CONSTRUCTION MANAGEMENT (CONM)

CONM 181 Principles of Construction Management 3 Credits
Construction industry practice emphasizing business organization and management techniques. Includes principles of management, organizational environments, decision-making, design, technology, leadership, and basic construction management with terminology, estimating and scheduling. This course replaces MANG 201 requirements for Construction Management majors only. It does not substitute for MANG 201 in any other way.

CONM 234 Graphic Communication for Construction Management 3 Credits
Integrated approaches for developing plan reading skills and creation of visual communications, including 3D digital model and pictorial development using current industry software.

CONM 264 Mechanical/Industrial Systems 3 Credits
Analysis and design understanding of specialty mechanical and industrial processes. Includes fundamentals of thermodynamics, fluids, control interface issues, system testing and commissioning. Emphasis on fundamental theory followed by proof of concepts through practicum. Lecture, lab and field exercises.

Prerequisites: MATH 113, CONC 101, and CONM 181.

CONM 316 Construction Materials and Methods 3 Credits
Materials and methods utilized in design and construction of vertical and horizontal projects. Course addresses proper construction methods and governing trade association standards. Sustainability and ethics relating to specification, ordering, and installation of construction materials incorporated.

Prerequisites: CONC 101 and CONC 208.

CONM 340 Construction Estimating and Bidding 3 Credits
Application of industry-recognized methods of construction estimating to compile conceptual systems and detailed estimates. Emphasis on students' ability to communicate estimate results in written and oral presentations.

Prerequisites: CONC 228.

CONM 361 Advanced MEP Systems 3 Credits
Electrical, heating, ventilation, air conditioning, plumbing, and fire suppression. Emphasis on design, operation, and interaction. Principles of codes, design, methods and materials as applicable to the construction industry included. Building system controls for smart buildings integrated in each component.

Prerequisites: CONC 101 and CONC 208.

CONM 362 Structure Analysis - Statics/Materials Strength 3 Credits
Behavior of structural components and systems plus a broad overview of structural engineering analysis/design process. Principles of statics and strength of materials including properties of materials, forces, equilibrium, stresses and strains studied. Emphasis on understanding behavior of structural components associated with construction processes.

Prerequisites: MATH 130 and PHYS 111/PHYS 111L.

CONM 370 Managing Safety and the Regulatory Environment 3 Credits
Impact of safety on the construction industry, in-depth discussions concerning application of O.S.H.A. Safety and Health Standards for the Construction Industry. Course emphasis on safety management training for jobsite supervisory personnel. Additionally, various regulatory requirements encountered in construction addressed.

Prerequisites: CONC 101 and junior status.

CONM 380 Construction Project Management 3 Credits
Exploration of the professional practices performed by the project team for successful job site management, including the relationship of project participants and methods of communication, evaluation of project objectives in decision making, relationship of different project contract delivery methods, and how to develop, understand, and use contracts for job site management.

Prerequisites: CONM 340.

CONM 395 Independent Study 1-3 Credits
Course may be taken multiple times up to maximum of 6 credit hours.

CONM 462 Soil and Foundation Construction 3 Credits
Properties of subsurface materials and principles of subsurface construction. Topics include soil classification and testing, soil mechanics, earthmoving operations and foundation systems from a contractor's perspective. Techniques of subsurface investigations and subsequent interpretation of soil reports studied to understand foundation construction methods and related field problems.

Prerequisites: CONM 362.

Corequisites: CONM 462L.

CONM 462L Soil and Foundation Construction Laboratory 1 Credit
Properties of subsurface materials and principles of subsurface construction. Topics include soil classification and testing, soil mechanics, earthmoving operations and foundation systems from a contractor's perspective. Techniques of subsurface investigations and subsequent interpretation of soil reports studied to understand foundation construction methods and related field problems.

Prerequisites: CONM 362.

Corequisites: CONM 462.

Terms Typically Offered: Spring.

CONM 472 Construction Planning and Scheduling 3 Credits
Planning, scheduling and controlling construction operations. Emphasis on the planning phase of construction projects, logic diagrams, network-based scheduling techniques, and computer-assisted scheduling. Application of industry-recognized scheduling methodology to construction projects. Emphasis on communicating project schedules in written and oral presentations.

Prerequisites: CONC 228.

CONM 475 Construction Company and Financial Management 3 Credits
Exploration of concepts in starting, owning, and operating a construction company. The student engages in identifying the purpose, vision, values, short-term and long-term objectives, and execution plans of company. Accounting methods and systems are studied. Analysis of financial statements in developing budgets, projecting cash needs, and forecasting impacts of business decisions on profit.

Prerequisites: CONM 380 and FINA 301.

CONM 485 Construction Management Issues 3 Credits
Issues facing the professional constructor. Integration of project management includes field study, research, case readings, problem solving, and project deliverables.

Prerequisites: Senior status and permission of instructor.
**CONM 495 Independent Study** 1-3 Credits
Course may be taken multiple times up to maximum of 6 credit hours.

**CONM 496 Topics** 1-3 Credits
Course may be taken multiple times up to maximum of 15 credit hours.

**CONM 499 Construction Internship** 1-6 Credits
University/construction industry partnership to provide real-life working experiences. The internship program's primary purpose is to prepare the construction management student with leadership responsibilities in a technologically oriented, diverse, dynamic and global construction environment.

**Prerequisites:** CONM 380, and permission of instructor.
Course may be taken multiple times up to maximum of 15 credit hours.