



Bachelor of Science in Construction Management and Technology

Emphasis in Project Management

Program of Study: Bachelor of Science in Construction Management and Technology- Emphasis in Project Management

The Bachelor of Science in Construction Management and Technology with an emphasis in Project Management builds knowledge, skills, and leadership in the construction industry. Students will focus on key elements of business presentations, relocation and operational issues, planning, design and construction and facility management. In addition, students will gain knowledge through activities focused on current industry trends allowing them to apply what they have obtained from their courses to current situations in the working environment.

General Education Requirements (39 credit hours)

Course Number	Course Title	Course Description	Credits
COM 301	Cultural Diversity in Business (or another 300-level or above diversity, culture, or communications class)	Investigates parameters of difference that may impact business communications and relationships. Topics include dress, greetings, customs, expectations, and negotiating styles.	3
ENG 101	Composition (or comparable composition class)	Provides instruction, guidance, and feedback for the fundamental principles of effective expository writing. Topics include elements of content, organization, writing conventions, and format, applied to areas of the business core program.	3
SPC 101	Business Presentations (or comparable Speech class)	Prepares students to develop and deliver presentations to yield results within informative, persuasive, goodwill, sales, and training venues. The course includes preparing charts and graphs, running productive meetings, and effective public speaking.	3
ECO 201	Macroeconomics (or comparable lower division economics class)	Addresses effects of the national economy on business cycles in regard to growth, inflation, and unemployment. Students consider how these factors are related to micro-level performance.	3
ECO 301	Microeconomics (or comparable upper division Economics class)	Presents the theory of exchange and production in terms of supply and demand, price adjustment, and market failure. Topics include types of costs and profits. <i>Prerequisite: ECO201.</i>	3
POL 101	U.S Government (or other 100-level or above political science class)	Reviews the structure and functions of the U.S. government and the system of checks and balances with regard to federal power. The course distinguishes the types of authority that are left to the individual states.	3
PSY 101	Psychology (or other 100-level or above psychology)	Introduces basic theoretical constructs of psychology that explain mental processes and	3

	class)	behavior. Students compare various schools of thought regarding perception, cognition, emotion, personality, and interpersonal relationships.	
SOC 301	Sociology (or other 300-level or above sociology class)	Introduces basic theoretical constructs of psychology that explain mental processes and behavior. Students compare various schools of thought regarding perception, cognition, emotion, personality, and interpersonal relationships.	3
PHL 101	Business Ethics (or other 100-level or above philosophy class)	Analyzes practical moral dilemmas that arise in business environments and the ethical principles that guide resolution of them. Students examine issues from multiple points of view in order to describe the role of business ethics as reconciling conflicting interests.	3
THR 301	Film (or other 300-level or above literature, music, art, history or theater class)	Examines fundamental elements of film analysis, including style, narrative, genre, and major approaches. Students investigate interpretations of film as artistic presentation, popular entertainment, and mass communication.	3
BIO 101	Environmental Studies (with lab) (or other 100-level or above physical science class)	Identifies ways in which humans interact with and impact their environment, including natural, constructed, and cultural surroundings. Students consider relationships among these environments that give rise to diverse business and economic circumstances. There is a lab component in this course.	3
MAT 101	Introductory Algebra (or other 100-level or above math or statistics class)	Introduces fundamental algebra concepts. Topics include integers; fractions, decimals, and percentages; algebra notation and symbols; solving equations with roots and powers; linear equations and inequalities; graphing and linear systems; exponents and polynomials; and factoring.	3
MAT 301	Business Statistics (or other 300-level or above business statistics class)	Provides the tools to interpret fundamental statistics for business applications. Topics include descriptive statistics, probability, normal distributions, testing hypotheses, confidence intervals, linear regression, and correlation. <i>Prerequisite: MAT101.</i>	3

Construction Management and Technology Core Requirements (66 credit hours)

Course Number	Course Title	Course Description	Credits
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ACCT 121	Construction Accounting	Introduction to accounting for the contractor, placing emphasis on the analysis and use of financial statements and a job cost accounting system. Practical applications include costing supplies, developing budgets and other exercises related to the construction industry.	3
CETH205	Construction Profession & Ethics	Reviews the role of the professional constructor or builder. Emphasis of ethical conduct in all aspects of construction business and operations.	3
CON 101	Intro to Construction Management	Introduces the construction industry by analyzing the context of construction and its evolution and expansion of the building environment. The history of construction including living spaces, materials, and development will also be discussed.	3
CON 201	Managing Construction Operations	Explores management principles, methods and problems relating to personnel, including labor relations.	3
CON 205	Legal Aspects of Construction	Reviews legal aspects of construction for managers. Topics include contracts/agreements, liens, bonds, insurance, codes, certification, laws and ethics.	3
CON 211	Construction Surveying Fundamentals	Introduces basic surveying operations and computations. Development of the surveying skills necessary to measure distances, angles, and elevations to required accuracies. Emphasis is placed on instrument use and note-keeping techniques through virtual simulations.	3
CON 212	Building Codes	Familiarizes students with the content of the International Code Council, the purpose and intent of code requirements, and how to apply the code to structures and occupancies. Examines how the code is used as a tool in design and construction and prepares students for the advent of a single model building code planned for the nation.	3
CON 221	Grading and Drainage Principles	Presents drainage solutions regarding grading and drainage, retaining walls, septic systems, irrigation, and paving to provide required drainage solutions.	3
CON 231	Materials & Methods of Construction I	Covers the descriptive study of the materials and methods of construction, focusing on nomenclature, building materials, and assembly of building systems consisting primarily of wood, masonry, residential interior and exterior finishes, and building foundations,	3

		steel and concrete in addition to roofing assemblies.	
CON 301	Contract Administration	Introduces working drawings, specifications, prints, plans, and the various documents required to carry out a typical construction project.	3
CON 310	Land Development	Covers methods and practices of land development including market research, financial feasibility, land use regulations, and legal documentation. Case studies will focus on site analysis and design.	3
CON 312	Safety in Building Construction	Addresses Occupational Safety and Health Administration's construction safety management controls.	3
CON 321	Soils and Foundations	Analyzes various types of soils and foundations, including soil testing, reports, compaction, stability and function as they relate to the construction process.	3
CON 331	Structures I	Addresses statically determinate structural components and systems. Results from stress-strain patterns in axial, shear, and bearing mechanisms will be reviewed.	3
CON 332	Structures II	Study of force in wood and steel structural components and systems. Review combined load/stress conditions and deflections. <i>Pre-requisite: CON331</i>	3
CON 335	Environmental Systems I	Presents the theory and practice of heating, ventilating, air conditioning, fire protection and plumbing systems for buildings.	3
CON 341	Construction Estimating I	Addresses basic estimating as applied to construction projects. Includes the take-off of material quantities, assigning labor and equipment production rates, purchasing, material prices, wage rates, and equipment costs to derive a total job cost. Best practices by region will be discussed.	3
CON 401	Construction Project Management	Explores construction business organization, including methods of project delivery, field organization, project management, labor management relations, and productivity.	3
CON 410	Development Planning	Addresses development and planning including introduction to real property development principles and processes. The interconnection of land development to urban planning, community organization, housing, economic development, and regional standards will be	3

		explored.	
CON 435	Green Design Principles	Covers lot design, preparation, and construction using resource and energy efficient concepts. Discussions will also include site planning and land development, water efficiency, and educating homeowners regarding environmental quality issues and their new home. Course will follow NAHB guidelines.	3
CON 441	Construction Scheduling	Provides analysis of construction projects with emphasis on scheduling, and resource leveling.	3
CON 490	Construction Capstone	Provides a capstone project that entails the knowledge obtained in previous courses. Students undertake a case study of an actual construction project covering technical managerial, professional skills and knowledge needed in the management of a construction project. <i>Prerequisite: Senior undergraduate status with all coursework completed.</i>	3

Emphasis Requirements (15 credit hours)

Course Number	Course Title	Course Description	Credits
PMGT 301	Competitive Business Presentations	Prepares students to deliver professional construction management presentations. Students will work together and separately to develop, research, and present presentations in a variety of situations and delivery methods. Focus will be on teamwork, presentation skills, and leadership dynamics.	3
PMGT 310	Relocation and Operational Issues	Surveys the principals of facility operations and maintenance from start up to staff management. Other areas discussed will include relocation, disaster planning, emergency preparedness, and security at the various locations. Student will review regional laws and requirements for operation.	3
PMGT 410	Planning	Offers the basic requirements for planning a construction project from strategic planning, business decisions, cost analysis, and ethical issues that often develop in projects. Students will work together to as a construction team to develop the final project.	3
PMGT	Design and Construction	Continues PMGT410 with the next level of	3

411		planning in a construction project. Students will focus on the overall management of a construction project including administration of the process and human resources. Students will interview members of a facility-managed project to gather expertise regarding that may be applied to their own project. <i>Prerequisite: PGM 410.</i>	
PMGT 470	Facility Management Studio	Allow students to develop a project management plan for a case study. Applications include planning, design and construction, relocation and operational issues, and a presentation of the final product.	3

*All BS students are also required to complete an approved LEED course and OSHA 10.

Total General Ed. Credits: 39

Total Construction Management and Technology Core Credits: 66

Total Emphasis Credits: 15

Total Bachelor of Science in Construction Management & Technology Emphasis in Project Management Credits: 120