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)
Course Description: Surveying fundamentals related to construction:
building layout, measurement procedures, vertical controls, line and
grade, and surveying instrument operation.
Prerequisite: (CON 131 with a minimum grade of C or INTD 166) and
(MATH 125 or MATH 160).
Registration Information: Must register for lecture and laboratory.
Construction management, environmental horticulture, and landscape
architecture majors only.
Terms Offered: Fall, Spring.
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 127).
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)
Course Description: Behavior of structural components and systems, overview of structural engineering analysis and the design process.
Prerequisite: (CON 151 with a minimum grade of C) and (MATH 125).
Registration Information: Construction management majors only.
Terms Offered: Fall, Spring.
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 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.
Registration Information: Must register for lecture and laboratory.
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 378 Special Topics in Construction Credits: Var[1-5] (0-0-0)
Course Description: Special topics in construction.
Prerequisite: None.
Registration Information: Will be announced prior to registration.
Terms Offered: Fall, Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CON 384 Supervised College Teaching Credits: Var[1-5] (0-0-0)
Course Description: Supervised college teaching.
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 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.
Terms Offered: Fall, Spring, Summer.
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 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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Term Offered</th>
<th>Grade Mode</th>
<th>Special Course Fee</th>
<th>Registration Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>CON 495</td>
<td>Independent Study-Construction Management</td>
<td>Var[1-18] (0-0-0)</td>
<td>Fall, Spring, Summer</td>
<td>Instructor Option</td>
<td>No.</td>
<td>Must register for lecture and recitation. Credit not allowed for both CON 502 and CON 562.</td>
</tr>
<tr>
<td>CON 496</td>
<td>Group Study-Construction Management</td>
<td>Var[1-9] (0-0-0)</td>
<td>Fall, Spring, Summer</td>
<td>Instructor Option</td>
<td>No.</td>
<td>Must register for lecture and recitation. Credit not allowed for both CON 503 and CON 500.</td>
</tr>
<tr>
<td>CON 502</td>
<td>Research in Construction Management I</td>
<td>3 (2-0-1)</td>
<td>Fall, Spring, Summer</td>
<td>Traditional.</td>
<td>No.</td>
<td>Credit not allowed for both CON 511 and CON 566.</td>
</tr>
<tr>
<td>CON 503</td>
<td>Research in Construction Management II</td>
<td>3 (3-0-0)</td>
<td>Spring</td>
<td>Traditional.</td>
<td>No.</td>
<td>Credit not allowed for both CON 511 and CON 566.</td>
</tr>
<tr>
<td>CON 511</td>
<td>Project Procurement and Preconstruction</td>
<td>3 (2-0-1)</td>
<td>Fall</td>
<td>Traditional.</td>
<td>No.</td>
<td>Must register for lecture and recitation. Credit not allowed for both CON 511 and CON 566.</td>
</tr>
<tr>
<td>CON 512</td>
<td>Post-Award Construction Management</td>
<td>3 (2-0-1)</td>
<td>Spring</td>
<td>Traditional.</td>
<td>No.</td>
<td>Must register for lecture and recitation. Credit not allowed for both CON 512 and CON 560.</td>
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<tr>
<td>CON 521</td>
<td>Sustainable Building &amp; Infrastructure Systems</td>
<td>3 (2-0-1)</td>
<td>Spring</td>
<td>Traditional.</td>
<td>No.</td>
<td>Admission to the construction management master's program.</td>
</tr>
<tr>
<td>CON 551</td>
<td>Advanced project procurement procedures with a</td>
<td>3 (2-0-1)</td>
<td>Fall</td>
<td>Traditional.</td>
<td>No.</td>
<td>Admission to the construction management master's program.</td>
</tr>
<tr>
<td>CON 555</td>
<td>Common points of dispute; methods of avoiding</td>
<td>3 (3-0-0)</td>
<td>Spring</td>
<td>Traditional.</td>
<td>No.</td>
<td>Admission to the construction management master's program.</td>
</tr>
<tr>
<td>CON 565</td>
<td>Role government plays in the design and</td>
<td>3 (3-0-0)</td>
<td>Spring</td>
<td>Traditional.</td>
<td>No.</td>
<td>Admission to the construction management master's program.</td>
</tr>
<tr>
<td>CON 568</td>
<td>Senior executives from the Construction Industry</td>
<td>3 (3-0-0)</td>
<td>Spring</td>
<td>Traditional.</td>
<td>No.</td>
<td>Admission to the construction management master's program.</td>
</tr>
<tr>
<td>CON 569</td>
<td>Existing and emerging tools for productivity</td>
<td>3 (3-0-0)</td>
<td>Spring</td>
<td>Traditional.</td>
<td>No.</td>
<td>Admission to the construction management master's program.</td>
</tr>
<tr>
<td>CON 571</td>
<td>Planning, organizing and managing large</td>
<td>3 (3-0-0)</td>
<td>Spring</td>
<td>Traditional.</td>
<td>No.</td>
<td>Admission to the construction management master's program.</td>
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</tbody>
</table>
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 677  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.