

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 the skills to read plans and create visual communications, including development of 3D digital models and images using current industry software.

Terms Typically Offered: Fall.

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 295 Independent Study 1-3 Credits

Course may be taken multiple times up to maximum of 6 credit hours.

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 341 Estimating and Bidding for Vertical Construction 3 Credits

Application of industry recognized methods of construction estimating and bidding for contract procurement. Emphasis is on commercial building construction.

Prerequisites: CONC 228.

Terms Typically Offered: Fall.

CONM 342 Estimating and Bidding for Horizontal Construction 3 Credits

Application of industry recognized methods of construction estimating and bidding for contract procurement. Emphasis is on infrastructure, road, and bridge construction.

Prerequisites: CONC 228.

Terms Typically Offered: Fall.

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 161.

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 the Regulatory Environment 3 Credits

Exploration of regulatory requirements by local, state, and federal agencies in the planning and execution of construction projects.

Prerequisites: CONC 101 and junior standing.

Terms Typically Offered: Fall.

CONM 375 Sustainability in the Built Environment 3 Credits

Introduction to high-performance green building techniques, sustainable practices, and lean construction for life cycle analysis of embodied energy and materials data for the built environment.

Prerequisites: Junior standing.

Terms Typically Offered: Fall.

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 341 or CONM 342.

Terms Typically Offered: Spring.

CONM 395 Independent Study 1-3 Credits

Course may be taken multiple times up to maximum of 6 credit hours.

CONM 396 Topics: 1-3 Credits

Course may be taken multiple times up to maximum of 15 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: CONM 341 or CONM 342.

Terms Typically Offered: Fall.

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.