

DEPARTMENT OF CONSTRUCTION MANAGEMENT

Courses

Construction Management (CON)

CON 101 Introduction to Construction Management Credits: 3 (3-0-0)

Course Description: Introduction to the construction industry; including methods, practices, trends, careers, and constituencies involved in the design and construction process.

Prerequisite: None.

Registration Information: Pre-Construction Management Majors and Construction Management Majors and Minors Only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 131 Graphic Communications for Construction Credits: 2 (0-4-0)

Course Description: Reading technical drawings, 2D/3D visualization, manual drafting techniques, introduction to design software applications.

Prerequisite: None.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 151 Construction Materials and Methods Credits: 3 (3-0-0)

Course Description: Materials and methods utilized in the construction of the built environment.

Prerequisite: None.

Registration Information: Agricultural Education, Interior Architecture and Design, Pre-Interior Architecture and Design majors, and Construction Management majors and minors only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 192 Construction Management Seminar Credit: 1 (0-0-1)

Course Description: Introduction to the construction management major, career paths, industry sectors, campus resources, and tools for academic success. Information and skills necessary to succeed in the construction management major.

Prerequisite: CON 101.

Registration Information: Construction management majors only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 251 Materials Testing and Processing Credits: 2 (1-2-0)

Course Description: Testing of construction materials for standards and quality. Conduct material tests, document and interpret results.

Prerequisite: CON 151 with a minimum grade of C.

Registration Information: Must register for lecture and laboratory. Construction Management Majors Only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

CON 253 Surveying and Construction Layout Credits: 2 (0-2-1)

Course Description: Surveying fundamentals related to construction: project layout, measurement procedures, vertical controls, line and grade, and surveying instrument operation.

Prerequisite: (CON 131 with a minimum grade of C) and (MATH 125 or MATH 127 or MATH 160).

Registration Information: Construction management, environmental horticulture, and landscape architecture majors only. Must register for laboratory and recitation. Credit not allowed for both CON 253 and CON 261.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

CON 261 Construction Surveying Credits: 3 (2-3-0)

Prerequisite: (CON 131 with a minimum grade of C or INTD 166) and (MATH 125 or MATH 160).

Grade Mode: Traditional.

Special Course Fee: No.

CON 265 Plan Reading and Quantity Survey Credits: 3 (2-2-0)

Course Description: Practice in construction document reading, interpretation and analysis for quantity surveying and material quantity organizing using industry-recognized methods including, but not limited to, a project manual-based work breakdown structure.

Prerequisite: CON 131 with a minimum grade of C and CON 151 with a minimum grade of C.

Registration Information: Construction management majors and minors only. Must register for lecture and laboratory. Required field trips.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 267 Construction Management Pre-Internship Credit: 1 (0-0-1)

Course Description: Skills and concepts related to successful internships within the construction management industry.

Prerequisite: CON 265 with a minimum grade of C.

Registration Information: Construction Management Majors Only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 270 Introduction to Road Construction Credits: 3 (3-0-0)

Course Description: Steps necessary to construct a paved roadway from conception, land acquisition and finance through paving operations and trafficking.

Prerequisite: None.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

CON 317 Safety Management Credits: 2 (2-0-0)

Course Description: Construction safety management, accident prevention, and hazard control. Federal, state, and local regulation compliance.

Prerequisite: None.

Registration Information: Construction Management majors and minors only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 350A Study Abroad--Construction Management: European Perspectives Credits: 3 (0-0-3)

Course Description: A study of the physical resources and the human behaviors, which inform design and construction. Exploration of infrastructure and its relationship to resources, materials, and the culture in which it exists. Review of international perspectives of the built environment of Europe, past and present trends, and what the future holds. Survey of construction over time and trends in the preservation of existing infrastructure.

Prerequisite: None.

Registration Information: Sophomore standing. This is a partial semester course. Required field trips.

Term Offered: Summer.

Grade Mode: Traditional.

Special Course Fee: No.

CON 351 Construction Field Management Credits: 2 (1-2-0)

Course Description: Applications of materials and methods in construction; administrative and organizational planning for construction field practice.

Prerequisite: CON 251, may be taken concurrently and CON 317, may be taken concurrently.

Registration Information: Must register for lecture and laboratory. Construction management majors only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 352 Metal Fabrication for Construction Credits: 2 (1-2-0)

Course Description: Shaping, cutting, and joining of structural and non-structural metal. Emphasis on jobsite safety, economics, and efficiency.

Prerequisite: CON 251.

Registration Information: Must register for lecture and laboratory.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

CON 353 Field Management for Construction Credits: 3 (1-2-1)

Course Description: Applications of materials and methods in construction; administrative and organizational planning for construction field practice.

Prerequisite: (CON 251, may be taken concurrently) and (CON 253 or CON 261) and (CON 317, may be taken concurrently).

Registration Information: Construction management majors only. Must register for lecture, lab, and recitation. Credit not allowed for both CON 351 and CON 353.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

CON 358 Structural Systems for Construction I Credits: 3 (3-0-0)

Course Description: Behavior of structural components and systems, overview of structural engineering analysis and the design process for construction.

Prerequisite: (CON 151 with a minimum grade of C) and (MATH 125 or MATH 160).

Registration Information: Construction management majors only. Credit not allowed for CON 358 and CON 359.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 359 Structures I Credits: 4 (4-0-0)

Prerequisite: (CON 151 with a minimum grade of C) and (MATH 125).

Grade Mode: Traditional.

Special Course Fee: No.

CON 360 Electrical Systems in Construction Credits: 3 (2-2-0)

Course Description: Electrical terminology, theory, components, systems, and applications within the construction industry.

Prerequisite: CON 265 with a minimum grade of C.

Registration Information: Must register for lecture and laboratory. Construction Management Majors Only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 365 Construction Estimating Credits: 3 (2-2-0)

Course Description: Industry-recognized methods for work item analysis, quantity surveying, resource estimating, and bid development using a work breakdown structure.

Prerequisite: CON 265 with a minimum grade of C.

Registration Information: Must register for lecture and laboratory. Construction Management majors and minors only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 366 Construction Equipment and Methods Credits: 3 (2-2-0)

Course Description: Equipment and methods used in heavy-highway, heavy-civil and utility construction. Equipment and crew productivity. Equipment ownership and operating costs. Estimating, planning and directing heavy construction operations.

Prerequisite: CON 265 with a minimum grade of C.

Registration Information: Must register for lecture and laboratory. Construction Management majors and minors only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 367 Construction Contracts/Project Administration Credits: 3 (3-0-0)

Course Description: Construction contracts and clauses, stakeholder responsibilities, disputes, resolution methods and risk. Utilization of construction administration documents, systems and procedures to meet project requirements.

Prerequisite: CON 351, may be taken concurrently or CON 353, may be taken concurrently.

Registration Information: Construction management majors and minors only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 370 Asphalt Pavement Materials and Construction Credits: 3 (2-2-0)

Course Description: Constituents of asphalt pavements; manufacture of asphalt cement, emulsions, and cutbacks; material properties and behavior.

Prerequisite: None.

Restriction: Must not be a: Freshman, Sophomore.

Registration Information: Junior standing. Construction management and civil engineering majors only. Must register for lecture and laboratory. Required field trips.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 371 Mechanical and Plumbing Systems Credits: 3 (3-0-0)

Course Description: Heating, ventilation, air conditioning, plumbing, and fire suppression in the built environment.

Prerequisite: CON 360, may be taken concurrently or INTD 276, may be taken concurrently.

Registration Information: Interior Design and Construction Management Majors Only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 372 Concrete Material Properties and Construction Credits: 3 (2-2-0)

Course Description: Concrete material properties and behavior, analysis of concrete mixtures, advanced concrete applications for construction, forensic analysis of concrete reports, concrete construction quality assurance and quality control.

Prerequisite: CON 251 with a minimum grade of C-.

Registration Information: Must register for lecture and laboratory. Credits not allowed for both CON 372 and CON 380A1.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

CON 384 Supervised College Teaching Credits: Var[1-5] (0-0-0)

Course Description:

Prerequisite: None.

Registration Information: A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 450 Travel Abroad-Sustainable Building Credits: 3 (3-0-0)

Also Offered As: INTD 450.

Course Description: Major components of sustainable design and construction, energy, healthy buildings, natural resources and other environmental issues.

Prerequisite: None.

Registration Information: Credit not allowed for both CON 450 and INTD 450.

Term Offered: Summer.

Grade Mode: Traditional.

Special Course Fee: No.

CON 458 Structural Systems for Construction II Credits: 3 (3-0-0)

Course Description: Review and analysis of shop drawings and details for structural systems. Overview of cast-in-place and prestressed concrete systems. Design of structural wood systems, connections, and formwork for cast-in-place concrete.

Prerequisite: CON 358 with a minimum grade of C or CON 359 with a minimum grade of C.

Registration Information: Construction management majors only. Credit not allowed for both CON 458 and CON 459.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 459 Structures II Credits: 4 (4-0-0)

Course Description: Design of formwork, falsework, and shoring.

Prerequisite: CON 359.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 461 Construction Scheduling Credits: 3 (2-2-0)

Course Description: Strategies and techniques for efficient project control, scheduling of project activities and projects with an emphasis on Critical Path Methodology.

Prerequisite: CON 365 with a minimum grade of C.

Registration Information: Construction management majors and minors only. Must register for lecture and laboratory.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 462 Financial Management for Construction Credits: 3 (3-0-0)

Course Description: Financial statements, financial ratios, time value of money, cash flow analysis and financial reporting for construction companies.

Prerequisite: (ACT 205 or ACT 210) and (CON 365 with a minimum grade of C and CON 461, may be taken concurrently).

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 464 Construction Leadership Credits: 3 (1-0-2)

Course Description: Leading projects and people in a construction business and application of skills in a construction-based community service learning project.

Prerequisite: CON 365 and CON 367, may be taken concurrently.

Registration Information: Must register for lecture and recitation. Written consent of instructor.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 465 Construction Management Professional Practice Credits: 3 (1-0-2)

Course Description: Professional practice using an understanding of the contractual and working relationships among all participants in the design/construction process.

Prerequisite: (CON 461, may be taken concurrently) and (CON 487A or CON 487E or CON 487B).

Registration Information: Construction management majors only. Must register for lecture and recitation.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 469 Soil Mechanics for Construction Credits: 3 (2-0-1)

Course Description: Analysis of the physical characteristics and properties of soil for construction project decision making. Interpretation of soils reports, conducting of testing procedures and evaluation of soils for use as a construction material. Assessment of the impact of soil characteristics on construction activities and project risk.

Prerequisite: CON 366 with a minimum grade of C.

Registration Information: Must register for lecture and recitation. Construction management majors only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 471 Project Management for Mechanical Systems Credits: 3 (3-0-0)

Course Description: Fundamental principles of mechanical systems. Presentation and practice of management principles relevant to mechanical projects.

Prerequisite: CON 371 and CON 365, may be taken concurrently.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

CON 476 Sustainable Practice-Design and Construction Credits: 3 (3-0-0)

Course Description: Major components of sustainable design/construction: energy, healthy buildings, cultural, natural resources, use, other environment/economic issues.

Prerequisite: None.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

CON 477 Residential Aging-in-Place and Green Building Credits: 3 (3-0-0)

Course Description: Aging-in-place and green building aspects of the residential construction market.

Prerequisite: CON 265.

Restriction: .

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

CON 487A Internship: Construction Management I Credits: 6 (0-0-18)

Course Description:

Prerequisite: CON 267 and CON 367.

Registration Information: OSHA 10-hour construction safety card.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Traditional.

Special Course Fee: No.

CON 487B Internship: Construction Management II Credits: 3 (0-0-9)

Course Description:

Prerequisite: CON 267 and CON 367.

Registration Information: OSHA 10-hour construction safety card; 500 hours documented work experience.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Traditional.

Special Course Fee: No.

CON 492A Seminar: Emerging Construction Technologies Credit: 1 (0-0-1)

Course Description: Emerging technologies in construction management practice. Applications of current and cutting-edge software, hardware, processes, tools and equipment in the industry.

Prerequisite: (CON 351 or CON 353) and (CON 365).

Registration Information: Construction Management majors only. Maximum of 3 credits allowed per subtopic. This is a partial semester course. Required field trips.

Terms Offered: Fall, Spring.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 492B Seminar: Construction Issues and Trends Credit: 1 (0-0-1)

Course Description: Issues and trends impacting construction project management and field operations. The impact of current trends on project management practice, risk mitigation and project controls.

Prerequisite: (CON 351 or CON 353) and (CON 365).

Registration Information: Construction Management majors only.

Maximum of 3 credits allowed per subtopic. This is a partial semester course. Required field trips.

Terms Offered: Fall, Spring.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 492C Seminar: Heavy Civil Project Management Credit: 1 (0-0-1)

Course Description: Applications of project management practice for heavy civil construction projects. Exploration of heavy civil construction project management principles and concepts through industry-specific case studies, processes and tutorials.

Prerequisite: (CON 351 or CON 353) and (CON 365).

Registration Information: Construction Management majors only. Maximum of 3 credits allowed per subtopic. This is a partial semester course. Required field trips.

Terms Offered: Fall, Spring.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 492D Seminar: Commercial Project Management Credit: 1 (0-0-1)

Course Description: Applications of project management practice for commercial construction projects. Exploration of commercial construction project management principles and concepts through industry-specific case studies, processes and tutorials.

Prerequisite: (CON 351 or CON 353) and (CON 365).

Registration Information: Construction Management majors only.

Maximum of 3 credits allowed per course. This is a partial semester course. Required field trips.

Terms Offered: Fall, Spring.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 492E Seminar: Residential Project Management Credit: 1 (0-0-1)

Course Description: Applications of project management practice for residential construction projects. Exploration of residential construction project management principles and concepts through industry-specific case studies, processes and tutorials.

Prerequisite: (CON 351 or CON 353) and (CON 365).

Registration Information: Construction Management majors only.

Maximum of 3 credits allowed per subtopic. This is a partial semester course. Required field trips.

Terms Offered: Fall, Spring.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 495 Independent Study-Construction Management Credits: Var[1-18] (0-0-0)

Course Description:

Prerequisite: None.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 496 Group Study-Construction Management Credits: Var[1-9] (0-0-0)**Course Description:****Prerequisite:** None.**Registration Information:** Maximum of 9 credits allowed in course.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Instructor Option.**Special Course Fee:** No.**CON 502 Research in Construction Management I Credits: 3 (2-0-1)****Course Description:** Research, discuss, and present current issues and trends in the construction industry related to business, management, engineering, and technology.**Prerequisite:** None.**Registration Information:** Must register for lecture and recitation. Credit not allowed for both CON 502 and CON 562.**Term Offered:** Fall.**Grade Mode:** Traditional.**Special Course Fee:** No.**CON 503 Research in Construction Management II Credits: 3 (3-0-0)****Course Description:** Models and methods of disciplined inquiry used in diverse application-based organizations. Preparation to use disciplined inquiry methods to solve applied problems in construction management or related fields. Topics include problem/topic selection, writing research questions and objectives, literature reviews, selection of research methods, data collection and analysis, and conclusions and implications.**Prerequisite:** CON 502.**Registration Information:** Credit not allowed for both CON 503 and CON 500.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**CON 511 Project Procurement and Preconstruction Credits: 3 (2-0-1)****Course Description:** Advanced project procurement procedures with a focus on early design phase planning applications and preconstruction management techniques.**Prerequisite:** CON 461, may be taken concurrently.**Registration Information:** Must register for lecture and recitation. Credit not allowed for both CON 511 and CON 566.**Term Offered:** Fall.**Grade Mode:** Traditional.**Special Course Fee:** No.**CON 512 Post-Award Construction Management Credits: 3 (2-0-1)****Course Description:** Advanced topics related to post-award construction management issues with a focus on multiple project controls and project risk management.**Prerequisite:** CON 461.**Registration Information:** Must register for lecture and recitation. Credit not allowed for both CON 512 and CON 560.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**CON 521 Sustainable Building & Infrastructure Systems Credits: 3 (2-0-1)****Course Description:** Issues and state-of-the-art resources needed to construct, remodel/retrofit, operate and maintain the built environment (buildings and infrastructure). Specifically, resources will include major materials, components and technologies, as well as energy and water resources are needed in the different life-cycle phases of the building or infrastructure project.**Prerequisite:** None.**Registration Information:** Must register for lecture and recitation. Credit not allowed for both CON 521 and CON 576.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**CON 561 Applied Productivity Improvement Credits: 3 (3-0-0)****Course Description:** Existing and emerging tools for productivity enhancement in project and production environment.**Prerequisite:** None.**Registration Information:** Admission to the construction management master's program.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**CON 565 Legal Aspects of Construction Process Credits: 3 (3-0-0)****Course Description:** Common points of dispute; methods of avoiding disputes among owner, architect, engineer, and contractor.**Prerequisite:** None.**Registration Information:** Admission to the construction management master's program.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**CON 568 Construction Industry Institute Practices Credits: 3 (3-0-0)****Course Description:** Senior executives from the Construction Industry Institute (CII) present best practices developed by CII over the last 25 years.**Prerequisite:** CON 367.**Term Offered:** Fall.**Grade Mode:** Traditional.**Special Course Fee:** No.**CON 569 Regulatory Impact on Construction Credits: 3 (3-0-0)****Course Description:** Role government plays in the design and construction of the built environment.**Prerequisite:** None.**Registration Information:** Admission to the construction management master's program.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**CON 571 Facility Planning and Management Credits: 3 (3-0-0)****Course Description:** Planning, organizing and managing large educational and/or commercial facilities.**Prerequisite:** None.**Registration Information:** Admission to the construction management master's program.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.

CON 590 Workshop Credits: Var[1-18] (0-0-0)

Course Description:

Prerequisite: None.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 592 Seminar Credits: Var[1-18] (0-0-0)

Course Description:

Prerequisite: None.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 684 Supervised College Teaching Credits: Var[1-18] (0-0-0)

Course Description:

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 687 Internship Credits: Var[1-6] (0-0-0)

Course Description:

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Registration Information: Maximum of 6 credits allowed in course.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 695 Independent Study Credits: Var[1-18] (0-0-0)

Course Description:

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 696 Group Study Credits: Var[1-18] (0-0-0)

Course Description:

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 698 Research Credits: Var[1-18] (0-0-0)

Course Description:

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

CON 699 Thesis Credits: Var[1-6] (0-0-0)

Course Description:

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.