Construction Management (CMGT)

CMGT 1318 Construction Methods & Safety **3 SCH (3-0)**
This course bridges the gap between technical construction knowledge and the behavioral, ergonomic, and psychological aspects of safety management, and integrates construction methods with human factors, to provide students with a holistic understanding of risk, allowing students to anticipate and mitigate hazards from both engineering and human performance perspectives.

CMGT 2318 Construction Bldg Systems **3 SCH (3-0)**
This course introduces the fundamentals of mechanical (HVAC), electrical, and plumbing systems (MEP) used in building construction. Emphasis is placed on interpreting construction documents, understanding system components, layout and coordination, energy efficiency, and relevant building codes and standards. Students will learn to collaborate with MEP subcontractors and manage MEP scopes effectively in the field. Prerequisites: Math 1314 or any university MATH course except MATH 1334, Math 1350, or MATH 1351.

CMGT 2346 Construction Law **3 SCH (3-0)**
This course introduces students to the legal principles and frameworks that govern the construction industry. Students will learn construction contracts, risk allocation, dispute resolution, professional liability, labor laws, and regulatory compliance. The course emphasizes real-world applications of construction law and legal best practices in managing projects, avoiding disputes, and protecting stakeholders.

CMGT 2360 Intro to Construct Surveying **3 SCH (3-0)**
This course introduces the principles, techniques, and equipment used in construction surveying. Students will learn to measure distances, angles, and elevations; use instruments such as total stations and levels; establish control points; perform site layout and stakeout; calculate earthwork quantities; and interpret maps and property descriptions. Prerequisite: Math 1314

CMGT 3350 Construction Prod & Inv Ctrl **3 SCH (3-0)**
This course covers production and inventory control in construction, including forecasting materials, just-in-time delivery, procurement, and warehouse management to support project schedules, cost control, and quality through practical case studies. Prerequisite: MATH 1324 Math for Bus and Econ 1 and CMGT 1318 Construction Methods and Human Factors in Construction

CMGT 3370 Construction Risk & Safety **3 SCH (3-0)**
This course covers key concepts in construction risk management and occupational safety. Students learn to identify and manage risks, apply OSHA standards, develop safety plans, and implement accident prevention strategies to ensure safe and efficient construction operations. Prerequisite: CMGT 2346 Construction Law

CMGT 3380 Constr Matls Handling **3 SCH (3-0)**
This course introduces students to the properties, selection, and sustainable use of construction materials, including concrete, steel, wood, masonry, and composites. The course emphasizes safe and efficient material transportation and handling, covering logistics, equipment, storage, and safety practices. Prerequisite: CMGT 1318 Construction Methods and Human Factors in Construction

CMGT 4345 Prin of Ops Mgmt in Construct **3 SCH (3-0)**
Principles of Operations Management in Construction focuses on planning, coordinating, and controlling daily construction activities. Key topics include resource management, labor and equipment use, workflow planning, productivity, safety, quality, and cost control. Emphasis is on productivity methods such as work measurement, time studies, workflow optimization, and performance monitoring to improve efficiency and support successful project delivery. Prerequisite: CMGT 3380 Construction Materials, Transportation of Materials, and Material Testing.

CMGT 4360 Construction Project Mgmt **3 SCH (3-0)**
This course covers the fundamental principles and practices of construction project management with a focus on construction projects. Students will learn project planning, scheduling, budgeting, resource management, communication, risk assessment, and the use of project management software. Prerequisite: CMGT 3380 Construction Materials, Transportation of Materials, and Material Testing

CMGT 4370 Construc Analytics & Lean (WI) **3 SCH (3-1)**
This course explores the integration of construction data analytics with lean project delivery methods to improve efficiency and project outcomes. Students will learn to apply data-driven decision-making alongside lean techniques such as the Last Planner System (LPS), Value Stream Mapping (VSM), and Target Value Design (TVD). Through hands-on projects, learners will analyze construction workflows, identify waste, optimize scheduling, and enhance productivity using analytics tools and lean frameworks, enabling measurable improvements in cost, time, and quality. Prerequisites: BUAD 3355 Business Statistics (3) This course is a writing-intensive course.

CMGT 4380 Construction Capstone Project **3 SCH (1-5)**
This course involves planning and managing the construction of a project. Students integrate key aspects of construction management, including scheduling, budgeting, resource allocation, and safety. The course provides hands-on experience applying classroom knowledge to a real-world construction scenario, preparing students for professional practice. Prerequisite: CMGT 4360 Construction Project Management

CMGT 4390 Advanced Cost Estimating **3 SCH (3-0)**
This course covers advanced techniques and methodologies in cost estimating, particularly for construction management and engineering projects. The course builds on foundational cost estimating principles and introduces sophisticated approaches for accurate and reliable cost prediction. Prerequisite: CMGT 4360 Construction Project Management