

CONSTRUCTION MANAGEMENT (CM)

100 Level Courses

CM 101: *Introduction to Construction Management*. 2 credits.

This course introduces the construction industry and profession of construction management, with specific emphasis on modern challenges and solutions that are internal and external to the domain of managing construction projects. Topics include broad coverage on technology-driven solutions to traditional construction management issues such as planning and scheduling, cost estimating, human resource management, materials and equipment management, quality management, construction safety and environmental and sustainability issues. Offered by Civil, Environ & Infrastr Engr (<http://catalog.gmu.edu/colleges-schools/engineering-computing/engineering/civil-environmental-infrastructure/>). Limited to three attempts.

Registration Restrictions:

Students with the terminated from CEC major attribute may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Undergraduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

200 Level Courses

CM 201: *Blueprint Reading and Introduction to BIM*. 3 credits.

This course provides students with the fundamentals of construction blueprint reading for estimating and planning purposes and introduction to building information modeling (BIM). It covers topics such as construction math, architectural and engineering scales, dimensioning, lines and symbols, abbreviations and notations, basic sketching and various types of plans – site, architectural, structural, mechanical, electrical, and plumbing (MEP), and shop drawings and specifications. It also covers discussions of impacts of BIM on the Architecture, Engineering, and Construction (AEC) industry, including design, construction management, infrastructure engineering and facility management, and construction cost estimating and scheduling. Offered by Civil, Environ & Infrastr Engr (<http://catalog.gmu.edu/colleges-schools/engineering-computing/engineering/civil-environmental-infrastructure/>). Limited to three attempts.

Registration Restrictions:

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Schedule Type: Lecture

Grading:

This course is graded on the Undergraduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

CM 202: *Construction Materials*. 4 credits.

This course consists of three (3) credit hours of lecture and one (1) credit hour of laboratory. It offers students basic understanding of commonly used and sustainable materials in construction (e.g., concrete, steel, masonry, wood, asphalt mixtures, prefabricated elements, recycled materials) and their assembly techniques, methods, and sequences. The laboratory component enables students to apply scientific knowledge of material characteristics to exercise related to concrete, steel, wood, and masonry structures. Offered by Civil, Environ & Infrastr Engr (<http://catalog.gmu.edu/colleges-schools/engineering-computing/engineering/civil-environmental-infrastructure/>). Limited to three attempts.

Registration Restrictions:

Required Prerequisites: (CM 101^C or 101^{XS}).

^C Requires minimum grade of C.

^{XS} Requires minimum grade of XS.

Students with the terminated from CEC major attribute may **not** enroll.

Schedule Type: Laboratory, Lecture

Grading:

This course is graded on the Undergraduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

300 Level Courses

CM 301: *Structural and Infrastructure Systems*. 3 credits.

This course is a study of residential and commercial construction products and infrastructure systems and will analyze construction projects from concept and documentation to a survey of major structural systems in buildings and other infrastructural projects. It will review the basic structural design concepts and how loads are transferred to determine how building systems are selected and designed, and how other infrastructural structures are selected to suite the purpose of the project, either for “Bottom-up” or “Top-Down” construction, review design documents including drawings and specifications, how the subcontractor bid packages are determined, purchasing of subcontracts, review of the shop drawing process, review of other systems shop drawing coordination process, construction of systems, turn-on and energization, start-up, testing, systems balancing, commissioning of systems, final turn-over, training, demonstration to the Owner, and close-out. Offered by Civil, Environ & Infrastr Engr (<http://catalog.gmu.edu/colleges-schools/engineering-computing/engineering/civil-environmental-infrastructure/>). Limited to three attempts.

Registration Restrictions:

Required Prerequisite: CM 101^C.

^C Requires minimum grade of C.

Students with the terminated from CEC major attribute may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Undergraduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

400 Level Courses

CM 400: *Construction Equipment and Methods*. 3 credits.

Analysis of construction equipment costs and productivity emphasizing the types and usage of construction equipment and the role of preconstruction planning in improving construction productivity by proper selection of equipment fleet. Offered by Civil, Environ & Infrastr Engr (<http://catalog.gmu.edu/colleges-schools/engineering-computing/engineering/civil-environmental-infrastructure/>). Limited to three attempts.

Registration Restrictions:

Required Prerequisites: ((CM 101^C or 101^{XS}) and (CEIE 370^C or 370^{XS})).

^C Requires minimum grade of C.

^{XS} Requires minimum grade of XS.

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Students with the terminated from CEC major attribute may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Undergraduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)