

Engineering Management Construction Concentration

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 Engineering 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 Engineering 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 Engineering Management, and are qualified to sit for professional exams

such as the Associate Constructor (AC), Construction Manager in Training (CMIT) and/or the Certified Associate in Project Management (CAPM). Students will have a foundational understanding of:

- building materials
- electrical, plumbing, heating, ventilating and air conditioning systems
- economics
- accounting
- law
- information technology
- supply chain integration
- stakeholder management
- emerging structures and issues
- risk management
- time and cost estimation
- materials management
- global sourcing

B.S. Engineering Management - Curriculum Map (Construction Concentration)

First Year			
Fall	Credits	Spring	Credits
EG 109 Introduction to Engineering I	3	EM 101 Introduction to Construction Project Management	3
EN 101 Composition and Literature I	3	EC 202 Principles of Economics (Micro)	3
AP 111 Fundamentals of Architecture	4	EN 102 Composition and Literature II	3
MA 107 Precalculus Mathematics (or higher)	4	HI XXX History Elective	3
		MA 108 Applied Calculus or 121 Calculus I	4
	14		16
Second Year			
Fall	Credits	Spring	Credits
AP 225 Introduction to Passive Environmental Systems	3	AP 325 Materials, Construction, and Design	3
CE 211 Surveying	3	CE 214 Site Development and Engineering	4
CE 464 Specifications and Estimating	1	EC 201 Principles of Economics (Macro)	3
CH 103 General Chemistry I	4	EM 302 Supply Chain Management	3
QM 213 Business and Economic Statistics I	3	PS 201 General Physics I	4
MG 341 Business Law I	3		
	17		17
Third Year			
Fall	Credits	Spring	Credits
AP 327 Active Building Systems I	3	AP 328 Active Building Systems II	3
CE 351 Statics and Mechanics of Materials	4	EN 204 Professional and Technical Writing	3
CE 460 Construction Management	3	MG 351 Organizational Behavior	3
AC 201 Introduction to Accounting and Financial World	3	CE 457 Wood, Steel, and Concrete Structures	4
MG 310 Production/Operations Management	3	EM 320 Construction Productivity	3
	16		16

Fourth Year			
Fall	Credits	Spring	Credits
CE 458 Structural Issues for Construction	3	Humanities Elective	3
EG 450 Professional Issues	3	CE 499 Applied Soils and Foundations	4
EM 401 Pre-Construction Management	3	EM 402 Construction Management Practices	3
MG 314 Marketing Management	3	IS 300 Management Information Systems	3
FN 311 Corporate Finance	3	Literature Elective	3
CE 321 Materials Laboratory	1		
	16		16
Total Credits: 128			

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.