

Construction Management (CM)

Courses

CM A163 Building Construction Cost Estimating 3 Credits

Presents methods and techniques for preparing accurate cost estimates for building construction projects. Emphasizes quantity takeoffs, unit pricing, productivity factors, bidding and negotiation procedures, and cost reporting.

Prerequisites: AET A101 with a minimum grade of C and AET A102 with a minimum grade of C and (MATH A105 with a minimum grade of C or MATH A121 with a minimum grade of C or MATH A151 with a minimum grade of C or MATH A152 with a minimum grade of C or MATH A155 with a minimum grade of C or MATH A211 with a minimum grade of C or MATH A212 with a minimum grade of C or MATH A221 with a minimum grade of C or MATH A251 with a minimum grade of C or MATH A251F with a minimum grade of C or MATH A252 with a minimum grade of C or MATH A252F with a minimum grade of C or MATH A253 with a minimum grade of C).

CM A201 Construction Project Management I 3 Credits

Examines construction project management methods and processes. Includes project delivery systems and contract types; contract administration procedures; jobsite planning and logistics; and managing labor, materials, and equipment.

Prerequisites: AET A101 with a minimum grade of C and AET A102 with a minimum grade of C.

CM A202 Project Planning and Scheduling 3 Credits

Examines concepts and methods for planning and scheduling of construction projects. Includes identifying work elements, estimating activity durations, preparing network schedules and schedule updates, analyzing planned vs. actual project progress, and use of computer scheduling software.

Prerequisites: CM A201 with a minimum grade of C and (MATH A105 with a minimum grade of C or MATH A121 with a minimum grade of C or MATH A151 with a minimum grade of C or MATH A152 with a minimum grade of C or MATH A155 with a minimum grade of C or MATH A211 with a minimum grade of C or MATH A212 with a minimum grade of C or MATH A221 with a minimum grade of C or MATH A251 with a minimum grade of C or MATH A251F with a minimum grade of C or MATH A252 with a minimum grade of C or MATH A252F with a minimum grade of C or MATH A253 with a minimum grade of C).

CM A232 Statics and Strength of Materials 3 Credits

Analyzes forces and the mechanics of materials for structural elements and assemblies. Includes the fundamentals of statics; stress, strain and deformation; shear and bending stresses in beams; and column analysis.

Prerequisites: AET A101 with a minimum grade of C and AET A102 with a minimum grade of C and (MATH A105 with a minimum grade of C or MATH A121 with a minimum grade of C or MATH A151 with a minimum grade of C or MATH A152 with a minimum grade of C or MATH A155 with a minimum grade of C or MATH A211 with a minimum grade of C or MATH A212 with a minimum grade of C or MATH A221 with a minimum grade of C or MATH A251 with a minimum grade of C or MATH A251F with a minimum grade of C or MATH A252 with a minimum grade of C or MATH A252F with a minimum grade of C or MATH A253 with a minimum grade of C) and ((PHYS A115 with a minimum grade of C and PHYS A115L with a minimum grade of C) or (PHYS A123 with a minimum grade of C and PHYS A123L with a minimum grade of C)).

CM A263 Civil Construction Cost Estimating 3 Credits

Presents methods and techniques for preparing accurate cost estimates for earthwork, roads, highways, underground utilities, and site work. Emphasizes quantity surveys, unit costs, production factors, bidding, and construction equipment management.

Prerequisites: CM A163 with a minimum grade of C and CM A201 with a minimum grade of C and (MATH A105 with a minimum grade of C or MATH A121 with a minimum grade of C or MATH A151 with a minimum grade of C or MATH A152 with a minimum grade of C or MATH A155 with a minimum grade of C or MATH A211 with a minimum grade of C or MATH A212 with a minimum grade of C or MATH A221 with a minimum grade of C or MATH A251 with a minimum grade of C or MATH A251F with a minimum grade of C or MATH A252 with a minimum grade of C or MATH A252F with a minimum grade of C or MATH A253 with a minimum grade of C).

CM A295 Construction Management Internship 3 Credits

Provides career development and exploration through work experience in the field by placement in a construction management home or field office. Intern will perform duties directly related to construction management functions.

Registration Restrictions: Department approval

CM A301 Construction Project Management II 3 Credits

Analyzes advanced subjects in construction project management. Includes project procurement, project delivery methodology, managing project change, quality control, claims and disputes, and labor relations.

Prerequisites: CM A163 with a minimum grade of C and CM A202 with a minimum grade of C.

CM A313 Soils in Construction 3 Credits

Examines the properties and classifications of soils encountered and used in construction. Includes soils investigation, soils stress analysis, embankment construction, and excavation works and supports.

Prerequisites: AET A213 with a minimum grade of C and (MATH A151 with a minimum grade of C or MATH A152 with a minimum grade of C or MATH A155 with a minimum grade of C or MATH A211 with a minimum grade of C or MATH A212 with a minimum grade of C or MATH A221 with a minimum grade of C or MATH A251 with a minimum grade of C or MATH A251F with a minimum grade of C or MATH A252 with a minimum grade of C or MATH A252F with a minimum grade of C or MATH A253 with a minimum grade of C).

CM A401 Construction Law 3 Credits

Examines the significant legal topics affecting general contractors, subcontractors, project owners and surety bond agents. Integrates legal issues with design and construction services, focusing on risk management and liability awareness.

Prerequisites: BA A241 with a minimum grade of C and CM A301 with a minimum grade of C.

CM A422 Sustainability in the Built Environment 3 Credits

Examines sustainability concepts and the implementation of sustainability principles in the design and construction of the built environment. Evaluates human-constructed development and resource efficiency in relation to the local and global natural environment.

Prerequisites: AET A101 with a minimum grade of C and AET A102 with a minimum grade of C and (COMM A111 with a minimum grade of C or COMM A235 with a minimum grade of C or COMM A237 with a minimum grade of C or COMM A241 with a minimum grade of C or COMM A10 with a minimum grade of C or COMM A20 with a minimum grade of C) and (WRTG A211 with a minimum grade of C or WRTG A212 with a minimum grade of C or WRTG A213 with a minimum grade of C or WRTG A214 with a minimum grade of C or WRTG A2W with a minimum grade of C).

CM A440 Financial Management for Construction 3 Credits

Analyzes financial management topics relevant to the construction management professional, including the interpretation of financial statements, financial ratios, applications of engineering economy, cash flow analysis, construction financing, and cost information systems.

Prerequisites: ACCT A202 with a minimum grade of C and CM A301 with a minimum grade of C.

CM A450 Construction Management Professional Practice 3 Credits

Integrates educational and construction management principles using case studies. Emphasizes teamwork and professional competency. Includes the evaluation of project goals, conditions, and design documents to produce a plan for delivery and control.

Registration Restrictions: Completion of GER Tier 1 (basic college-level skills) courses

Prerequisites: CM A301 with a minimum grade of C and CM A495 with a minimum grade of C.

Attributes: UAA Integrative Capstone GER.

CM A460 Construction Equipment Management and Methods 3 Credits

Analyzes the management of construction equipment and methods employed in different sectors of the construction industry including buildings, heavy-highway, and utilities construction. Includes earthmoving operations, appropriate equipment selection, operating costs, and fleet management.

Prerequisites: CM A263 with a minimum grade of C and CM A313 with a minimum grade of C.

CM A495 Advanced Construction Management Internship 3 Credits

Provides career development and exploration through work experience in the field by placement in a construction management home or field office. Intern will perform duties directly related to construction management functions.

Registration Restrictions: Department approval