

CONSTRUCTION (CON)

CON-101 Architectural Plans and Specs (3)

Introduces the idea of scaled and technical drawings, including common graphic conventions. Teaches how to navigate, read, and interpret residential and commercial construction documents, including drawings, specifications, and shop drawings. Compares and contrasts residential and commercial documents. Applies digital take-off and mark-up processes. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

CON-108 Construction Safety (1)

Provides an introduction to job safety and best practices as they pertain to the construction industry. Achieves a general philosophy of safety awareness through the study of specific hazards and case studies. Navigates OSHA regulations and personal obligations within the construction industry. Receives the OSHA 10 Construction and Adult First Aid with CPR certifications upon completion of this course. Arts & Sciences Elective Code: B

Hours per week: 1.0 lecture

CON-126 Building Construction Systems II (3)

Continues the study of materials, methods, and terminology used in modern construction. Focuses on general knowledge of a broad range of exterior and interior finish systems, mechanical, electrical and plumbing systems - including their coordination with other construction systems.

Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Prerequisite: Take CON-311.

CON-134 Building Foundations and Site Layout (2)

Provides class and laboratory activities to gain knowledge in the use of conventional and laser instruments, building site layout, site investigation, leveling, topographic maps and route surveying. Arts & Sciences Elective Code: B

Hours per week: 1.0 lecture, 2.0 lab

CON-142 Carpentry Fundamentals III (3)

Introduces the terminology and methods used in modern residential and commercial construction systems. Offers hands-on instruction in insulation and building envelope systems, exterior finishes including roofing, window and exterior door installation, siding, and cornice construction. Uses project-based lab exercises to emphasize proper technique and component recognition. Identifies proper and safe tool and equipment use. Outlines the soft skills necessary for success in the construction industry. Arts & Sciences Elective Code: B

Hours per week: 1.5 lecture, 3.0 lab

Prerequisite: Take CON-212.

CON-143 Carpentry Fundamentals IV (3)

Introduces the terminology and methods used in modern residential and commercial construction systems. Offers hands-on instruction in light gauge interior wall systems, gypsum wall board installation and finishing, finish flooring, and interior door and millwork installation. Uses project-based lab exercises to emphasize proper technique and component recognition. Identifies proper and safe tool and equipment use. Identifies the soft skills necessary for success in the construction industry. Arts & Sciences Elective Code: B

Hours per week: 1.5 lecture, 3.0 lab

Pre/corequisite: Take CON-142.

CON-190 Construction Lab (3)

Provides introductory construction lab experience in a project-based environment encompassing teamwork, communication, productivity, and technical skills required for success in the design and construction industries. Performs tasks associated with light wood frame, heavy timber, plastics, and composite framing systems. Addresses personal and environmental safety requirements. Arts & Sciences Elective Code: B

Hours per week: 2.0 lecture, 2.0 lab

Pre/corequisite: Take CON-101. Take CON-108.

CON-211 Carpentry Fundamentals I (3)

Introduces the terminology and methods used in modern residential and commercial construction systems. Offers hands-on instruction in insulation and building envelope systems, exterior finishes including roofing, window and exterior door installation, siding, and cornice construction. Uses project-based lab exercises to emphasize proper technique and component recognition. Identifies proper and safe tool and equipment use. Outlines the soft skills necessary for success in the construction industry. Arts & Sciences Elective Code: B

Hours per week: 1.5 lecture, 3.0 lab

CON-212 Carpentry Fundamentals II (3)

Introduces the terminology and methods used in modern residential construction systems and offers hands-on instruction in the framing of floor systems, wall systems, roof systems, and stair construction. Uses project-based lab exercises to emphasize proper technique and component recognition. Identifies proper and safe tool use. Outlines the soft skills necessary for success in the construction industry. Arts & Sciences Elective Code: B

Hours per week: 1.5 lecture, 3.0 lab

Pre/corequisite: Take CON-190 or CON-211.

CON-239 Construction Project (3)

Focuses on teamwork and leadership by rotating students through being team members and crew leaders in building a construction project. Emphasizes productivity and supervisory tasks. Arts & Sciences Elective Code: B

Hours per week: 6.0 lab

CON-257 Pre-Construction Services (3)

Studies the preconstruction phase of a building construction project by focusing on conceptual cost estimating, schedule analysis, and constructability reviews. Provides skills in the coordination of organizing, planning, controlling and monitoring resources, procedures and protocols related to residential and commercial projects. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Prerequisite: Take CON-101. Take CON-322.

CON-311 Building Construction Systems I (3)

Introduces the materials, methods and terminology used in modern construction. Focuses on general knowledge of a broad range of building materials and framing systems, and their coordination with other construction systems. Arts & Sciences Elective Code: B; Comments: A classroom-based discussion course that includes field trips to construction sites

Hours per week: 3.0 lecture

CON-313 Structures and Mechanical/Electrical/Plumbing Systems (3)

Provides a fundamental knowledge of mechanical, electrical, and plumbing systems. Analyzes HVAC, lighting, plumbing, fire and security systems regarding their impact on building design, space planning, construction cost, and sustainable design. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Prerequisite: Take CON-101.

CON-316 Sustainable Construction Science (3)

Provides an understanding of building science theory and applications in residential and commercial construction. Discusses sustainable design issues such as climate, environment, durability, air and moisture transfer. Teaches traditional building methods as well as newer technologies of construction. Offers knowledge and resources beneficial to future certifications in many related industry credentials. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Prerequisite: Take CON-101.

CON-322 Estimating for Construction and Architecture (3)

Introduces the basic principles and skills necessary to develop estimates for residential projects. Concentrates on calculating material and labor quantities. Introduces techniques for pricing. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Prerequisite: Take CON-101.

CON-324 Advanced Construction Estimating (3)

Introduces the basic principles and skills needed to develop a complete estimate for commercial construction projects through use of spreadsheets and interactive estimating software. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Prerequisite: Take CON-322.

CON-328 Construction Documentation (3)

Facilitates analysis and use of construction documents, including drawings and specifications. Provides an overview of procedural, legal, contractual, and regulatory issues that govern those documents. Teaches the value of, and difference between, documents at various stages of the design and construction processes. Prepares examples of contract documentation. Contrasts roles and responsibilities within the delivery process. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Prerequisite: Take CON-101.

CON-330 Construction Capstone (3)

Demonstrates knowledge and skills acquired throughout the construction management program of study. Simulates construction project management processes on a commercial and/or residential project including a student presentation of their comprehensive construction project binder. Addresses project cost estimating, planning and scheduling, project control processes, construction safety, and risk management. Arts & Sciences Elective Code: B

Hours per week: 2.0 lecture, 2.0 lab

Prerequisite: Take CON-328.

Corequisite: Take CON-400.

CON-331 Construction Materials Science (3)

Provides an overview of various performance criteria that must be solved in order to design a structure. Emphasizes material science, site design/survey, and structural characteristics. Formulates solutions within a set of tolerances for a variety of design situations and mathematically justifies those solutions. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Pre/corequisite: Take CON-101.

CON-400 Construction Services, Project Close-Out and Commissioning (3)

Introduces the functions of project management in the construction industry. Studies the defining, planning, executing and closing phases of a project. Focuses on teamwork, leadership and problem solving. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Pre/corequisite: Take CON-257.

CON-410 Architectural Modeling (3)

Utilizes 3D modeling software in order to explore and recreate common building units, assemblies, and materials; examine typical and best-practice building assemblies; articulate common regulations and standards that limit building design and construction; create massing diagrams of various building configurations. Solidifies plan reading skills. Arts & Sciences Elective Code: B

Hours per week: 3.0 lecture

Pre/corequisite: Take CON-101.

CON-924 Honors Project (1)

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. Arts & Sciences Elective Code: B; Comments: Requires approval of supervising professor and dean

Hours per week: 1.0 lecture

CON-928 Independent Study (1-3)

Provides readings, papers and basic research or other projects under the individual guidance of a staff member. Arts & Sciences Elective Code: B; Comments: Permission of instructor, dean

Hours per week: 1.0 lecture

CON-932 Internship (1-6)

Provides full-time work in an approved, construction-related position that includes instructor visitations/evaluations and employer evaluations of performance. Provides experience in planning and production monitoring. Arts & Sciences Elective Code: B; Comments: All first-year courses or permission of instructor

Hours per week: 4.0 internship