



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 Bachelor of Science in Construction Management program provides students with a well-rounded education in technical construction fundamentals, written and verbal communication, mathematics, business, law, humanities, and natural sciences. This degree program will prepare the student for careers in management, administrative, and ownership positions in the construction industry such as construction executive, project manager, project engineer/coordinator, field engineer, planning/scheduling engineer, cost estimator, quality and safety controller, construction superintendent, and facilities engineer.

### Program Learning Outcomes

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

- Demonstrate knowledge of mathematics, science, and engineering and its application in identifying, formulating, and solving construction problems.
- Design a construction system, process, or procedure to meet desired needs.
- Indicate a fundamental understanding of mechanical, electrical and structural systems, and sustainability.
- Integrate and apply field inspection and survey techniques, safety standards, and regulatory compliance.
- Apply the principles of project management, accounting, cost estimating, and scheduling techniques in construction processes.
- Develop and test hypotheses, analyze and interpret data, and use scientific judgment to draw conclusions.
- Communicate effectively through written, verbal, and graphical media with a range of audiences.
- Understand legal aspects, ethical issues, and professional responsibilities in global, economic, environmental, and societal contexts.
- Function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

### 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

(10 courses; 42 quarter units)

- COM 103\* Public Speaking  
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)
- ILR 260 Information Literacy  
*Prerequisite: ENG 100 and ENG 101*
- EGR 219 Intro to Graphics and Auto CAD  
*Prerequisite: MTH 215*
- EGR 220 Engineering Mathematics  
*Prerequisite: MTH 215*
- EGR 225 Statics & Strength of Material  
*Prerequisite: EGR 220*
- ACC 201 Financial Accounting Funds.
- CSC 220 Applied Probability & Stats.  
*Prerequisite: MTH 211*

\* May be used to meet General Education Requirements

^ For onsite students only

\*\* For online students only

### Requirements for the Major

(19 courses; 82.5 quarter units)

- MGT 309C Prin. of Mgmt & Organizations  
EGR 310 Engineering Economics

- EGR 320 Scientific Problem Solving  
*Prerequisite: MTH 215*
- 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  
CEN 480 Sustainable Construction

### 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*