

# CONSTRUCTION MANAGEMENT (CMGT)

---

**CMGT 600: Constructn Estimatr & Schedn**

This course focuses upon the planning and scheduling stages of the building process including preconstruction phase, with particular emphasis upon reading construction documents and basic estimating principles applied to small-scale and commercial projects. Techniques for estimating unit quantities and costs of materials, labor and equipment are introduced with given industry applications, building specifications, and computer software. Scheduling principles are introduced with Critical Path Method (CPM) through calculations and software applications. The required software should be installed in students' personal laptops. See CABA Laptop Requirements for details.

**Credits:** 3

**College:** Jefferson Coll of Architecture & Built Environment

**Schedule Type:** Hybrid, Lab, Lecture, Lecture/On-Line, On-Line

**CMGT 601: Special Topics in Construction**

This course addresses pertinent issues relative to construction. Special issues related to construction will be investigated by individual or groups of students based on a discussion with the instructor. The course is designed to broaden the Construction Management topics to include enhanced research opportunities.

**Credits:** 3

**College:** Jefferson Coll of Architecture & Built Environment

**Schedule Type:** Lecture

**CMGT 602: Constructn Informatn Modeling**

This course is a BIM-based course to introduce students the aspects of the related BIM software. Students will be expected to develop their skills, including architecture, structure, and mechanical, electrical, plumbing (MEP) components of BIM, using the required software through lectures and self-study. Students will be introduced to estimating and collaboration skills relative to the application of the software to real-world cases. The required software should be installed in students' personal laptops. See CABA Laptop Requirements for details.

**Credits:** 3

**College:** Jefferson Coll of Architecture & Built Environment

**Schedule Type:** Hybrid, Lecture, Lecture/On-Line, On-Line

**CMGT 603: Const Law: Roles & Responsibi**

Current legal problems associated with the construction industry are investigated from management's perspective by considering the roles assigned to various project participants, reviewing case law, and studying statutory requirements. Students will gain the knowledge to effectively identify and manage the legal and contractual risk associated with construction. This includes understanding current legal and ethical problems associated with the entire building process from preconstruction through project closeout. The class scrutinizes contractual relationships, delivery methods, insurance, bonding, indemnification, dispute resolution, and other risk management tools to better deliver projects on time, within budget, and avoid legal claims.

**Credits:** 3

**College:** Jefferson Coll of Architecture & Built Environment

**Schedule Type:** Hybrid, Lecture, Lecture/On-Line, On-Line

**CMGT 604: Project Finance & Cost Control**

This course probes the economics of construction and analyzes project control systems used to effectively manage cost and time. Principles drawn from cognate business fields, specifically accounting, finance, and taxation, are given real-life application relative to construction projects of multiple types and scales. Key budgetary issues are examined in-depth, including financial statements and balance sheets, variance analysis and optimum cash flow methods, as well as efficient cost reporting systems. Additional topics include internal controls, financial analysis and presentation, contractor surety and lending, and fraud, with particular emphasis upon cost-effective methods to procure and deliver construction projects including lump sum, unit price, cost-plus, and design-build.

**Credits:** 3

**College:** Jefferson Coll of Architecture & Built Environment

**Schedule Type:** By Appointment - 1 student, Lecture, On-Line

**CMGT 605: Contemp Topics in Construction**

This seminar course is an opportunity for graduate construction management students to explore emerging trends in the construction industry while integrating the knowledge and skills developed through their previous coursework. Seminar discussions will respond to readings, guest lecturers and project reviews presented by industry partners. The course includes individual and group research projects the results of which are also discussed during seminar meetings. Material and discussions will include topics such as professional practice, integrated project delivery, industry-specific ethical challenges, sustainable practice, and career alternatives.

**Credits:** 3

**College:** Jefferson Coll of Architecture & Built Environment

**Schedule Type:** Hybrid, Lecture, On-Line

**CMGT 606: Construction Risk Management**

This course examines the key concepts, models, codes, tools and techniques used in managing risks within the architecture, construction, and engineering industries. The course will focus on planning for the effective implementation of the risk management process, identification, and qualitative and quantitative assessment of risks, appropriate strategies to respond to risks, and how to sustain the risk management process throughout the life of a construction project. Site safety concepts will be introduced in connection to OSHA requirements. Topics also include quality management and environmental requirements.

**Credits:** 3

**College:** Jefferson Coll of Architecture & Built Environment

**Schedule Type:** Hybrid, Lecture, On-Line

**CMGT 607: Intro to Construction Proj Mgt**

**Course Description:** This foundation course introduces students to the basic construction management concepts and principles as applied to contemporary practice and investigates the intersecting roles of construction manager, architect, and owner. The course will explore the various types of construction along with identifying terms and specific industry vocabulary. Students will learn to read and inspect construction graphics. Topics include Project Delivery Methods (PDMs), construction contracts and specs, CSI master format, and common software applications used in the construction industry.

**Credits:** 3

**College:** Jefferson Coll of Architecture & Built Environment

**Schedule Type:** Hybrid, Lecture, On-Line

**CMGT 608: Constructn Enviromental Mgmt.**

This course examines the key concepts, systems, laws, tools and techniques used in managing environmental risks within the architecture, construction and engineering industries. The course will focus on environmental issues from a construction business management perspective and include analytical techniques, management processes and business strategies that aid successful reconciliation of environmental and economic performance goals for construction operations. Through a combination of real-life cases, readings, lectures, videos, and simulations, class sessions will seek to engage students in discussions aimed at developing systems of corporate environmental management, covering compliance, environmental risk management, pollution prevention, product stewardship, supply chain management, and communication.

**Credits:** 3**College:** Jefferson Coll of Architecture & Built Environment**Schedule Type:** Hybrid, Lecture, On-Line**CMGT 609: Construction Site Operations**

Course Description: The course provides proven strategies for effective on#site management resulting in the delivery of high#quality projects on time and within budget, and maximizing profits. The course will serve as guide to the knowledge, skills, and abilities that need to be mastered by Project/Construction Managers and Project Superintendents. Observations about leadership imperatives and techniques are included. In addition to outlining broad project managerial practices, the content of the course includes operational issues such as temporary soils and drainage structures, material handling, common equipment, and site logistics.

**Credits:** 3**College:** Jefferson Coll of Architecture & Built Environment**Schedule Type:** Lecture**CMGT 610: Constructn Estimatr & Schedn****Credits:** 3**College:** Jefferson Coll of Architecture & Built Environment**Schedule Type:** Lecture**CMGT 612: Ad Constn. Proj. Management**

This course is intended to broaden and deepen the student's understanding of the Construction Management body of knowledge and depends on the student having successfully completed the prerequisite courses. The course details the project management process from the perspective of a construction project management team planning, executing, controlling, and closing-out a construction project. Emphasizing pre-construction planning, topics will include construction project management concepts, practices and systems, project controls, and risk, safety, environmental, and quality management. The course content will also address constructability and value engineering, project start-up, site layout and logistics, management means and methods, and ethical considerations. This course intends to provide the in-depth knowledge needed to for the student to start working on the Masters Project. The required software should be installed in students' personal laptops. See CABA Laptop Requirements for details.

**Credits:** 3**College:** Jefferson Coll of Architecture & Built Environment**Prerequisites:** CMGT 600 and CMGT 602 and CMGT 603 and CMGT 604 and CMGT 606 [Min Grade: C]**Schedule Type:** By Appointment - 1 student, By Appointment - 2 students, By Appointment - 3 students, Hybrid, Lab, Lecture, Lab/Lecture/Online, On-Line**CMGT 614: Materials & Mthds of Construc**

This course explores a management approach to evaluation and policies involving materials, assemblies and methodologies of general construction. Students are exposed to basic building materials, components, and systems and the appropriate techniques to evaluate their value, constructability, and other characteristics affecting project success. Emphasis is placed on the development of company policies regarding material selection, procurement, handling and assembly. Case studies and ongoing project examples are an integral part of the course.

**Credits:** 3**College:** Jefferson Coll of Architecture & Built Environment**Schedule Type:** Hybrid, Lecture, Lecture/On-Line, On-Line**CMGT 616: Real Estate Development**

This lecture course will educate students on all aspects of sustainable development ranging from construction startup to project financing to management of green construction. Students will learn techniques of cost benefit analysis including such aspects as impact of zoning and code ordinance for green projects to understanding tax incentives for such projects. Students will complete case studies and finish the semester with a completed proposal for a sustainable project.

**Credits:** 3**College:** Jefferson Coll of Architecture & Built Environment**Schedule Type:** Lecture**CMGT 618: Heavy Const Principle&Practice**

This course is intended to provide students with an introduction to the principles and practices employed in heavy/civil infrastructure and marine construction. The course content is presented from a practical perspective focusing on the management of heavy/civil construction projects. The course is designed for construction management majors as well as those majoring in related fields and is intended to provide a broad understanding of heavy construction techniques and contracting.

**Credits:** 3**College:** Jefferson Coll of Architecture & Built Environment**Schedule Type:** Hybrid, Lecture, On-Line**CMGT 699: Contemporary Topics in CM**

This seminar course is an opportunity for graduate construction management students to explore emerging trends in the construction industry while integrating the knowledge and skills developed through their previous coursework. Seminar discussions will respond to readings, guest lecturers and project reviews presented by industry partners. The course includes individual and group research projects the results of which are also discussed during seminar meetings. Material and discussions will include topics such as professional practice, integrated project delivery, industry-specific ethical challenges, sustainable practice, and career alternatives.

**Credits:** 3**College:** Jefferson Coll of Architecture & Built Environment**Schedule Type:** Hybrid**CMGT 791: Construction Mgmt Internship**

To ensure competency in the field before graduation, each student must complete 400 hours of professional construction management experience with a firm in the building industry. This requirement may be waived for entering students with equal or greater professional experience.

**Credits:** 1**College:** Jefferson Coll of Architecture & Built Environment**Prerequisites:** CMGT 600 and CMGT 603 and CMGT 604 [Min Grade: C]**Schedule Type:** Internship 1 Credits, Internship 3 Credits, On-Line