CONSTRUCTION (CON)

CON 520 - Advanced Construction Practice (3.0 hours)
Issues of the processes affiliated with the construction and engineering consulting profession: project delivery, conception through construction of projects, phases of design, and unique challenges. Case studies will be utilized.
Prerequisite: CON 494, or graduate standing.

CON 522 - Advanced CADD (3.0 hours)
Applications of CAD systems. Visualization and optimization of the processes used in construction through three-dimensional modeling and utilization in various civil engineering and construction applications.
Prerequisite: CON 224 or C E 224, or graduate standing.

CON 524 - Building Information Modeling (3.0 hours)
Application of state-of-the-art technology in projects during various phases from inception to completion including planning, design, procurement, construction, handing over, and operation and maintenance. Investigation of different available tools and technologies in recording, storing, and sharing project information.
Prerequisite: CON 224 or C E 224, or graduate standing.

CON 526 - Advanced Construction Estimating (3.0 hours)
Advanced techniques in taking-off quantities, pricing techniques, computer estimating, and bidding strategy models.
Prerequisite: CON 326, or graduate standing.

CON 528 - Advanced Construction Scheduling (3.0 hours)
Project scheduling methods with emphasis on network scheduling techniques, work breakdown structure (WBS), resource and cost loading, scheduling under uncertainties, project time compression, resource leveling, scheduling for linear projects (LOB), time-cost trade-offs, project status, reporting and updating, schedules as tools for claims documentation. Case studies. Computer based.
Prerequisite: CON 392, or graduate standing.

CON 529 - Advanced Construction Contracts (3.0 hours)
Issues in the administration and implementation of a construction contract. Coordinating and controlling the construction project under legal and ethical considerations.
Prerequisite: CON 388, or graduate standing.

CON 536 - TQM Principles (3.0 hours)
Theory and analysis of the Total Quality Management system as applied within the construction industry. Case studies.
Prerequisite: Q M 262 or equivalent, or graduate standing.

CON 537 - Construction Simulation (3.0 hours)
Decision making using simulation and simulation languages to model construction operations. Simulation of construction process using what-if analysis. Role of simulation and decision making in the planning and scheduling phases in the construction industry. Topics include introduction to discrete event simulation, generation of random numbers, queuing, simulation languages for construction.
Prerequisite: Q M 262 or equivalent, or graduate standing.

CON 540 - Project and Company Management (3.0 hours)
Unique issues of company and project management in the construction industry not traditionally found in construction programs, such as fraud, regulatory issues, and international construction. Presentations on project and company management by renowned experts will give the student knowledge and insights on new trends, innovative procedures, practical case studies, and exposure to innovation in construction.
The course will give the student knowledge of the business aspects of running a wide range of construction companies and a variety of projects.
Prerequisite: CON 326 and CON 392, or graduate standing.

CON 591 - Advanced Topics I (1.0-3.0 hours)
Topics of special interest, which may vary each time course is offered.
Topic stated in current Schedule of Classes.
Prerequisite: Consent of department chair.

CON 592 - Advanced Topics II (1.0-3.0 hours)
Topics of special interest, which may vary each time course is offered.
Topic stated in current Schedule of Classes
Prerequisite: Consent of department chair.

CON 593 - Advanced Project I (1.0-3.0 hours)
Supervised individual study of construction projects.
Prerequisite: Consent of department chair.

CON 594 - Advanced Project II (1.0-3.0 hours)
Supervised individual study of construction projects.
Prerequisite: Consent of department chair.