

School of Engineering

DEPARTMENT OF CIVIL, CONSTRUCTION, AND ENVIRONMENTAL ENGINEERING

ADVANCE YOUR ENGINEERING CAREER

Enroll in our courses at UAB CIVIL ENGINEERING

FALL 2026 GRADUATE COURSES

UAB's Civil, Construction, & Environmental Engineering Department is proud to offer our **FALL GRADUATE CLASSES** to industry professionals **looking to enhance their knowledge**. The courses will be delivered **on campus** or **online** as indicated in the course description. Students would register as non-degree seeking. *Courses can count towards a certificate or future program if you choose to pursue.*

For more information, contact **Dianne Gilmer**
at: digilmer@uab.edu or 205-975-5848



CE – CIVIL ENGINEERING

CE 515 (Campus)

BUILDING INFORMATION MODELING

This class provides an introduction to the virtual world of design and construction. Topics covered include uses for technology, what is BIM, and have a focus on AutoCAD and Revit Software.

CE 567 (Campus)

WIND AND SEISMIC LOADS

Methods for calculating loads on structures caused by extreme winds and earthquakes. Calculation of wind loads on various types of structures according to theory and codes. Determination of earthquake loads on structures using structural dynamics and codes

CE 580 (Campus)

INTRO WATER AND WASTEWATER TREAT

Physical unit operations, and chemical/biological unit processes for water and wastewater treatment. Design of facilities for treatment. Treatment and disposal of sludge.

CE 597 (Campus)

CONSTRUCTION ENGINEERING MGMT

Study of construction management services that include: project planning, scheduling, estimating, budgeting, contract administration, agreements, and ethics.

CE 622 (Campus)

TRAFFIC FLOW THEORY

Microscopic and macroscopic traffic flow characteristics. Traffic flow analytical techniques including car-following models, traffic stream models, shock wave analysis, queuing analysis and gap acceptance. Simulation models for network analysis.

CECM – CONSTRUCTION ENGINEERING MANAGEMENT

CECM 669 (Online)

ADVANCED PROJECT MGMT

Skills required for sound project management in a variety of management settings are studied in addition to specific management issues typically associated with engineering and construction companies. Students are introduced to the Project Management Institute's Body of Knowledge (PMBOK).

CECM 670 (Online)

CONSTRUCTION ESTIMATING AND BIDDING

Provides an overview of typical construction delivery systems and the planning and contracting associated with each. Estimating methodologies ranging from rough "ball park" estimates to detailed unit pricing focusing on labor, equipment, materials, subcontractors, job conditions, location, overhead, and profit.

CECM 672 (Online)

CONSTRUCTION METHODS AND EQUIPMENT

This course provides students a big-picture understanding of the construction methods employed to bring the concepts and designs of architects and engineers to physical reality. Detailed study of typical building materials, design details, and construction methods are presented in a logical sequence.

CECM 673 (Online)

PROJECT PLANNING AND CONTROL

This course provides a thorough understanding of the project scheduling process in construction planning and control. Students learn the relationship between the work breakdown structure, organization breakdown structure, and the activities used in developing project schedules.

CECM 674 (Online)**GREEN BUILDING DESIGN AND CONSTRUCTION**

The course addresses the key concepts, viewpoints and fundamentals essential for understanding green building and construction. Materials are focused on how key stakeholders and their future collaborations can begin to incorporate sustainable construction practices for the betterment of the project.

CECM 675 (Online)**ADVANCED CONSTRUCTION AND EGR ECON**

This course provides an extensive overview of financial and managerial accounting concepts for non-financial managers. Students will learn the basic elements of accounting (Generally Accepted Accounting Practices (GAAP)).

CECM 688 (Online)**CONSTRUCTION MGMT/LEAD CHALLENGES**

This course is designed to prepare students to face the demanding management and leadership challenges facing construction and engineering industry leaders as competition becomes ever more globalized. The necessity to personally remain trained and relevant in the changing business environment is emphasized

CECM 689 (Online)**BIM TECHNIQUES**

This course provides students with an overview of the evolution of BIM technology in the construction industry followed by hands-on training in the basic application of contemporary BIM software. Students will learn basic modeling skills and how to produce graphical presentations. Advanced applications of BIM technology will be discussed and demonstrated.

CESC – SUSTAINABLE SMART CITIES

CESC 614 (Online)**SMART CITIES TECHNOLOGIES**

This course gives students the opportunity to study emerging smart technologies that can be deployed and integrated together with the aim of improving overall building / city performance. The course provides an overview of technologies that can be used to: sense and measure physical parameters; acquire, process, and analyze various datasets; and make appropriate decisions / gives suitable instructions based on all available information.

CESC 618 (Online)**RESEARCH METHODS AND PROJECT PLANNING**

As a student of smart city processes and urban environmental management you need to understand the research process which enables you to take the knowledge and skills which you have learned and apply it to a specific urban sustainability / environmental management issue. This course is not intended to provide a training in research techniques, but rather to make you aware of a wide range of investigative and analytical methods and techniques.

CESC – STRUCTURAL ENGINEERING

CESE 664 (Online)**BRIDGE ENGINEERING**

This course includes the study of bridge loads, including moving load analysis; methods for approximate structural analysis, preliminary bridge design methods, and the structural design of bridge decks and girders.

CESE 676 (Online)**DESIGN STRUCTURAL STEEL CONNECTIONS**

Design of bolted and welded steel connections, including shear, moment and brace connections using the AISC Specifications requirements and fundamental engineering principals. Design procedures will be discussed for various structural steel connections. The background and limitations of the design procedures will be reviewed and practical solutions will be provided.