

## Construction Management

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In any given construction project the disciplines of architecture, engineering and management converge. Recognizing this fact is a student's first step towards becoming a real-world leader in the fields of project and construction management. The second step is taken by enrolling in Norwich University's Construction Management degree program, where students learn the foundational skills necessary to take projects from the conceptual stage straight through to the grand opening ceremony.

Construction Management students are taught to assess, strategize and execute projects from an interdisciplinary approach in which facets of architecture, engineering and management are taken into account. Along with business, engineering and architecture courses, students are required to take Construction Management courses specifically designed to prepare students for situations they may encounter while on the job site and in the office. Additionally, core studies include courses in the humanities, social sciences, mathematics and sciences. Upon completion of the program, students are awarded the Bachelor of Science in Construction Management, are prepared to sit for the

Associated Constructors (AC) and/or the Construction Management in Training Exams (CMT), and have a foundational understanding of:

- pre-construction, design, and construction management;
- project life-cycle and sustainability;
- safety, injury prevention, and regulatory compliance;
- law, contract documents, and dispute prevention and resolution;
- materials and methods of construction;
- finance and accounting principles;
- planning and scheduling;
- quantity takeoff and cost estimating;
- delivery methods;
- leadership;
- business and communication skills

The B.S. Construction Management curriculum is designed to be accredited by the Applied Science Accreditation Commission (ASAC) of ABET, <http://www.abet.org>, 415 N. Charles Street, Baltimore, MD, 21201, 1.410.347.7700.

- Note: The application for accreditation of the B.S. Construction Management program will be submitted to ABET in 2015.

### B.S. in Construction Management - Curriculum Map

<b>Freshman</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
AP 111 Fundamentals of Architecture	4	EM 101 Introduction to Construction Project Management	3
EG 109 Introduction to Engineering I	3	MG 101 Introduction to Business	3
MA 107 Precalculus Mathematics (or higher)	4	PS 201 General Physics I	4
EN 101 Composition and Literature I	3	MA 121 Calculus I (or MA108)	4
		EN 102 Composition and Literature II	3
	<b>14</b>		<b>17</b>
<b>Sophomore</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
AP 225 Introduction to Passive Environmental Systems	3	AC 205 Principles of Accounting-Financial	4
CH 103 General Chemistry I	4	AP 325 Materials, Construction, and Design	3
CE 211 Surveying	3	CE 214 Site Development and Engineering	4
CE 264 Specifications and Estimating	1	EM 302 Supply Chain Management	3
EC 202 Principles of Economics (Micro)	3	QM 213 Business and Economic Statistics I (or MA232)	3
EN 204 Professional and Technical Writing	3		
	<b>17</b>		<b>17</b>
<b>Junior</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
AC 201 Introduction to Accounting and Financial World	3	AP 328 Active Building Systems II	3
AP 327 Active Building Systems I	3	CE 457 Wood, Steel, and Concrete Structures	4
CE 336 Introduction to Transportation Engineering	3	EM 320 Construction Productivity	3
CE 351 Statics and Mechanics of Materials	4	EM 399 Safety	3
CE 460 Construction Management	3	General Education Elective	3
	<b>16</b>		<b>16</b>

Senior			
Fall	Credits	Spring	Credits
CE 321 Materials Laboratory	1	EM 402 Construction Management Practices	3
CE 458 Structural Issues for Construction	3	CE 499 Applied Soils and Foundations	4
EM 301 Project Management	3	MG 310 Production/Operations Management	3
EM 401 Pre-Construction Management	3	MG 351 Organizational Behavior	3
MG 341 Business Law I	3	General Education Elective	3
General Education Elective	3		
	<b>16</b>		<b>16</b>
Total Credits: 129			

## Construction Management Minor

Engineering majors may elect this minor.

Students must complete all of the following courses with a grade of "C" or better.

<b>a. Two courses from the following list:</b>	6-8
AP 225 Introduction to Passive Environmental Systems & AP 325 and Materials, Construction, and Design	6
CE 211 Surveying & CE 214 and Site Development and Engineering	7
Two 300 and/or 400 level Civil Engineering courses	6-8
Two 300 and/or 400 level Electrical Engineering courses	6-8
Two 300 and/or 400 level Mechanical Engineering courses	6-8
Two Architectural Design courses	6-10
Two 300 and/or 400 level Computer Science courses	6-8
Two 300 and/or 400 level Science courses	6-8
<b>Four courses from the following list:</b>	12-13
AC 201 Introduction to Accounting and Financial World or AC 205 Principles of Accounting-Financial	3-4
CE 460 Construction Management	3
EM 301 Project Management	3
MG 310 Production/Operations Management	3
EM 302 Supply Chain Management	3
<b>Total Credits</b>	<b>18-21</b>

## Courses

### EM 101 Introduction to Construction Project Management 3 Credits

This course provides a broad overview of the managerial, technological and physical processes that are involved in the creation of the built environment. It specifically focuses on understanding the issues in the management of a construction project. (Prerequisites: none. 3 credit-hours - 2 hours lecture and 3 hours lab).

### EM 301 Project Management 3 Credits

The course covers the principles and practices of project management with particular emphasis on issues related to engineering and construction projects. Students will learn the principles of project management within the firm and in an environment characterized by inter firm relationships. 3 hours of class time per week.

### EM 302 Supply Chain Management 3 Credits

The course covers the principles and practices of supply chain management with particular emphasis on issues related to engineering and construction projects. Students will learn the principles of supply chain management and purchasing in an environment characterized by inter firm relationships. 3 hours of class time per week.

### EM 320 Construction Productivity 3 Credits

This course focuses on the planning and execution of the construction of vertical and horizontal construction projects. The course emphasizes the means and methods associated with heavy civil projects, earthwork, and the construction of the project's structural elements. Equipment selection and methods will be a major focus. (Prerequisites: Junior standing. 3 credit-hours lecture).

### EM 399 Safety 3 Credits

### EM 401 Pre-Construction Management 3 Credits

This course addresses the initial phases of the building creation process. It focuses on addressing the owner's design and construction needs and the delivery of value to the owner. Business development, estimating, planning and presentation skills are emphasized. A Design/ Build model is employed to encompass the full spectrum of architecture, engineering and construction (AEC) requirements. Classroom 3 hours. Prerequisites: EM 302.

### EM 402 Construction Management Practices 3 Credits

A capstone and practicum course in construction management engineering that explores the processes of management as applied to actual construction projects. Topics will be reviewed in the seminar and students will work in teams to review how these topics were applied in an actual construction project and to design a construction management plan for a proposed project during laboratory. Two 1.5 hours seminar periods and a 3 hour laboratory per week. Prerequisite: EM 301 and EM 302.