

Construction Management, B.S.

Degree Offered

- Bachelor of Science

Nature of the Program

Construction Management is an exciting field and rewarding career choice. Professional construction managers earn excellent salaries and derive great satisfaction working in any one of the many sectors of the construction industry. Construction is the second largest industry in the United States with over \$1 trillion in total volume, accounting for approximately 8% of the nation's GDP. It is the industry responsible for constructing the buildings and infrastructure that are so vital to the quality of life.

Construction is a technically driven, complex business that requires knowledgeable, highly-skilled managers to lead operations. There is and will be a continuing demand for professional construction managers. Construction management practitioners work in various construction organizations such as CM firms, general contractors, specialty contractors, design-builders, consulting engineers, architects, and real estate developers. Construction Management practitioners are also employed in various capacities representing project owners, suppliers, regulators, lenders, and other stakeholders involved with construction. Positions include project managers, coordinators, estimators, schedulers, safety specialists, business development managers, and many others. Some rise to senior level executive positions, while others own and operate their own firms.

Program Objectives

Upon graduation, students will be prepared to:

- Obtain positions of increasing responsibility and leadership within the construction industry, professional organizations or civic organizations.
- Manage construction projects using contemporary management principles and techniques.
- Solve problems through critical thinking and the application of math and science.

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.

Curriculum Requirements

Code	Title	Hours
	University Requirements	16
	Program Requirements	29

Construction Management Major Requirements	79
Total Hours	124

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, and 7		15
WVUE 191	First Year Seminar	1
Total Hours		16

Program Requirements

Code	Title	Hours
ACCT 201	Principles of Accounting 1	3
ECON 225	Elementary Business and Economics Statistics	3
MATH 126	College Algebra (GEF 3)	3
MATH 128	Plane Trigonometry (GEF 8)	3
PHYS 101 & 101L	Introductory Physics 1 and Introductory Physics 1 Laboratory (GEF 2)	4
PHYS 102 & 102L	Introductory Physics 2 and Introductory Physics 2 Laboratory (GEF 8)	4
STAT 211	Elementary Statistical Inference (GEF 8)	3
MDS 270	Effective Public Speaking (GEF 4)	3
WRIT 305	Technical Writing	3
Total Hours		29

Construction Management Major Requirements

Code	Title	Hours
CMGT 101	Introduction to Construction Management	3
CMGT 110	Computer Applications for Construction	4
CMGT 120	Analytical Techniques for Construction	3
CMGT 150	Construction Graphics	3
CMGT 210	Statics & Strength of Materials	3
CMGT 220	Construction Methods & Materials 1	3
CMGT 225	Construction Methods & Materials 2	3
CMGT 245	Soils, Foundations, Concrete Mix Design, and Testing	3
CMGT 250	Structural Systems	3
CMGT 320	Mechanical Building Systems	3
CMGT 330	Electrical Building Systems	3
CMGT 340	Construction Planning & Scheduling	3
CMGT 350	Construction Estimating	3
CMGT 360	Construction Law & Contract Administration	3
CMGT 370	Construction Safety & Production Systems	3
CMGT 385	Construction Project Management	3
CMGT 410	Construction Finance & Cost Control	3
CMGT 420	Management of Construction Operations	3
CMGT 440	Heavy Construction Practice	3
CMGT 465	BIM in Construction Management	3
CMGT 467	Facilities Management	3
CMGT 468	Temporary Structures	3
CMGT 470	Construction Project Capstone	3
CE 204	Surveying	3
Business Electives		6

BCOR 320	Legal Environment of Business
BCOR 370	Principles of Management

Total Hours 79

Suggested Plan of Study

First Year

Fall	Hours	Spring	Hours
ENGL 101 (GEF 1)		3 ACCT 201	3
MATH 126 (GEF 3)		3 ENGL 102 (GEF 1)	3
CMGT 101		3 MATH 128 (GEF 8)	3
CMGT 110		4 CMGT 120	3
WVUE 191		1 CMGT 150	3
		14	15

Second Year

Fall	Hours	Spring	Hours
PHYS 101 & 101L (GEF 2)		4 ECON 225	3
STAT 211 (GEF 8)		3 PHYS 102 & 102L (GEF 8)	4
CE 204		3 CMGT 225	3
CMGT 210		3 CMGT 245	3
CMGT 220		3 CMGT 250	3
		MDS 270 (GEF 4)	3
		16	19

Third Year

Fall	Hours	Spring	Hours
CMGT 320		3 WRIT 305	3
CMGT 330		3 CMGT 360	3
CMGT 340		3 CMGT 385	3
CMGT 350		3 The Arts and Creativity (GEF 6)	3
CMGT 370		3 Global Studies & Diversities (GEF 7)	3
		15	15

Fourth Year

Fall	Hours	Spring	Hours
CMGT 410		3 CMGT 440	3
CMGT 420		3 CMGT 465	3
CMGT 468		3 CMGT 467	3
BCOR 320		3 CMGT 470	3
BCOR 370		3 Human Enquiry & the Past (GEF 5)	3
		15	15

Total credit hours: 124

Major Learning Outcomes

CONSTRUCTION MANAGEMENT

Graduates of the Construction Management program will have the knowledge, as well as the technical, administrative and communication skills, necessary to succeed in the construction industry. Students will demonstrate the knowledge and skills to deliver construction projects with respect to scope, schedule, budget, quality, safety, and the environment.

The Construction Management program has adopted the 20 Student Learning Outcomes (SLOs) defined by ACCE as the Program Learning Outcomes. Upon graduation from Construction Management program, graduates shall be able to:

1. Create written communications appropriate to the construction discipline.
2. Create oral presentations appropriate to the construction discipline.

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3. Create a construction project safety plan.
4. Create construction project cost estimates.
5. Create construction project schedules.
6. Analyze professional decisions based on ethical principles.
7. Analyze construction documents for planning and management of construction processes.
8. Analyze methods, materials, and equipment used to construct projects.
9. Understand the role of the construction manager as a member of different multidisciplinary project teams.
10. Apply electronic-based technology to manage the construction process.
11. Apply basic surveying techniques for construction layout and control.
12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
13. Understand construction risk management.
14. Understand construction accounting and cost control.
15. Understand construction quality assurance and control.
16. Understand construction project control processes.
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
18. Understand the basic principles of sustainable construction.
19. Understand the basic principles of structural behavior.
20. Understand the basic principles of mechanical, electrical and piping systems.