NATIONAL UNIVERSITY

COLLEGE OF PROFESSIONAL STUDIES

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT

Embark on a Management Career in the Building Industry

The construction sector is growing rapidly and individuals with a well-rounded education in written and verbal communication, technical construction fundamentals, math, business, law, and other relevant courses are in high demand. The construction management program was developed with guidance and assistance from current leaders in the industry and provides relevant training for future managers in the field. In the program you'll learn to apply modern methods and metrics for surveying, use appropriate technical tools to solve engineering problems, and demonstrate a fundamental understanding of building mechanical and electrical systems. When completed, you'll be positioned to pursue a career as a construction executive, project manager, field engineer, planning and scheduling engineer, cost engineer, cost estimator, as well as other positions in the field.

Program highlights:

- Entire program can be completed online
- Apply science and math to solve construction problems
- Understand structural systems and reliably estimate project costs
- Apply professional and ethical standards in construction and building
- Learn to communicate clearly in written, verbal, and visual formats
- Integrate and apply field inspection techniques and safety standards
- Understand the legal side of construction contracts and accounting
- Work effectively as part of a construction team

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MAJOR IN CONSTRUCTION MANAGEMENT

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The purpose of the Bachelor of Science in Construction Management program is to provide students with a well-rounded education in written and verbal communication, technical construction fundamentals, mathematics, business, law, humanities, fine arts, and social, behavioral and natural sciences that will prepare them for a career in management, administrative, and ownership positions in the construction industry.
This degree program will prepare the student for careers such as construction executive, project manager, project engineer/coordinator, field engineer, planning/scheduling engineer, cost engineer, cost estimator, quality and safety controller, construction superintendent, and facilities engineer. Additionally, graduates with experience, interest, and/or knowledge about specific construction trades will be capable of performing in a large number of management and administrative positions within respective subcontracting companies.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Effectively communicate through written, verbal, and graphical media.
- Demonstrate knowledge of engineering science and mathematics and its application in problem solving.
- Analyze structural systems.
- Recognize ethical issues and apply professional standards in decision-making.
- Utilize appropriate computer tools for engineering problems.
- Apply modern methods for surveying and metrics.
- Exhibit a fundamental understanding of building mechanical and electrical systems.
- Demonstrate cost estimating and scheduling techniques.
- Integrate and apply field inspection techniques and safety standards.
- Apply the principles of project management and control.
- Apply construction accounting principles and analyze financial reports.
- Demonstrate knowledge of the legal aspects of construction contracting.
- Work effectively in a team environment.

Degree Requirements

To receive a Bachelor of Science in Construction Management, students must complete at least 180 quarter units to include a minimum of 70.5 units of the University General Education requirements; 76.5 units must be completed at the upper-division level and 45 units must be taken in residence, including the capstone project classes. In the absence of transfer credit, students may need to take additional general electives to satisfy the total units for the degree. Students should refer to the section on undergraduate admission procedures for specific information on admission and evaluation. All students receiving an undergraduate degree in Nevada are required by state law to complete a course in Nevada Constitution.

Preparation for the Major

(13 courses; 55.5 quarter units)

COM 103* Public Speaking
ILR 260* Information Literacy
Prerequisite: ENG 100 and ENG 101
MTH 215* College Algebra & Trigonometry
Prerequisite: Accuplacer test placement evaluation or MTH 12A and MTH 12B
PHS 104* Introductory Physics
Prerequisite: 2 years of high school algebra and MTH 204 or MTH 215 or MTH 216A and MTH 216B
PHS 104A* Introductory Physics Lab (1.5 quarter units)
Prerequisite: PHS 104 or PHS 171 for science majors

OR

PHS 130A^ Physics Lab for Engineering (1.5 quarter units)
EGR 220 Engineering Mathematics
Prerequisite: MTH 215
EGR 225 Statics & Strength of Material
Prerequisite: EGR 220
EGR 219 Intro to Graphics and Auto CAD
Prerequisite: MTH 215
CSC 220 Applied Probability & Stats.
Prerequisite: MTH 215
ACC 201 Financial Accounting Funds.
ECO 203* Principles of Microeconomics
ECO 204* Principles of Macroeconomics
ENG 334A* Technical Writing
Prerequisite: ENG 100 and ENG 101 (Only Business, Engineering and Nursing majors may fulfill the requirement by taking ENG 334A)

^ For online students only
* May be used to meet a General Education requirement.

Requirements for the Major

(18 courses; 78 quarter units)

MGT 309C Prin. of Mgmt & Organizations
EGR 310 Engineering Economics
Prerequisite: MTH 215
EGR 320 Scientific Problem Solving
Prerequisite: CSC 208 or EGR 220
EGR 320L Scientific Problem Solving-LAB (1.5 quarter units)
Prerequisite: EGR 320 with a minimum grade of C
EGR 316 Legal Aspects of Engineering
DEN 308 Computer Aided Engineering I
Prerequisite: EGR 219
CEN 320 Surveying, Metrics and GIS
Prerequisite: EGR 219
CEN 323 Structural Analysis
Prerequisite: EGR 220 and EGR 225
CEN 325 Soil Mechanics and Foundation
Prerequisite: CEN 323
CEN 410 Constr. Materials and Methods
Prerequisite: MTH 215
CEN 413 Plans and Specifications
Prerequisite: EGR 219
CEN 416 Mech. and Electrical Systems
Prerequisite: MTH 215
CEN 419 Est., Scheduling and Control
Prerequisite: CEN 410
EGR 440 Project Management Fundamental
CEN 420 Est., Scheduling & Control II
Prerequisite: CEN 419
CEN 422 Field Inspection and Safety
Prerequisite: CEN 410
CEN 421 Constr., Acct., Finance and Law
Prerequisite: ACC 201
CEN 425 Design & Const. Process Integra.

Construction Senior Project

(3 courses; 13.5 quarter units)

CEN 486A Construction Senior Project I
Prerequisite: Completion of 10 core courses in construction program.
CEN 486B Construction Senior Project II
Prerequisite: CEN 486A
CEN 486C Construction Senior Project III
Prerequisite: CEN 486B