

# CONSTRUCTION MANAGEMENT (CMGT)

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## **CMGT1002 | Construction Drafting | Lecture/Laboratory (3 Credits)**

Implement construction graphics and conventions using hand drafting and drawing software.

## **CMGT1112 | The Construction Industry | Lecture (3 Credits)**

Aspects of the construction industry are explored through guest speakers, site tours, and exploratory reflections to highlight the variety of opportunities available as a construction professional.

## **CMGT1131 | Construction Plans & Measurements | Lecture (3 Credits)**

Interpret architectural and engineering graphics and conventions using construction documents to identify materials and calculate quantities.

## **CMGT1211 | Construction Estimating I | Lecture/Laboratory (3 Credits)**

Integrate material quantities with costs through take-offs, estimates and bid analysis, to predict project costs.

**Prerequisite(s):** CMGT1131

## **CMGT1221 | Construction Materials & Methods II | Lecture/Laboratory (3 Credits)**

Examine building materials and construction methods through deconstruction of building systems using case studies, field trips and hands on exercises to figure out how buildings are assembled. Emphasis on the methods and materials for the interior of buildings.

## **CMGT1231 | Construction Planning & Scheduling I | Lecture/Laboratory (3 Credits)**

Analyze a sequence of construction tasks using network diagrams, Gantt charts, and the critical path method to create a project schedule.

## **CMGT1313 | Construction Contracts | Seminar (1 Credit)**

Introduction to construction administration documents, systems, and procedures to understand the construction contracting process including planning and scheduling the job, bidding through closeout to meet project requirements.

## **CMGT1316 | Certified Aging in Place Specialist | Seminar (1 Credit)**

Examine the technical, business management, and customer service requirements associated with an aging society who desire to remain independent and age-in-place. Analyze existing living conditions and propose revisions to increase the likelihood of the aging population being able to remain in their homes.

## **CMGT1318 | Construction Technology I | Seminar (1 Credit)**

Explore electronic-based technology through research and industry presentations to explain the role technology has in managing the construction process.

## **CMGT1320 | Construction Claims | Seminar (1 Credit)**

Explore construction claims through case studies, discussions, and reflections in order to reduce liability in construction projects.

## **CMGT1321 | Modular Construction | Seminar (1 Credit)**

Investigate modular construction technology and processes to explore the applications of utilizing prefabrication in construction.

## **CMGT1322 | Passive House Construction | Seminar (1 Credit)**

Investigate passive house design and construction and its impact on the built environment.

## **CMGT1323 | Smart Home Technology | Seminar (1 Credit)**

Investigate smart home technologies used in the built environment.

## **CMGT1324 | Composites in Construction | Seminar (1 Credit)**

Explore composite building materials and how they can integrate into a building project.

## **CMGT1325 | Nondestructive Testing | Seminar (1 Credit)**

An introduction to nondestructive testing in the construction industry.

## **CMGT1326 | Metals in Construction | Seminar (1 Credit)**

Investigate the types of common metals used in the construction industry.

## **CMGT1327 | Construction Travel Study | Seminar (1 Credit)**

Travel study focused on construction issues nationally and abroad.

## **CMGT2000 | Professional Development | Laboratory (1 Credit)**

Apply technical skills in a related industry setting to acquire real world experience in an area of student interest.

## **CMGT2111 | Building Codes | Lecture (3 Credits)**

Select and apply appropriate federal, state/provincial and municipal codes, standards and accessibility guidelines using industry standards with an emphasis on Life Safety Codes and the ADA to prepare for licensing exams, meet with codes officials, and to design spaces that enhance the health, safety and welfare of the general public.

## **CMGT2132 | Construction Safety Management | Seminar (1 Credit)**

Examine the principles of construction safety management to develop strategies to prevent injuries on construction projects.

## **CMGT2150 | Residential Project Management | Laboratory (3 Credits)**

Integrate residential project management skills to create and coordinate plans, schedules, and estimates for a site development residential project utilizing construction competition guidelines.

## **CMGT2203 | Construction Mgmt Statics & Structures | Lecture (3 Credits)**

Evaluate structural behavior, structural materials, and load resistance for vertical and horizontal projects. Focus is on how construction managers work with designers.

## **CMGT2211 | Integrated Environmental Systems | Lecture (3 Credits)**

Examine mechanical, electrical, plumbing and fire protection systems using case studies to coordinate the integration of these disciplines.

## **CMGT2222 | Construction Administration | Lecture (3 Credits)**

Examine the requirements of Construction Administration using industry standard formats and procedures to understand the administrative requirements for their implications on a construction project.

## **CMGT2230 | Commercial Project Management | Laboratory (3 Credits)**

Manage a construction project from Request for Proposals through closeout integrating software; best practices and ethical decision making illustrate the competencies required of a construction project manager/site supervisor. Emphasis on overall culmination of prerequisite skills achieved in prior courses.

**Prerequisite(s):** CMGT1211 And CMGT1231

## **CMGT3111 | Construction Law | Lecture (3 Credits)**

Examine the components of Construction Law using case law studies and construction documents to understand and identify the legal issues and liabilities encountered in connection with a construction project.

## **CMGT3121 | Construction Estimating II | Lecture/Laboratory (3 Credits)**

Advanced analysis of the quantity surveying, cost estimating, and bidding methods of building construction using current industry practices and methods to oversee and manage the successful procurement of projects.

## **CMGT3130 | Quality Assurance & Risk | Lecture (3 Credits)**

Analyze the best allocation of people, processes, material, and equipment based on quality and productivity principles and expectations to maintain an efficient and safe work environment.

**CMGT3211 | Construction Accounting & Finance | Lecture (3 Credits)**

Apply basic accounting and finance concepts in the construction industry to analyze project data and financial statements to forecast, monitor and manage the costs of a construction project. Analyze the unique characteristics of construction accounting and finance through their use in budget development, securing funding, and cash flow to forecast the implementation of business decisions on financial statements.

**CMGT3221 | Construction Planning & Scheduling II | Lecture/Laboratory (3 Credits)**

Advanced principles and techniques of managing construction schedules to forecast and report progress for construction projects.

**CMGT3302 | Stormwater Management | Lecture (2 Credits)**

Analyze erosion and sediment control requirements on construction sites through review of the NPDES permit, roles and responsibilities of owner, contractors and subcontractors, example specifications, use of stormwater pollution prevention plans, and installation of best management practices to reduce or control erosion and sedimentation.

**CMGT3303 | Service Learning II | Lecture (2 Credits)**

Develop relationships with public/nonprofit partners through service learning based construction projects to practice community and skill building.

**CMGT3304 | Construction Technology II | Lecture (2 Credits)**

Analyze electronic-based technology through research and case studies to distinguish the appropriate technology to effectively manage the construction process.

**CMGT3306 | Real Estate and Property Development | Lecture (2 Credits)**

Overview of real estate development and property management industry including idea inception, feasibility, contracts, and construction through asset and portfolio management. Provide a background of real estate development to enhance projects and communication with real estate developers and property managers.

**CMGT3310 | The Role of Owners Representatives in CM | Lecture (2 Credits)**

Explore the role of the owner's representative throughout the construction process from site selection through design, construction, and occupancy.

**CMGT3901 | International AEC Fields & Practices | Travel Study (2 Credits)**

Advanced study of the international aspects of architecture, engineering, and construction industries. Emphasis on inter-cultural communication, cultural intelligence, and globalization of technology. \*\*NOTE THE FEE WILL CHANGE PER TRIP\*\*

**CMGT4006 | Professional Development | Directed Study (1 Credit)**

Integrate managerial and leadership skills in a related industry setting to acquire real world experience in an area of student interest.

**CMGT4120 | Field Engineering | Lecture (3 Credits)**

Analyze statics and strength of materials as used for the application of material specifications, quality control, and testing required in the field. Emphasis on field documentation and verification of subcontractor work.

**CMGT4130 | Green Construction | Lecture (3 Credits)**

Examine green building principles and best practices through laboratory exercises, research, discussions, case studies, and presentations; apply to industry documents to understand the green building industry.

**CMGT4132 | Construction Elective | Lecture (2 Credits)**

Orientation to a selected topic through a study of contractor's relationship to society, specific clients, their professions, and other collaborators in the construction industry.

**CMGT4140 | Construction Leadership | Lecture (3 Credits)**

Explore conflict management, effective communication, decision making and problem solving through case studies, reflections and projects to develop leadership and management techniques relevant to construction management.

**CMGT4211 | Construction Topics II | Lecture (3 Credits)**

Investigate a selected topic in various areas of construction allowing a problem of special interest to be further examined.

**CMGT4220 | Utility & Construction Design | Lecture (3 Credits)**

Examine the infrastructure systems related to public works projects produced in the United States; presented and discussed through a series of speakers, field trips and readings in order for construction professionals to realize the importance of our infrastructure systems and how they affect our society, including an analysis of current and future needs.

**CMGT4501 | Project Management | Lecture (3 Credits)**

Integrate project management with documentation prepared for review by an industry review panel. Emphasis is on creation and coordination of plans, schedules, estimates, finance, marketing analysis, risk, insurance, and green initiatives for a site development project.

**Prerequisite(s):** CMGT3121 And CMGT3221