafting for Civil Engineers Laboratory	3
CE 301	Engineering Professional Development	1
CE 305 & 305L	Introduction to Geomatics and Introduction to Geomatics Laboratory	3
CE 413	Construction Scheduling	3

CE 414	Construction Engineering	3
CE 417	Infrastructure Asset Management 1	3
CE 418	Construction Estimating	3
CE 419	Building Information Modeling	3
CE 479	Integrated Civil Engineering Design-Capstone	3
CM 310	Construction Materials	3
CM 315	Introduction to Construction Project Management	3
CM 318	Construction Plan Reading	3
CM 421	Project Delivery and Contracting	3
CM 422	Mechanical, Electrical and Plumbing Systems in Constructions	3
CM 460	Construction Management Internship	3
DSGN 280	Sustainable Design and Development (GEF 4)	3
ECON 200	Survey of Economics	3
IENG 377	Engineering Economy	3
SAFM 470	Managing Construction Safety	3
WRIT 305	Technical Writing	3
Construction Management Electives		
Construction		6
Select two of the following:		
CE 332	Introduction to Transportation Engineering	
CE 431	Highway Engineering	
FNRS 245	Residential Building Materials	
SUST 340	Urban Sustainability	
Business and Management		3
Select one of the following:		
BCOR 330	Information Systems and Technology	
BCOR 340	Principles of Finance	
BCOR 350	Principles of Marketing	
BCOR 370	Principles of Management	
BCOR 380	Business Ethics	
IENG 473	Team Facilitation	
Other		6
Select two of the following:		
COMM 303	Business and Professional Communication	
ENTR 400	Advanced Concepts in Entrepreneurship	
ETEC 401	Science, Technology, & Society	
GEOG 300	Geographical Data Analysis	
GEOG 455 & 455L	Introduction to Remote Sensing and Introduction to Remote Sensing Laboratory	
SAFM 401	Safety Management Integration	
SAFM 411	General Industry Safety	
Any course not used to fulfill the Construction or Business and Management electives		
Approved CM 493 Courses		
Any 300-level or higher courses in CE or ENVE subject codes		

Total Hours **77**

Suggested Plan of Study

First Year

Fall	Hours	Spring	Hours
ENGL 101 (GEF 1)		3 DSGN 280 (GEF 4)	3
ENGR 101		2 ENGL 102 (GEF 1)	3
ENGR 191		1 ENGR 102	3

MATH 150 (GEF 3)		3 MATH 151	3
PHYS 101 & 101L (GEF 2)		4 GEF 6	3
GEF 5		3	
		16	15
Second Year			
Fall	Hours	Spring	Hours
ACCT 201		3 CE 301	1
CE 201		1 CE 305 & 305L	3
CE 210 & 210L		3 CM 310	3
ECON 200		3 CM 315	3
STAT 211 (GEF 8)		3 IENG 377	3
WRIT 305		3 GEF 7	3
		16	16
Third Year			
Fall	Hours	Spring	Hours
CM 318		3 CE 414	3
CM 421		3 CE 417	3
CE 413		3 CE 418	3
CE 419		3 CM 422	3
CM Elective (#1)		3 CM Elective (#2)	3
		15	15
Fourth Year			
Fall	Hours	Spring	Hours
CM 460		3 CE 479	3
SAFM 470		3 CM Elective (#5)	3
GEF 8		3 GEF 8	3
CM Elective (#3)		3 General Elective	3
CM Elective (#4)		3	
		15	12

Total credit hours: 120

Major Learning Outcomes

CONSTRUCTION MANAGEMENT

- Explain construction project management principles and techniques, regarding project planning, execution, monitoring, and control.
- Apply skills necessary to estimate project costs, using industry-standard methods and software.
- Develop and evaluate project schedules, considering network models, critical path methods, PERT, resource allocation/leveling, time-cost trade-off, and earned value analysis.
- Explain and apply business fundamentals of construction projects, including investment planning and pricing, project cost accounting and finance, and construction company operations and financial control.
- Solve the challenging issues with infrastructure asset management as well as apply prioritizing and optimizing techniques required to develop cost-effective management strategies.
- Apply various project delivery methods and contracting strategies commonly used in the construction industry.
- Identify safety hazards and assess safety risks on construction sites, ensuring compliance with regulatory standards and promoting a culture of safety.
- Apply building information modeling (BIM) knowledge and software to assist in design and development of civil infrastructure projects.
- Select and apply machine learning and data analytics techniques and tools to solve problems in construction management.
- Explain and apply sustainable construction principles and practices, including green building standards, renewable energy integration, and environmentally friendly materials and techniques.