BUILDING INFORMATION MODELING (BIM) MANAGEMENT PROGRAM (POSTGRADUATE) (T412)

PROGRAM NAME
Building Information Modeling Management

COURSE CODE
T412

SCHOOL
Angelo DelZotto School of Construction Management

CENTRE
Construction Engineering Technology

LOCATION
Casa Loma Campus

DURATION
1 year (3 semesters)

STARTING MONTH
September, January

CREDENTIAL
Ontario College Graduate Certificate

YEAR OF STUDY
2019-2020

METHOD OF STUDY
FT

APPLY TO
Ontario Colleges

TUITION
$7,034.00* ‡

ADDITIONAL COST
*Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of program starting in Fall 2018. Fees are subject to change for programs starting in Fall 2019 and at later dates.
‡May semester fees are paid separately.

International students: Visit the International Fees and Related Costs page for more information.

Graduates of this program will be able to deploy BIM applications and implement BIM Management processes in any organization involved in the procurement, design, construction and operation of building facilities.

Key features of the program:

• Class sizes are limited to provide increased access to a state-of-the-art BIM lab facility and interaction with course facilitators.
• Classes in Semesters 1 and 2 are scheduled on Thursday afternoon, all day Friday and Saturday to assist students who wish to work part-time or continue to work in their current employment.
• Semester 3 is a field placement that provides you with real-life opportunities to practice the skills learned in Semesters 1 and 2.

PART TIME STUDY OPTIONS
Part-time study options are not available for this program.

PROGRAM STANDARDS AND LEARNING OUTCOMES

The graduate has reliably demonstrated the ability to:

1. Assess requirements for construction industry Building Information Modeling (BIM) planning and management for Integrated Project Delivery (IPD).
2. Formulate strategies for leadership, team-building and personnel management.
3. Analyze BIM processes in integrated project delivery from project conceptualization to facilities management.
5. Execute appropriate BIM management techniques to facilitate integrated project delivery.
6. Apply team-building skills in an interdisciplinary setting and implement in projects collaborative design and construction solutions.
7. Deploy BIM computer platform to create virtual building information models.
8. Integrate knowledge of various suites of BIM applications into project design, construction and facilities management.
REQUIRED COURSES

SEMESTER 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM1000</td>
<td>Building Information Modeling (BIM) Fundamentals</td>
</tr>
<tr>
<td>BIM1002</td>
<td>Building Information Modeling (BIM) Management</td>
</tr>
<tr>
<td>BIM1003</td>
<td>Building Information Modeling (BIM) Software Integration</td>
</tr>
<tr>
<td>BIM1004</td>
<td>Building Information Modeling (BIM) Revit Architecture 1</td>
</tr>
<tr>
<td>BIM1005</td>
<td>Building Information Modeling (BIM) Revit Architecture 2</td>
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<tr>
<td>BIM1006</td>
<td>Building Information Modeling (BIM) Pre-Construction Visualization</td>
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<tr>
<td>BIM1071</td>
<td>Workplace Preparation</td>
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SEMESTER 2

<table>
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<tr>
<th>Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>BIM1010</td>
<td>Building Information Modeling (BIM) Implementation Strategies</td>
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<tr>
<td>BIM1011</td>
<td>Building Information Modeling (BIM) Project Planning</td>
</tr>
<tr>
<td>BIM1012</td>
<td>Building Energy Modeling</td>
</tr>
<tr>
<td>BIM1013</td>
<td>Building Information Modeling (BIM) Capstone Project</td>
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<tr>
<td>BIM1014</td>
<td>Work Term Preparation</td>
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SEMESTER 3

<table>
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<tr>
<th>Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>BIM1020</td>
<td>Work Term</td>
</tr>
</tbody>
</table>

YOUR CAREER

Upon graduation, students will be able to practice in various project environments in positions that may include:

- BIM Modeler
- BIM Specialist
- BIM Technologist
- BIM Coordinator
- BIM Construction Officer
- BIM Manager
- Energy Modeller
- 3D Laser Scanner

ADMISSION REQUIREMENTS

- Bachelor’s Degree or 3-year Diploma in Construction Engineering (Structural, Civil, Mechanical, Electrical) or Architectural Studies.
- Proof of English language proficiency (georgebrown.ca/englishproficiency) required where International transcripts are submitted*

*Please note that Domestic applicants who are submitting International transcripts require a Canadian equivalency evaluation. This can be obtained through ICAS (International Credential Assessment Service) at icascanada.ca or WES (World Education Services) at wes.org/ca3

ENGLISH LANGUAGE PROFICIENCY

Applicants with international transcripts who do not provide English proficiency test results must test at the College level in the George Brown College English assessment to be considered for admission.

Please visit georgebrown.ca/englishproficiency for more details.

COURSE EXEMPTIONS

College or University credits may qualify you for course exemptions. Please visit georgebrown.ca/transferguide for more information.

INTERNATIONAL (VISA) STUDENTS

Visit the International Admissions4 page for more information.

CONTACT US

Angelo DelZotto School of Construction Management
The office hours are 8 a.m. - 4 p.m., room E228
Phone: 416-415-5000, ext. 4398
Email: construction_mgmt@georgebrown.ca
For more information about George Brown College, you may also call the Contact Centre at 416-415-2000 (TTY 1-877-515-5559) or long distance 1-800-265-2002.

VISIT OUR CAMPUS

Do you have questions about this program or your career options? Join us for an on-campus Information Session. You'll have the opportunity to meet our friendly instructors and staff, ask questions and experience what it's like to be in a George Brown College classroom.

Sign up for an Information Session5.

LINKS REFERENCE

2http://www.georgebrown.ca/international/futurestudents/tuitionfees/
3http://wes.org/ca
4http://www.georgebrown.ca/international/futurestudents/howtoapply/
5http://www.georgebrown.ca/tours_technology/
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The Civil Engineering Technology advanced diploma program focuses on the various technologies used in the construction and rehabilitation of Civil Engineering projects including:

- Buildings
- Roads
- Bridges
- Tunnels
- Heavy Industrial
- Rail and Transit
- Storm, Sanitary and Water systems

Students gain knowledge and skills to interpret construction drawings and specifications through extensive practical training and also have the ability to estimate, bid, schedule and manage/supervise projects using the latest software. Students also extensively learn health and safety management as well as quality management on construction sites. Students learn to undertake risk analysis and value analysis for construction projects. Students also gain in-depth knowledge of the various types of contracts used by the construction industry as well as the legal aspects of construction. Students learn business management techniques to pre-qualify projects based on expected returns, to create and manage a construction company and to understand the financial statements involved in running a construction business. Students gain the knowledge and skills to interpret construction drawings and specifications through extensive practical training and also have the ability to estimate, schedule and manage projects using the latest software.

*If you enrol in the program in January, you are required to complete semester 2 in the summer (May to August) of the same year in order to continue into semester 3 in the fall.

**EXPERIENTIAL LEARNING**

Available in Year 3 through a Divisional Select process

**YOUR FIELD STUDY OPTIONS**

Purpose and Definition of Field Experience
Field experience combines classroom learning with hands-on work experience structured to meet specific curricular outcomes. This approach to education relies upon a three-way partnership: the student, the institution and industry. Success depends upon the co-operative efforts of each party. It forms the basis for students’ experiential learning which is achieved when the cycle of experience, reflection, and learning is completed. It is a mandatory component of the T164 Civil Engineering Technology program. Field experience positions can be paid or unpaid. Both fulfill the academic requirement as well as strengthen students’ resumes, positioning them more effectively for future employment.

The field experience requires students to accumulate 100 hours of construction industry-related experience over the course of their third and fourth semesters. The field experience is facilitated through the Angelo DelZotto (ADZ) School of Construction Management, via collaborative efforts from the academic supervisors, program coordinators and the Chair.

The program offers a co-op in the 5th semester. Entry to the co-op stream is competitive and is based on GPA and an interview process.

THE INDUSTRY

Canada’s construction industry is essential to the construction and maintenance of residential and commercial buildings, as well as infrastructure projects such as highways, roads, bridges, tunnels, rail and transit, water supply, storm water management and waste water treatment. With many elements of Canada's infrastructure deteriorating, the federal government has announced plans to increase infrastructure spending in the coming years. This heightened support for new construction and rehabilitation projects will open up new opportunities for graduates in this field.

PROGRAM STANDARDS AND LEARNING OUTCOMES

The graduate has reliably demonstrated the ability to:

1. Develop and use strategies to enhance professional growth and ongoing learning in the civil engineering field.
2. Comply with workplace health and safety practices and procedures in accordance with current legislation and regulations.
3. Complete duties and monitor that work is performed in compliance with contractual obligations, applicable laws, standards, bylaws, codes and ethical practices in the civil engineering field.
4. Promote and carry out sustainable practices in accordance with contract documents, industry standards and environmental legislative requirements.
5. Facilitate collaboration and interaction among the project team and project stakeholders to support civil engineering projects.
6. Collect, process, analyze and coordinate technical data to produce written and graphical project-related documents.
7. Use industry-specific electronic and digital technologies to support civil engineering projects.
8. Participate in the design and modeling phase of civil engineering projects by applying engineering concepts, technical mathematics and principles of science to the review, production and/or modification of project plans.
9. Contribute to the scheduling, coordination and cost estimation of civil engineering projects and monitor their progression by applying principles of construction project management.
10. Coordinate and perform quality control testing and evaluate equipment, materials and methods used in the implementation and completion of civil engineering projects.
11. Apply teamwork, leadership, supervision and interpersonal skills when working individually or within multidisciplinary teams to complete civil engineering projects.

REQUIRED COURSES

SEMESTER 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Course name</th>
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<tbody>
<tr>
<td>BLDG1025</td>
<td>Construction Field Practices</td>
</tr>
<tr>
<td>BLDG1077</td>
<td>Construction Health and Safety</td>
</tr>
<tr>
<td>CIVL1001</td>
<td>Civil Engineering Technology - Fundamentals</td>
</tr>
<tr>
<td>CIVL1002</td>
<td>Civil Engineering Materials</td>
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<tr>
<td>CIVL1004</td>
<td>Civil Engineering Materials Testing 1</td>
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<tr>
<td>COMM1007</td>
<td>College English**</td>
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<tr>
<td>MATH1136</td>
<td>Mathematics for Building Technologies 1</td>
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SEMESTER 2

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<tr>
<td>CIVL1085</td>
<td>Land Use Planning and Regulations</td>
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<tr>
<td>CIVL1141</td>
<td>Construction Graphics 1</td>
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<td>CIVL2064</td>
<td>Civic Engineering Materials Testing 2</td>
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<tr>
<td>GHUM1106</td>
<td>History of Architecture</td>
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<td>GSCI1022</td>
<td>Building Science and the Environment</td>
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<td>MATH1146</td>
<td>Mathematics for Building Technologies 2</td>
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SEMESTER 3

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<tr>
<td>BLDG1201</td>
<td>Work Preparation</td>
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<tr>
<td>BLDG1202</td>
<td>Field Experience 1</td>
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<tr>
<td>CIVL1003</td>
<td>Basics of Structural Analysis</td>
</tr>
<tr>
<td>CIVL2045</td>
<td>Site Management for Civil Projects</td>
</tr>
<tr>
<td>CIVL2059</td>
<td>Construction Graphics 2</td>
</tr>
<tr>
<td>CIVL2063</td>
<td>Estimating Civil Projects 1</td>
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<tr>
<td>COMM1113</td>
<td>Professional Communications for Building Technologies</td>
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<td>GNED</td>
<td>General Education Elective</td>
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**SEMESTER 4**

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<tbody>
<tr>
<td>BLDG2130</td>
<td>Field Experience 2</td>
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<tr>
<td>CIVL1005</td>
<td>Civil Engineering Technology - Steel Structures</td>
</tr>
<tr>
<td>CIVL2021</td>
<td>Planning and Scheduling for Civil Projects</td>
</tr>
<tr>
<td>CIVL2058</td>
<td>Quality &amp; Risk Management for Civil Projects</td>
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<tr>
<td>CIVL3035</td>
<td>Estimating Civil Projects 2</td>
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<tr>
<td>CIVL3050</td>
<td>Trenchless Technologies</td>
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<tr>
<td>CIVL3065</td>
<td>Civil Engineering Technology - Heavy Industrial</td>
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**SEMESTER 5**

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<tbody>
<tr>
<td>BLDG2090</td>
<td>Principles of Construction Law</td>
</tr>
<tr>
<td>BLDG3075</td>
<td>Technical Research Report</td>
</tr>
<tr>
<td>BLDG3090</td>
<td>Business Economics &amp; Management</td>
</tr>
<tr>
<td>CIVL2078</td>
<td>Civil Engineering Technology - Rail and Transit</td>
</tr>
<tr>
<td>CIVL3028</td>
<td>GIS Technology for Civil Projects</td>
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<td>CIVL3033</td>
<td>Value Analysis for Civil Projects</td>
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<tr>
<td>CIVL3034</td>
<td>Civil Infrastructure Modeling</td>
</tr>
<tr>
<td>CIVL3080</td>
<td>Budgeting &amp; Bidding Civil Projects</td>
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**SEMESTER 6**

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<tbody>
<tr>
<td>CIVL2056</td>
<td>Civil Engineering Technology - Municipal Services</td>
</tr>
<tr>
<td>CIVL3006</td>
<td>Civil Construction Project Administration</td>
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<tr>
<td>CIVL3039</td>
<td>Rehabilitation of Civil Infrastructure Projects</td>
</tr>
<tr>
<td>CIVL3078</td>
<td>Civil Engineering Technology - Bridge and Tunnel</td>
</tr>
<tr>
<td>CIVL3082</td>
<td>Sustainable Construction Practice for Civil Projects</td>
</tr>
<tr>
<td>CIVL3085</td>
<td>Capstone Industry Project</td>
</tr>
</tbody>
</table>

**YOUR CAREER**

Graduates of the Civil Engineering Technology advanced diploma program will have developed skills related to the construction and maintenance of civil infrastructure projects (roads, bridges, tunnels, heavy industrial buildings, rail and transit, storm, sanitary & water systems).

This training prepares students for employment in a wide array of organizations such as government agencies (Municipalities, Ministry of Transportation, Metrolinx, Infrastructure Ontario), Contractors, Sub-Contractors, Developers and Engineering Consulting firms. Roles within these firms may include:

- Site Superintendent
- Project Coordinator
- Project Manager/Construction Manager
- Project Planner/Scheduler
- Estimator
- Inspector/Technician
- Quality Control Technician
- Contractor/Subcontractor
- Construction Claims Specialist
- Construction Sales
- Construction Safety Specialist
- Quantity Surveyor

**FUTURE STUDY OPTIONS**

Pathways to the Honours Bachelor of Technology (Construction Management) (T312)³ degree program are available for qualified graduates from the three-year Construction Engineering Technology program. For more information, see georgebrown.ca/T312_Diploma_to_Degree.

**ADMISSION REQUIREMENTS**

Applicants are selected on the basis of their academic achievement, including the required courses, and any other selection criteria outlined below.

- Ontario Secondary School Diploma or equivalent**
- Grade 12 English (C or U)
- Grade 11 Math (M or U) or Grade 12 (C or U)

**Note:** as of September 2020, Grade 11 (M) math MCF3M will no longer be an eligible requirement for this program.

**MATURE STUDENT STATUS (19 YEARS OF AGE OR OLDER AND NO OSSD)**

Mature Students may take the Admissions Assessment⁴ for English and Math, OR may consider upgrading to achieve the credit(s) needed in English⁵ and Math⁶.

Please note that George Brown is committed to ensuring that applicants will succeed in their program of choice and meeting the minimum requirements does not guarantee admission to the program. Applicants may be required to have grades higher than the minimum requirements stated.

**COURSE EXEMPTIONS**

College or university credits may qualify you for course exemptions. Please visit georgebrown.ca/transferguide for more information.

**INTERNATIONAL STUDENTS**

Visit the International Admissions⁷ page for more information.

**CONTACT US**

Angelo DiZotto School of Construction Management
Phone: 416-415-5000, ext. 4398
Email: construction_eng@georgebrown.ca
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VISIT OUR CAMPUS

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Sign up for an Information Session8.

LINKS REFERENCE

1 https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T164&lang=en
2 http://www.georgebrown.ca/international/futurestudents/tuitionfees/
3 http://www.georgebrown.ca/programs/honours-bachelor-of-technology-construction-management-t312/
4 http://www.georgebrown.ca/assessment/admi-pre/
5 http://www.georgebrown.ca/upgrading-credits/english-diploma/
6 http://www.georgebrown.ca/upgrading-credits/math-diploma/
7 http://www.georgebrown.ca/international/futurestudents/howtoapply/
8 http://www.georgebrown.ca/tours_technology/

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CONSTRUCTION ENGINEERING TECHNICIAN PROGRAM (T161)

PROGRAM NAME Construction Engineering Technician
COURSE CODE T161
SCHOOL Angelo DelZotto School of Construction Management
CENTRE Construction Engineering Technology
LOCATION Casa Loma Campus
DURATION 2 years (4 semesters)
EXPERIENTIAL LEARNING Experiential Learning
STARTING MONTH September, January
CREDENTIAL Ontario College Diploma
YEAR OF STUDY 2019-2020
METHOD OF STUDY FT
APPLY TO Ontario Colleges

TUITION $4,280.00 *
ADDITIONAL COST
* Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in Fall 2018. Fees are subject to change for programs starting in Fall 2019 and at later dates.

International students: Visit the International Fees and Related Costs page for more information.

The Construction Engineering Technician program studies the characteristics of various building types with an appreciation for the latest energy and environmental technologies. The program also focuses on areas that include:

- Interpretation of construction documents
- On-site building engineering and safety
- Quantity surveying (estimating labour, materials and equipment required for a project)
- Building codes and construction contracts
- Site management practices

Laboratory courses provide practical building layout surveys and quality control testing of various building materials. You will also gain extensive computer experience, working with general business and Building Information Modeling (BIM) software and specialized construction management and estimating software.

*If you enrol in the program in January, you are required to complete semester 2 in the summer (May to August) of the same year in order to continue into semester 3 in the fall.

PART TIME STUDY OPTIONS
Part-time study options are not available for this program; however, our Continuing Education department offers evening courses and part-time certificate programs in Building/Construction Technologies. See coned.georgebrown.ca

EXPERIENTIAL LEARNING

YOUR FIELD STUDY OPTIONS

Purpose and Definition of Field Experience

Field experience combines classroom learning with hands-on work experience structured to meet specific curricular outcomes. This approach to education relies upon a three-way partnership: the student, the institution and industry. Success depends upon the co-operative efforts of each party. It forms the basis for students’ experiential learning which is achieved when the cycle of experience, reflection, and learning is completed. It is a mandatory component of the T161 Construction Engineering Technician program. Field experience positions can be paid or unpaid. Both fulfill the academic requirement as well as strengthen students’ resumes, positioning them more effectively for future employment.

The field experience requires students to accumulate 100 hours of construction industry-related experience over the course of their third and fourth semesters. The field experience is facilitated through the Angelo DelZotto (ADZ) School of Construction Management, via collaborative efforts from the academic supervisors, program coordinators and the chair.
THE INDUSTRY

According to the 2015 Build Force Canada report 420,000 workers in the 34 core construction and trades occupations will be needed to replace existing workers and meet new labour market demand between now and 2024.

PROGRAM STANDARDS AND LEARNING OUTCOMES

The graduate has reliably demonstrated the ability to:

1. Develop and use strategies to enhance professional growth and ongoing learning in the construction engineering field.
2. Comply with workplace health and safety practices and procedures in accordance with current legislation and regulations.
3. Complete duties in compliance with contractual obligations, applicable laws, standards, bylaws, codes and ethical practices in the construction engineering field.
4. Carry out sustainability practices in accordance with contract documents, industry standards and environmental legislative requirements.
5. Collaborate with and facilitate communication among project stakeholders to support construction projects.
6. Collect, process and interpret technical data to produce written and graphical project-related documents.
7. Contribute to the collecting, interpreting and applying of survey/geomatics and layout information to implement construction projects.
8. Identify and use industry-specific electronic and digital technologies to support the design and construction of projects.
9. Contribute to the resolution of technical problems related to the design and implementation of construction projects by applying engineering concepts, basic technical mathematics and building science.
10. Assist in the scheduling and monitoring of the progression of construction projects by applying principles of construction project management.
11. Assist in the preparation of accurate estimates of time, cost, quality and quantity, tenders and bids.
12. Perform quality control testing and monitoring of equipment, materials and methods involved in the implementation and completion of construction projects.
13. Apply teamwork, leadership and interpersonal skills when working individually or within multidisciplinary teams to complete work on construction projects.

REQUIRED COURSES

SEMMESTER 1

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>BLDG1025</td>
<td>Construction Field Practices</td>
</tr>
<tr>
<td>BLDG1026</td>
<td>Introduction to Residential Construction</td>
</tr>
<tr>
<td>BLDG1074</td>
<td>Fundamentals of Building Architecture</td>
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<tr>
<td>GSCI1022</td>
<td>Building Science and the Environment</td>
</tr>
<tr>
<td>COMM1007</td>
<td>College English**</td>
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<td>MATH1136</td>
<td>Mathematics for Building Technologies 1</td>
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SEMMESTER 2

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<td>Construction Materials and Methods</td>
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<td>BLDG1043</td>
<td>Quantity Surveying</td>
</tr>
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<td>BLDG1073</td>
<td>Construction Materials Testing</td>
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<td>BLDG1076</td>
<td>Building Code 1</td>
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<td>BLDG1077</td>
<td>Construction Health and Safety</td>
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<tr>
<td>BLDG1078</td>
<td>Introduction to 3D Modeling</td>
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<tr>
<td>GHUM1106</td>
<td>History of Architecture</td>
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<td>MATH1146</td>
<td>Mathematics for Building Technologies 2</td>
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SEMMESTER 3

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<td>Timber Construction Technology</td>
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<td>Introduction to Building Science</td>
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<td>BLDG1201</td>
<td>Work Preparation</td>
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<td>BLDG1202</td>
<td>Field Experience 1</td>
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<td>BLDG2076</td>
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<tr>
<td>BLDG2019</td>
<td>Estimating – Small Buildings</td>
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<td>BLDG2045</td>
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SEMMESTER 4

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<tr>
<td>BLDG2021</td>
<td>Construction Planning and Scheduling</td>
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<tr>
<td>BLDG2046</td>
<td>Mechanical &amp; Electrical Installations</td>
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<tr>
<td>BLDG2090</td>
<td>Principles of Construction Law</td>
</tr>
<tr>
<td>BLDG2091</td>
<td>Steel Construction Technology</td>
</tr>
<tr>
<td>BLDG2130</td>
<td>Field Experience 2</td>
</tr>
<tr>
<td>BLDG3004</td>
<td>Pricing Construction Works</td>
</tr>
<tr>
<td>GNED</td>
<td>General Education Elective</td>
</tr>
</tbody>
</table>

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YOUR CAREER

Graduates find employment in a variety of jobs leading to supervisory positions in the construction industry. Opportunities may be found with:

- Home builders
- General contracting firms
- Subcontractors
- Consulting firms
- Sales roles with manufacturing and supply companies (related to the building industry)
- Government agencies
FUTURE STUDY OPTIONS

Students in this program are eligible to transfer with advanced standing into semester 5 of the Construction Engineering Technology advanced diploma program (T105).³

TRANSFER OPTIONS

If you are transferring from another Ontario college Construction Engineering program, you may be eligible for advanced standing. Please consult the Transfer Guide⁴ website.

EDUCATIONAL/DEGREE PATHWAY

Pathways to the Honours Bachelor of Technology (Construction Management) degree program are also available after completing the three-year Construction Engineering Technology program.

For more information, see georgebrown.ca/transferguide.

ADMISSION REQUIREMENTS

Applicants are selected on the basis of their academic achievement, including the required courses, and any other selection criteria outlined below.

- Ontario Secondary School Diploma or equivalent**
- Grade 12 English (C or U)
- Grade 11 Math (M or U) or Grade 12 (C or U)

** MATURE STUDENT STATUS (19 YEARS OF AGE OR OLDER AND NO OSSD)

Mature Students may take the Admissions Assessment⁵ for English and Math, OR may consider upgrading to achieve the credit(s) needed in English⁶ and Math⁷.

Please note that George Brown is committed to ensuring that applicants will succeed in their program of choice and meeting the minimum requirements does not guarantee admission to the program. Applicants may be required to have grades higher than the minimum requirements stated.

COURSE EXEMPTIONS

College or university credits may qualify you for course exemptions. Please visit georgebrown.ca/transferguide for more information.

INTERNATIONAL STUDENTS

Visit the International Admissions⁸ page for more information.

CONTACT US

Angelo DelZotto School of Construction Management
Phone: 416-415-5000, ext. 4398
Email: construction_eng@georgebrown.ca
Our office hours are 8 a.m. - 4 p.m., room E228.
For more information about George Brown College, you may also call the Contact Centre at 416-415-2000 (TTY 1-877-515-5559) or long distance 1-800-265-2002.

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Do you have questions about this program or your career options? Join us for an on-campus Information Session. You'll have the opportunity to meet our friendly instructors and staff, ask questions and experience what it's like to be in a George Brown College classroom.
Sign up for an Information Session⁹.

LINKS REFERENCE

²http://www.georgebrown.ca/international/futurestudents/ tuitionfees/
³http://www.georgebrown.ca/programs/construction-engineering-technology-program-t105/
⁴http://www.georgebrown.ca/transferguide/
⁵http://www.georgebrown.ca/assessment/admi-pre/
⁶http://www.georgebrown.ca/upgrading-credits/english-diploma/
⁷http://www.georgebrown.ca/upgrading-credits/math-diploma/
⁸http://www.georgebrown.ca/international/futurestudents/howtoapply/
⁹http://www.georgebrown.ca/tours_technology/

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CONSTRUCTION ENGINEERING TECHNOLOGY PROGRAM (T105)

<table>
<thead>
<tr>
<th>PROGRAM NAME</th>
<th>Construction Engineering Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>COURSE CODE</td>
<td>T105</td>
</tr>
<tr>
<td>SCHOOL</td>
<td>Angelo DelZotto School of Construction Management</td>
</tr>
<tr>
<td>CENTRE</td>
<td>Construction Engineering Technology</td>
</tr>
<tr>
<td>LOCATION</td>
<td>Casa Loma Campus</td>
</tr>
<tr>
<td>DURATION</td>
<td>3 years (6 semesters)</td>
</tr>
<tr>
<td>EXPERIENTIAL LEARNING</td>
<td>Experiential Learning</td>
</tr>
<tr>
<td>STARTING MONTH</td>
<td>September, January</td>
</tr>
<tr>
<td>CREDENTIAL</td>
<td>Ontario College Advanced Diploma</td>
</tr>
<tr>
<td>YEAR OF STUDY</td>
<td>2019-2020</td>
</tr>
<tr>
<td>METHOD OF STUDY</td>
<td>FT</td>
</tr>
<tr>
<td>APPLY TO</td>
<td>Ontario Colleges¹</td>
</tr>
</tbody>
</table>

Students in this program will gain an in-depth knowledge of construction industry management practices including:

- Contracts and specifications
- Bidding and estimating
- Quantity surveying
- Construction law
- Managing schedules and cash flow

Throughout the program, you will also gain extensive computer experience working with general business software, as well as specialized Building Information Modeling (BIM), project management, bidding and estimating software that is used by the industry.

This program shares the first four semesters with the Construction Engineering Technician program. Semesters 5 and 6 prepare you for a wider range of career options in the construction sector. The management and technical courses offered in this three-year program will equip you for positions with higher levels of responsibility and accountability in such areas as construction planning, project management, estimating, budget and bid preparation, sustainable building science and engineering studies.

*If you enrol in the program in January, you are required to complete semester 2 in the summer (May to August) of the same year in order to continue into semester 3 in the fall.

YOUR FIELD STUDY OPTIONS

Purpose and Definition of Field Experience

Field experience combines classroom learning with hands-on work experience structured to meet specific curricular outcomes. This approach to education relies upon a three-way partnership: the student, the institution and industry. Success depends upon the co-operative efforts of each party. It forms the basis for students’ experiential learning which is achieved when the cycle of experience, reflection, and learning is completed. It is a mandatory component of the T105 Construction Engineering Technology program. Field experience positions can be paid or unpaid. Both fulfill the academic requirement as well as strengthen students’ resumes, positioning them more effectively for future employment.

The field experience requires students to accumulate 100 hours of construction industry-related experience over the course of their third and fourth semesters. The field experience is facilitated through the Angelo DelZotto (ADZ) School of Construction Management, via collaborative efforts from the academic supervisors, program coordinators and the chair.

THE INDUSTRY

According to the 2015 Build Force Canada report, 420,000 workers in the 34 core construction and trades occupations will be needed to replace existing workers and meet new labour market demand between now and 2024.

PROGRAM STANDARDS AND LEARNING OUTCOMES

The graduate has reliably demonstrated the ability to:

1. Develop and use strategies to enhance professional growth and ongoing learning in the construction engineering field.
2. Comply with workplace health and safety practices and procedures in accordance with current legislation and regulations.
3. Complete duties and assist in monitoring that work is performed in compliance with contractual obligations, applicable laws, standards, bylaws, codes and ethical practices in the construction engineering field.
4. Promote and carry out sustainability practices in accordance with contract documents, industry standards and environmental legislative requirements.
5. Facilitate the collaboration and interaction among project stakeholders to support construction engineering projects.
6. Collect, process, analyze and coordinate technical data to produce written and graphical project-related documents.
7. Coordinate and facilitate the collecting, processing, interpreting and application of survey/geomatics and layout information to implement construction projects.
8. Select and use industry-specific electronic and digital technologies to support the design and construction of projects.
9. Analyze and solve technical problems related to the design and implementation of construction projects by applying engineering concepts, technical mathematics and building science.
10. Schedule, coordinate and monitor the progression of construction projects by applying principles of construction project management.
11. Prepare estimates of time, cost, quality and quantity, tenders and bids.
12. Perform, coordinate and facilitate quality control testing and monitoring of equipment, materials and methods involved in the implementation and completion of construction projects.
13. Apply teamwork, leadership, supervision and interpersonal skills when working individually or within multidisciplinary teams to complete work on construction projects.

REQUIRED COURSES

SEMESTER 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Course name</th>
</tr>
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<tbody>
<tr>
<td>BLDG1025</td>
<td>Construction Field Practices</td>
</tr>
<tr>
<td>BLDG1026</td>
<td>Introduction to Residential Construction</td>
</tr>
<tr>
<td>BLDG1074</td>
<td>Fundamentals of Building Architecture</td>
</tr>
<tr>
<td>GSCI1022</td>
<td>Building Science and the Environment</td>
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<tr>
<td>COMM1007</td>
<td>College English**</td>
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<tr>
<td>MATH1136</td>
<td>Mathematics for Building Technologies 1</td>
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SEMESTER 2

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<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>BLDG1042</td>
<td>Construction Materials and Methods</td>
</tr>
<tr>
<td>BLDG1043</td>
<td>Quantity Surveying</td>
</tr>
<tr>
<td>BLDG1073</td>
<td>Construction Materials Testing</td>
</tr>
<tr>
<td>BLDG1076</td>
<td>Building Code 1</td>
</tr>
<tr>
<td>BLDG1077</td>
<td>Construction Health and Safety</td>
</tr>
<tr>
<td>BLDG1078</td>
<td>Introduction to 3D Modeling</td>
</tr>
<tr>
<td>GHUM1106</td>
<td>History of Architecture</td>
</tr>
<tr>
<td>MATH1146</td>
<td>Mathematics for Building Technologies 2</td>
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SEMESTER 3

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>BLDG1084</td>
<td>Timber Construction Technology</td>
</tr>
<tr>
<td>BLDG1165</td>
<td>Introduction to Building Science</td>
</tr>
<tr>
<td>BLDG1201</td>
<td>Work Preparation</td>
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<tr>
<td>BLDG1202</td>
<td>Field Experience 1</td>
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<tr>
<td>BLDG2076</td>
<td>Building Code 2</td>
</tr>
<tr>
<td>BLDG2019</td>
<td>Estimating – Small Buildings</td>
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<tr>
<td>BLDG2045</td>
<td>Construction Site Management, Supervision and Inspection</td>
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<tr>
<td>COMM1113</td>
<td>Professional Communications for Building Technologies</td>
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<td>GNED</td>
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SEMESTER 4

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<tr>
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<th>Course name</th>
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</thead>
<tbody>
<tr>
<td>BLDG2021</td>
<td>Construction Planning and Scheduling</td>
</tr>
<tr>
<td>BLDG2046</td>
<td>Mechanical &amp; Electrical Installations</td>
</tr>
<tr>
<td>BLDG2090</td>
<td>Principles of Construction Law</td>
</tr>
<tr>
<td>BLDG2091</td>
<td>Steel Construction Technology</td>
</tr>
<tr>
<td>BLDG2130</td>
<td>Field Experiences 2</td>
</tr>
<tr>
<td>BLDG3004</td>
<td>Pricing Construction Works</td>
</tr>
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<td>GNED</td>
<td>General Education Elective</td>
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SEMESTER 5

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<th>Course name</th>
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<tbody>
<tr>
<td>BLDG3006</td>
<td>Construction Project Management Administration</td>
</tr>
<tr>
<td>BLDG3038</td>
<td>Building Assessment</td>
</tr>
<tr>
<td>BLDG3046</td>
<td>Construction Budgeting &amp; Bidding Practices</td>
</tr>
<tr>
<td>BLDG3047</td>
<td>Concrete Construction Technology</td>
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<tr>
<td>BLDG3060</td>
<td>Applied Building Science</td>
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<tr>
<td>BLDG3077</td>
<td>Sustainable Building Practices</td>
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SEMESTER 6

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<tbody>
<tr>
<td>BLDG3019</td>
<td>Construction Project Management – Cost Control</td>
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<td>Applied Construction Practices</td>
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<tr>
<td>BLDG3065</td>
<td>Construction Accounting</td>
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<td>BLDG3075</td>
<td>Technical Research Report</td>
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<td>BLDG3076</td>
<td>Construction Quality Practices</td>
</tr>
<tr>
<td>BLDG3082</td>
<td>Construction Business Management</td>
</tr>
</tbody>
</table>

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YOUR CAREER

Graduates from this program enter the industry as entry-level construction managers leading to senior-level positions that can include:
• Project/construction managers
• Professional quantity surveyors
• Estimators
• Construction superintendents
• Home builders
• General contractors
• Subcontractors and building/home inspectors
• Government agencies

Graduates may even choose to start their own businesses.

FUTURE STUDY OPTIONS

Graduates with a grade point average of 3.0 or higher may be eligible for advanced standing in George Brown College's Honours Bachelor of Technology (Construction Management) degree program. For more information, see georgebrown.ca/T312_Diploma_to_Degree/

TRANSFER OPTIONS

If you are transferring from another Ontario college Construction Engineering program, you may be eligible for advanced standing. Please consult the Transfer Guide website.

ADMISSION REQUIREMENTS

Applicants are selected on the basis of their academic achievement, including the required courses, and any other selection criteria outlined below.

• Ontario Secondary School Diploma or equivalent**
• Grade 12 English (C or U)
• Grade 11 Math (M or U) or Grade 12 (C or U)

** MATURE STUDENT STATUS (19 YEARS OF AGE OR OLDER AND NO OSSD)

Mature Students may take the Admissions Assessment for English and Math, OR may consider upgrading to achieve the credit(s) needed in English and Math.

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COURSE EXEMPTIONS

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INTERNATIONAL STUDENTS

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CONTACT US

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LINKS REFERENCE

1 https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T105&lang=en
2 http://www.georgebrown.ca/international/futurestudents/tuitionfees/
3 http://www.georgebrown.ca/transferguide/
4 http://www.georgebrown.ca/assessment/admi-pre/
5 http://www.georgebrown.ca/upgrading-credits/english-diploma/
6 http://www.georgebrown.ca/upgrading-credits/math-diploma/
7 http://www.georgebrown.ca/international/futurestudents/howtoapply/
8 http://www.georgebrown.ca/tours_technology/
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CONSTRUCTION MANAGEMENT PROGRAM (FOR INTERNATIONALLY EDUCATED PROFESSIONALS) (POSTGRADUATE) (T403)

**PROGRAM NAME**  Construction Management

**COURSE CODE**  T403

**SCHOOL**  Angelo DelZotto School of Construction Management

**CENTRE**  Construction Engineering Technology

**LOCATION**  Casa Loma Campus

**DURATION**  1 year (3 semesters)

**EXPERIENTIAL LEARNING**  Work Practicum Semester

**STARTING MONTH**  January

**CREDENTIAL**  Ontario College Graduate Certificate

**YEAR OF STUDY**  2019-2020

**METHOD OF STUDY**  FT

**APPLY TO**  Ontario Colleges

**TUITION**  $8,924.00* ‡

**ADDITIONAL COST**  
*Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of program starting in Fall 2018. Fees are subject to change for programs starting in Fall 2019 and at later dates.

‡September semester fees are paid separately.

**International students:** Visit the International Fees and Related Costs page for more information.

This three-semester graduate certificate program provides applied education for construction management positions in the construction sector. Candidates will receive graduate-level training that builds on their internationally acquired education and experience to enable them to successfully enter the Canadian construction workforce.

**EXPERIENTIAL LEARNING**

Work Practicum Semester

**YOUR FIELD STUDY OPTIONS**

This three-semester graduate certificate program includes a work term semester to help students make the transition into the job market.

**PROGRAM STANDARDS AND LEARNING OUTCOMES**

The graduate has reliably demonstrated the ability to:

1. Develop and use strategies to promote continuous professional learning in the construction industry.
2. Monitor and support workplace health and safety practices and procedures which are compliant with current legislation and regulations.
3. Assess construction project operations for compliance with contractual obligations, applicable laws, standards, bylaws, codes and ethical practices in construction methodology.
4. Analyze and monitor construction processes to ensure that sustainability practices are implemented in accordance with contract documents, industry standards and environmental legislative requirements.
5. Establish and manage relationships among diverse project stakeholders to achieve construction project goals.

This Construction Management graduate certificate program is designed to meet the needs of internationally trained construction managers and construction professionals, enabling them to apply their prior knowledge and skills and qualify for in-demand, rewarding jobs in the Canadian construction industry.

Our program meets the construction industry's needs with a unique combination of:

- Courses offered on Thursday afternoons, and all day Friday and Saturday, allowing students to continue working during the program
- Communications upgrading
- Industry-approved courses that prepare students for construction management positions in the Canadian construction industry
- Canadian construction industry orientation and experiences
6. Manage the production, storage, retrieval and communication of project-related digital documents according to best practices, to meet construction project deadlines and goals.
7. Perform a feasibility study to inform decisions in the planning phase of a construction project.
8. Schedule, manage and evaluate the progression of construction projects by applying the principles, practices and tools of construction project management to complete projects on time and within budget.
9. Prepare estimates and manage procurement processes to control costs in accordance with best practices in construction project management.
10. Develop and oversee quality assurance and control processes involved in the completion of construction projects to meet project specifications and industry quality standards.
11. Analyze and manage project risks to mitigate their impact throughout the construction project lifecycle.
12. Formulate human resource management strategies to optimize personnel requirements for construction project completion.
13. Build and lead multidisciplinary teams throughout the construction project lifecycle to accomplish construction project goals.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>SEMESTER 1</th>
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</thead>
<tbody>
<tr>
<td>Code</td>
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</tr>
<tr>
<td>BLDG1172</td>
<td>Communication for Construction Managers</td>
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<tr>
<td>BLDG1174</td>
<td>Construction Plans and Estimating 1</td>
</tr>
<tr>
<td>BLDG1175</td>
<td>Construction Industry Practices</td>
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<td>BLDG1177</td>
<td>Construction Surveying</td>
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<td>BLDG1187</td>
<td>Pre-Construction Management Practices</td>
</tr>
<tr>
<td>BLDG1196</td>
<td>Construction Methods and Materials</td>
</tr>
<tr>
<td>STS1170</td>
<td>Career Portfolio</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Name</td>
</tr>
<tr>
<td>BLDG1173</td>
<td>Construction Contract Law</td>
</tr>
<tr>
<td>BLDG1180</td>
<td>Ontario Building Code</td>
</tr>
<tr>
<td>BLDG1184</td>
<td>Construction Project Management</td>
</tr>
<tr>
<td>BLDG1186</td>
<td>Construction Estimating 2</td>
</tr>
<tr>
<td>BLDG1189</td>
<td>Work Term Preparation</td>
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<tr>
<td>HSAF1182</td>
<td>Construction Health and Safety</td>
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</tbody>
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<table>
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<tr>
<th>SEMESTER 3</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Code</td>
<td>Name</td>
</tr>
<tr>
<td>BLDG1191</td>
<td>Work Term</td>
</tr>
</tbody>
</table>

YOUR CAREER

There is a demand in the rapidly growing and increasingly specialized construction industry for construction project managers. Today’s complex building industry requires professional managers who can function successfully in multidisciplinary teams consisting of project managers, architects, engineers, regulators, environmental consultants, urban planners, contractors and trade contractors.

Managers also require a comprehensive understanding of quality management systems and sustainable building practices, and a deep and broad technical background in the construction industry.

Some examples of positions include:
- Project Coordinator
- Estimator
- Site Superintendent
- Inspector
- Construction Coordinator

ADMISSION REQUIREMENTS

- International Bachelor’s Degree* or Three-year Diploma* in Civil Engineering, Construction or Architecture
- Demonstrated relevant work experience – a resume and an employer’s reference are required
- Qualified applicants must complete an interview (an online, video interview)

*Please note that Domestic applicants who are submitting International transcripts require a Canadian equivalency evaluation. This can be obtained through ICAS (International Credential Assessment Service) at icascanada.ca or WES (World Education Services) at wes.org/ca³

ENGLISH LANGUAGE PROFICIENCY

George Brown College ESL Level 9; TOEFL 550 (Paper), 213 Computer, 80 Internet-20 each skill band; IELTS 6.0 - 5.5 each skill band; MELAB 80; CAEL overall 60; CLB 8

COURSE EXEMPTIONS

College or university credits may qualify you for course exemptions. Please visit georgebrown.ca/transferguide for more information.
“Wherever I go, if I say I’m from George Brown, there will be several people in the room who say ‘Oh yes, me too, let’s talk about it.’ It’s a great conversation starter.”

**Alena Tokareva** (Graduate, Construction Management [for Internationally Educated Professionals])

“The students from this program are fantastic. They are knowledgeable and come with a desire to work hard and do well. They can fill a short-term position for their work term, and their potential as long-term employees is very high.”

**Soha Bastani** (Deltera Inc., member of the Tridel Group)

“This program helped me in many ways. I will remember the diverse atmosphere, friendly environment and support I received during my studies at George Brown.”

**Prakash Singh** (Graduate, Construction Management)

“I have a full-time position as a project co-ordinator at Bondfield Construction, where I completed my placement. The three-month placement was an excellent complement to my studies at George Brown.”

**Andres Izquierdo** (Graduate, Construction Management)

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**CONTACT US**

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**LINKS REFERENCE**

2. [http://www.georgebrown.ca/international/futurestudents/tuitionfees/](http://www.georgebrown.ca/international/futurestudents/tuitionfees/)
3. [http://wes.org/ca](http://wes.org/ca)
4. [http://www.georgebrown.ca/tours_technology/](http://www.georgebrown.ca/tours_technology/)

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The Honours Bachelor of Technology (Construction Management) program provides a dynamic curriculum that integrates theory, applied research, field study and hands-on practical education. Recognizing that today's successful construction manager must possess both technical and managerial competencies, the curriculum combines studies in construction science and technology with studies in business and management methods as applied to construction.

Students obtain the knowledge and skills to manage the functions and processes of construction projects from start to finish. They master construction-related technical disciplines and soft skills that are critical to completing projects on time and within budget. Graduates of this program are entitled to the academic credential designation of Honours Bachelor's Degree - Hons. B.Tech. (Construction Management).

The Honours Bachelor of Technology (Construction Management) program is well recognized by the construction industry, and is fully accredited by the Canadian Institute of Quantity Surveyors (CIQS), the Chartered Institute of Building (CIOB) and the Royal Institution of Chartered Surveyors (RICS). Graduates of this program are qualified to obtain professional memberships in various construction management associations. Professional memberships are based on the candidate's education, training and work experience.

With the completion of this degree program, graduates will have satisfied all academic requirements for professional membership of the Chartered Institute of Building (CIOB), the Canadian Institute of Quantity Surveyors (CIQS) and the Royal Institution of Chartered Surveyors (RICS). Memberships in these associations must be applied for separately.

Graduates also qualify to obtain their Gold Seal Certification (GSC), offered by the Canadian Construction Association (CCA), to become certified superintendents, estimators, project managers, construction managers and construction safety coordinators.

**PART TIME STUDY OPTIONS**

Part-time studies are not available for this program.

**EXPERIENTIAL LEARNING**

Mandatory Work Term

**YOUR FIELD STUDY OPTIONS**

**WORK TERM**

An integral component of the Honours Bachelor of Technology (Construction Management) degree program is a mandatory field study or Work Term offered in the spring/summer of the third year of the program. The Work Term is jointly facilitated through the Angelo DelZotto School of Construction Management and the Centre for Construction and Engineering Technologies (CCET)'s Industry Liaison Office (ILO).
Prior to the Work Term, students participate in job preparation courses that cover areas such as workplace communication practices, resume writing, job search strategies and interview practice to enable them to communicate clearly and effectively. In the field settings, students practice team building, managing and tracking project resources, analyzing project performance, preparing technical proposals and reports, and improving their construction project management skills.

Students are required to complete a minimum of 14 weeks of full-time work experience, or part-time equivalent of no less than 420 hours of verifiable work experience, in the field of construction management in order to fulfill the Work Term requirement.

Students are allowed to complete the Work Term requirement through the following pathways:

Field Placement: Students register in the Work Term course (TCOP 1001), secure field placement in a relevant construction field, obtain a minimum of 14 weeks of full-time field work experience, or part-time equivalent of no less than 420 hours of relevant field work experience, and pass the course.

Prior Learning Assessment Recognition (PLAR): Students who have prior work experience equivalent to the minimum requirement (that is, minimum of 14 weeks of full-time or part-time equivalent of no less than 420 hours of relevant work) can seek to complete the Work Term requirement of the program through the PLAR process

WORK/STUDY ABROAD OPPORTUNITIES

There is also a work/study abroad opportunity that will allow a limited number of students to complete one month of field studies at Shanghai Urban Construction College (SUCC) in China, including two weeks of studies and two weeks of work. SUCC is a multidivisional college that serves 6,000 students with over 400 faculty members.

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The industrial, commercial and institutional (ICI) construction sector drives the success of the Honours Bachelor of Technology (Construction Management) degree. Here’s what sector leaders had to say about our program:

"The introduction of the Construction Management program at George Brown College is the next stage of development of professionalism in the construction industry. For the first time, the industry has its own degree-specific program which brings together the two most important elements identified by leading construction executives – the science of construction and the science of management."

Temple Harris, Vice-Chairman, Gillam Group

"In order to provide the necessary leadership, we need to staff our projects with construction professionals. Therefore, we believe the four-year degree program in Construction Management at George Brown College is an important component to ensure our continual requirement for construction professionals will be met."

Christopher Rick, PCL Constructors, Canada Inc.

"As the industry expands and continues to change, it is imperative that individuals overseeing and managing construction projects are properly trained in all facets of the business."

James Zippel, General Manager, Electrical Service & Projects, Ainsworth

"It is a fact that the construction industry is the largest employer in the Greater Toronto Area. Producing future graduates who already have the necessary construction-specific skills as they start their careers will only help strengthen the long-term success of our industry."

Greg Kozicz, President, Alberici Constructors, Ltd.

"In our opinion, there continues to be a real need for improved and advanced education and training in the construction sector and an improved method of attracting and retaining the best and brightest of our future generations. We submit that this program is a significant step in the right direction towards achieving these goals and believe that successful graduates of an effective four-year degree program will help to raise the bar in terms of the knowledge and capabilities of companies involved in the construction industry."

Michael George, President, Trisura Insurance

"The urgency for a program of this nature is fuelled by the rapid change in our construction industry and the fact that it is becoming more technology-driven each day. Having graduates of such competency enter the industry with refined skills on both the technical and managerial aspects of construction will not only fill a void that currently exists, but bring immeasurable promise to the future of project managers, site superintendents and construction management in general."

Mike Van Volsen, Operations Manager, Access Suspended Platforms Inc.

PROGRAM STANDARDS AND LEARNING OUTCOMES

The graduate has reliably demonstrated the ability to:

1. Use relevant media to communicate all manner of information related to a construction project.
2. Analyze past performance of construction projects to predict and improve the execution of future projects.
3. Manage construction projects in a compliant, safe, ethical and sustainable manner.
4. Apply management tools and techniques to execute construction projects on time and within budget.
5. Recognize and value diversity of opinions, processes, and approaches in executing construction projects.
6. Incorporate effective leadership strategies to develop high-functioning, multidisciplinary and multicultural teams and work groups.
7. Apply the principles and practices of leadership development and human resources to manage and develop people in the construction industry.
8. Analyze technical problems encountered in construction projects and develop appropriate solutions in accordance with the principles and practices of construction science and management.

9. Apply business, accounting and financial principles and practices to effectively manage construction project costs.

10. Apply the principles and practices of construction management in assessing the key performance indicators of construction projects.

11. Evaluate potential risks impacting construction projects and devise appropriate risk mitigation strategies.

12. Create technical documents relevant to the design, procurement and execution of construction projects and manage documentation flow effectively.

13. Behave in a fair, ethical and responsible manner consistent with professional codes of conduct, laws, policies and contracts.

REQUIRED COURSES

SEMESTER 5

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BLDG 1152</td>
<td>Introduction to Building Information Modeling</td>
</tr>
<tr>
<td>BLDG 2111</td>
<td>Construction Technology 4 – Highrise Buildings</td>
</tr>
<tr>
<td>BLDG 3045</td>
<td>Heavy Construction Management Practices</td>
</tr>
<tr>
<td>BLDG 3108</td>
<td>Workplace Communications 2</td>
</tr>
<tr>
<td>BSCI 3101</td>
<td>Applications in Building Science</td>
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Liberal Studies Elective (Select two)

SEMESTER 6

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BLDG 3148</td>
<td>Construction Safety Management Practices (online)</td>
</tr>
<tr>
<td>BLDG 3150</td>
<td>Construction Estimating 4 – Cost Control</td>
</tr>
<tr>
<td>BLDG 3175</td>
<td>Heavy Construction Management Practices 2</td>
</tr>
<tr>
<td>MGMT 4055</td>
<td>Labour Relations and Human Resources Management (hybrid)</td>
</tr>
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Liberal Studies Elective (Select two)

SUMMER WORK TERM SEMESTER

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>TCOP 1001</td>
<td>Work Term (14 weeks)</td>
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SEMESTER 7

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>BLDG 3152</td>
<td>Economics of Project Development</td>
</tr>
<tr>
<td>BLDG 3164</td>
<td>Capstone Industry Research 1</td>
</tr>
<tr>
<td>BLDG 3170</td>
<td>Preconstruction Cost Planning</td>
</tr>
<tr>
<td>BLDG 3203</td>
<td>Building Information Modeling - Management</td>
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<td>MGMT 4049</td>
<td>Construction Risk Management (online)</td>
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<td>MGMT 4050</td>
<td>Construction Project Procurement</td>
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SEMESTER 8

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<tr>
<td>BLDG 3151</td>
<td>Case Studies in Construction Management</td>
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<tr>
<td>BLDG 4050</td>
<td>Sustainable Construction Management Practices</td>
</tr>
<tr>
<td>BLDG 4150</td>
<td>Capstone Industry Research 2</td>
</tr>
<tr>
<td>MGMT 4051</td>
<td>Leadership Development for Construction Managers</td>
</tr>
<tr>
<td>MGMT 4052</td>
<td>Project Financial Monitoring</td>
</tr>
<tr>
<td>MGMT 4053</td>
<td>Practicum in Construction Project Management</td>
</tr>
<tr>
<td>MGMT 4054</td>
<td>Ethics for Construction Managers (online)</td>
</tr>
</tbody>
</table>

*An additional field placement fee applies for the work semester.

The program is continuously reviewed and adjusted to meet the needs of the construction industry and therefore may be subject to change.

If you are a George Brown College student graduating with a grade point average of 3.0 or higher from the three-year Construction Engineering Technology program (T105), the three-year Architectural Technology program (T109), the three-year Interior Design Technology (T170), the three-year Building Renovation Technology program (T148) or the three-year Civil Engineering Technology program (T164), or you are graduating from a program comparable to the four programs above at another Ontario college, you may be eligible to enter a degree completion pathway to this program. The Centre for Construction and Engineering Technologies regularly hosts "Diploma-to-Degree" information sessions. You are invited to attend if you wish to learn more about the diploma-to-degree application process and the evaluation criteria. For more information, call 416-415-5000, ext. 4398, email construction_degree@georgebrown.ca, or visit georgebrown.ca/T312_Diploma_to_Degree.
CAREER OPTIONS

The Honours Bachelor of Technology (Construction Management) program prepares graduates to assume leadership roles in all aspects of the construction industry. Career options available to graduates of this program may include, but are not limited to, the following:

- Construction Manager
- Project Manager
- Project Coordinator
- Field Engineer
- Site Superintendent
- Estimator
- Project Monitor
- Building Science Specialist
- Building Condition Assessor
- Construction Sales Manager
- Construction Claims Specialist
- Construction Quality Control Specialist
- Construction Health and Safety Specialist
- Construction Cost Consultant
- Developer
- Project Controls Specialist
- Site Inspector
- Contractor
- Subcontractor

YOUR CAREER

CONSTRUCTION MANAGERS NEED SPECIALIZED SKILLS TO SUCCEED

According to the 2015 Build Force Canada report, 420,000 workers in the 34 core construction and trades occupations will be needed to replace existing workers and meet new labour market demand between now and 2024.

In this rapidly changing and growing industry, more and more highly trained construction managers are needed – managers who can effectively function within multidisciplinary teams of owners/developers, project managers, architects, engineers, planners, government authorities, contractors and trade contractors. In addition, the industry needs construction managers with a comprehensive knowledge of construction safety and quality management systems and sustainable construction practices. The construction industry also requires professionals who possess a broad technical and business management background that allows them to coordinate multidisciplinary teams and liaise with various stakeholders.

Construction managers plan, organize, lead and control construction projects from start to finish, according to design, regulatory compliance requirements, contracts, specifications, budgets and schedules, with a focus on sustainable construction techniques and practices.

CONSTRUCTION MANAGERS:

- Conduct feasibility studies for project development and prepare cost planning and budget analysis for building designs.
- Identify sustainable alternatives for building design and construction via value analysis.
- Prepare estimates for project bidding and procurement.
- Prepare construction schedules and milestones for project.
- Monitor construction progress and produce project control reports.
- Prepare contracts and negotiate design changes with architects, consultants, and suppliers.
- Develop and implement safety and quality control plans in construction projects.
- Manage the procurement of construction labour, materials and equipment.
- Analyze projects for constructability.
- Implement appropriate construction technology for efficient execution of construction projects.
- Select sustainable methods of construction.
- Contract and manage subcontractors and supervise their activities.
- Represent the employer in union contract negotiations.
- Manage documentation for project procurement and construction.
- Manage information and construction processes through Building Information Modeling (BIM).
- Manage construction and construction-related businesses.
- Provide expertise in selecting an appropriate method of delivery for construction projects.
- Provide project loan monitoring expertise to lenders.
- Apply practical solutions and innovations to construction project management.
- Conduct property condition assessment and prepare reserve fund studies.
- Provide building science expertise for sustainable projects.

ACADEMIC ACCREDITATIONS

The Honours Bachelor of Technology (Construction Management) program is fully accredited by the Canadian Institute of Quantity Surveyors (CIQS), the Chartered Institute of Building (CIOB), and the Royal Institution of Chartered Surveyors (RICS).

Graduates of the Hon. B.Tech. (Construction Management) program are qualified to obtain professional memberships in various construction management associations. Professional memberships are based on the candidate’s education, training and work experience.
With the completion of this degree program, graduates will have completed all academic requirements for professional membership at the Chartered Institute of Building (CIOB), the Canadian Institute of Quantity Surveyors (CIQS), and the Royal Institution of Chartered Surveyors (RICS). Memberships in these associations must be applied for separately. Members of the CIOB (MCIOB) are entitled to use the descriptor of Chartered Construction Manager or Chartered Builder. Members of the CIQS obtain the Professional Quantity Surveyors (PQS) or Construction Estimator Certified (CEC) designation. Members of the Royal Institution of Chartered Surveyors (RICS) obtain the designation of Chartered Surveyor.

Graduates also receive 50 credits out of the total 100 credits required to obtain the Gold Seal Certification (GSC) offered by the Canadian Construction Association (CCA). The Gold Seal Certification in Canadian construction industry is available for superintendents, estimators, project managers, owner’s construction managers and construction safety coordinators. Gold Seal Certification is based on the candidate’s education, training and professional work experience.

FUTURE STUDY OPTIONS

Graduates of the Honours Bachelor of Technology (Construction Management) program qualify to pursue graduate studies in relevant fields of study. They need to directly contact universities to explore what qualified graduate school opportunities exist.

ADMISSION REQUIREMENTS

Only graduates of an Ontario College Advanced (3 year) diploma in Construction Engineering technology will be considered for this program. GPA of 3.0 or higher is required.

George Brown has been granted a consent by the Ministry of Training, Colleges and Universities to offer this applied degree for a seven–year term starting May 7, 2018. George Brown will ensure that all students admitted to this program will have the opportunity to complete the program within a reasonable time frame.

CONTACT US

Angelo DelZotto School of Construction Management
Phone: 416-415-5000, ext. 4398
Email: construction_degree@georgebrown.ca
Our office hours are 8 a.m. - 4 p.m., room E228.
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For general information about George Brown College, you may also call the Contact Centre at 416-415-2000 (TTY 1-877-515-5559) or long distance 1-800-265-2002.

VISIT OUR CAMPUS

Do you have questions about this program or your career options? Join us for an on-campus Information Session. You'll have the opportunity to meet our friendly instructors and staff, ask questions and experience what it's like to be in a George Brown College classroom.
Sign up for an Information Session2.

LINKS REFERENCE

1https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T313&lang=en
2http://www.georgebrown.ca/tours_technology/

George Brown College is continually striving to improve its programs and their delivery. The information contained in this calendar is subject to change without notice. It should not be viewed as a representation, offer or warranty. Students are responsible for verifying George Brown College admission, graduation, and fee requirements as well as any requirements of outside institutions, industry associations, or other bodies that may award additional designations concurrently with, or after completion of, a George Brown College program.
T314 – Honours Bachelor of Technology (Construction Management) is a degree completion pathway designed for graduates of an Ontario college advanced (three-year) diploma program in Architectural Technology who wish to pursue a degree in Construction Management. Students completing this pathway are required to complete Year 3 and Year 4 of the program to obtain their bachelor's degree in Construction Management.

The Honours Bachelor of Technology (Construction Management) program provides a dynamic curriculum that integrates theory, applied research, field study and hands-on practical education. Recognizing that today's successful construction manager must possess both technical and managerial competencies, the curriculum combines studies in construction science and technology with studies in business and management methods as applied to construction.

Students obtain the knowledge and skills to manage the functions and processes of construction projects from start to finish. They master construction-related technical disciplines and soft skills that are critical to completing projects on time and within budget. Graduates of this program are entitled to the academic credential designation of Hons. B.Tech. (Construction Management).

With the completion of this degree program, graduates will have satisfied all academic requirements for professional membership of the Chartered Institute of Building (CIOB), the Canadian Institute of Quantity Surveyors (CIQS), and the Royal Institution of Chartered Surveyors (RICS). Memberships in these associations must be applied for separately.

Graduates also will have completed all academic requirements towards their Gold Seal Certification (GSC) offered by the Canadian Construction Association (CCA) to become certified Superintendents, Estimators, Project Managers, Construction Managers and Construction Safety Coordinators.

**PART TIME STUDY OPTIONS**

Part time studies are not available for this program.

**EXPERIENTIAL LEARNING**

**Mandatory Work Term**

**YOUR FIELD STUDY OPTIONS**

**WORK TERM**

<table>
<thead>
<tr>
<th>PROGRAM NAME</th>
<th>Honours Bachelor of Technology (Construction Management)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COURSE CODE</td>
<td>T314</td>
</tr>
<tr>
<td>SCHOOL</td>
<td>Angelo DelZotto School of Construction Management</td>
</tr>
<tr>
<td>CENTRE</td>
<td>Construction Engineering Technology</td>
</tr>
<tr>
<td>LOCATION</td>
<td>Casa Loma Campus</td>
</tr>
<tr>
<td>DURATION</td>
<td>5 semesters (plus 1 Field Placement semester)</td>
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<td>EXPERIENTIAL LEARNING</td>
<td>Mandatory Work Term</td>
</tr>
<tr>
<td>STARTING MONTH</td>
<td>May</td>
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<tr>
<td>CREDENTIAL</td>
<td>Honours Bachelor's Degree</td>
</tr>
<tr>
<td>YEAR OF STUDY</td>
<td>2019-2020</td>
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<td>METHOD OF STUDY</td>
<td>FT</td>
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<tr>
<td>APPLY TO</td>
<td>Ontario Colleges</td>
</tr>
</tbody>
</table>

Tuition:

$10,492.00 * †

Additional Cost:

* Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in Fall 2018. Fees are subject to change for programs starting in Fall 2019 and at later dates.

† Fees for this program do not include the cost of the work term.
An integral component of the Honours Bachelor of Technology (Construction Management) degree program is a mandatory field study or Work Term offered in the Spring/Summer of the third year of the program. The Work Term is jointly facilitated through the Angelo DeZotto School of Construction Management and the Centre for Construction and Engineering Technologies (CCET)'s Industry Liaison Office (ILO).

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"In order to provide the necessary leadership, we need to staff our projects with construction professionals. Therefore, we believe the four-year degree program in Construction Management at George Brown College is an important component to ensure our continual requirement for construction professionals will be met."

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**Mike Van Volsen,** Operations Manager, Access Suspended Platforms Inc.

**PROGRAM STANDARDS AND LEARNING OUTCOMES**

The graduate has reliably demonstrated the ability to:

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3. Manage construction projects in a compliant, safe, ethical and sustainable manner.
4. Apply management tools and techniques to execute construction projects on time and within budget.
5. Recognize and value diversity of opinions, processes, and approaches in executing construction projects.
6. Incorporate effective leadership strategies to develop high-functioning, multidisciplinary and multicultural teams and work groups.

7. Apply the principles and practices of leadership development and human resources to manage and develop people in the construction industry.

8. Analyze technical problems encountered in construction projects and develop appropriate solutions in accordance with the principles and practices of construction science and management.

9. Apply business, accounting and financial principles and practices to effectively manage construction project costs.

10. Apply the principles and practices of construction management in assessing the key performance indicators of construction projects.

11. Evaluate potential risks impacting construction projects and devise appropriate risk mitigation strategies.

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REQUIRED COURSES

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BLDG 1106</td>
<td>Construction Materials</td>
</tr>
<tr>
<td>BLDG 1107</td>
<td>Construction Surveying (1st 7 weeks)</td>
</tr>
<tr>
<td>BLDG 1156</td>
<td>Construction Materials Testing and Analysis</td>
</tr>
<tr>
<td>BLDG 2095</td>
<td>Construction Estimating 1 (1st 7 weeks)</td>
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<td>BLDG 2102</td>
<td>Construction Health &amp; Safety (2nd 7 weeks)</td>
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<td>BLDG 2105</td>
<td>Construction Estimating 2 – Pricing (2nd 7 weeks)</td>
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<td>MGMT 3101</td>
<td>Construction Project Management 1 - Planning</td>
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| Liberal Studies Elective |

SEMESTER 5

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<tbody>
<tr>
<td>BLDG 2111</td>
<td>Highrise Construction Technology</td>
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<td>BLDG 3025</td>
<td>Construction Estimating 3 – Bidding</td>
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<tr>
<td>BLDG 3045</td>
<td>Heavy Construction Management Practices 1</td>
</tr>
<tr>
<td>BLDG 3108</td>
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<tr>
<td>BSCI 3101</td>
<td>Applications in Building Science</td>
</tr>
<tr>
<td>MGMT 3130</td>
<td>Construction Site Management - Supervision</td>
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| Liberal Studies Elective |

SEMESTER 6

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<td>Construction Project Accounting</td>
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<td>BLDG 3175</td>
<td>Heavy Construction Management Practices 2</td>
</tr>
<tr>
<td>MGMT 3150</td>
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</tr>
<tr>
<td>BLDG 3203</td>
<td>Building Information Modeling - Management</td>
</tr>
<tr>
<td>MGMT 4049</td>
<td>Construction Risk Management (online)</td>
</tr>
<tr>
<td>MGMT 4050</td>
<td>Construction Project Procurement</td>
</tr>
</tbody>
</table>

| Liberal Studies Elective |

SEMESTER 8

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLDG 3151</td>
<td>Case Studies in Construction Management</td>
</tr>
<tr>
<td>BLDG 4050</td>
<td>Sustainable Construction Management Practices</td>
</tr>
<tr>
<td>BLDG 4150</td>
<td>Capstone Industry Research 2</td>
</tr>
<tr>
<td>MGMT 4051</td>
<td>Leadership Development for Construction Managers</td>
</tr>
<tr>
<td>MGMT 4052</td>
<td>Project Financial Monitoring</td>
</tr>
<tr>
<td>MGMT 4053</td>
<td>Practicum in Construction Project Management</td>
</tr>
<tr>
<td>MGMT 4054</td>
<td>Ethics for Construction Managers (online)</td>
</tr>
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*An additional field placement fee applies for the work semester.

The program is continuously reviewed and adjusted to meet the needs of the construction industry and therefore may be subject to change.

If you are a George Brown College student graduating with a grade point average of 3.0 or higher from the three-year...
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CAREER OPTIONS

The Honours Bachelor of Technology (Construction Management) program prepares graduates to assume leadership roles in all aspects of the construction industry. Career options available to graduates of this program may include, but are not limited to, the following:

- construction manager
- project manager
- project coordinator
- field engineer
- site superintendent
- estimator
- project monitor
- building science specialist
- building condition assessor
- construction sales manager
- construction claims specialist
- construction quality control specialist
- construction health and safety specialist
- construction cost consultant
- developer
- project controls specialist
- site inspector
- contractor
- subcontractor

YOUR CAREER

CONSTRUCTION MANAGERS NEED SPECIALIZED SKILLS TO SUCCEED

According to the 2015 Build Force Canada report 420,000 workers in the 34 core construction and trades occupations will be needed to replace existing workers and meet new labour market demand between now and 2024.

In this rapidly changing and growing industry, more and more highly trained construction managers are needed – managers who can effectively function within multidisciplinary teams of owners/developers, project managers, architects, engineers, planners, government authorities, contractors and trade contractors. In addition, the industry needs construction managers with a comprehensive knowledge of construction safety and quality management systems and sustainable construction practices. The construction industry also requires professionals who possess a broad technical and business management background that allows them to coordinate multidisciplinary teams and liaise with various stakeholders.

Construction managers plan, organize, lead and control construction projects from start to finish, according to design, regulatory compliance requirements, contracts, specifications, budgets and schedules, with a focus on sustainable construction techniques and practices.

CONSTRUCTION MANAGERS:

- Conduct feasibility studies for project development and prepare cost planning and budget analysis for building designs.
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- Implement appropriate construction technology for efficient execution of construction projects.
- Select sustainable methods of construction.
- Contract and manage subcontractors and supervise their activities.
- Represent the employer in union contract negotiations.
- Manage documentation for project procurement and construction.
- Provide expertise in selecting an appropriate method of delivery for construction projects.
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ACADEMIC ACCREDITATIONS

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With the completion of this degree program, graduates will have completed all academic requirements for professional membership at the Chartered Institute of Building (CIOB), the Canadian Institute of Quantity Surveyors (CIQS), and the Royal Institution of Chartered Surveyors (RICS). Memberships in these associations must be applied for separately. Members of the CIOB (MCIOB) are entitled to use the descriptor of Chartered Construction Manager or Chartered Builder. Members of the CIQS obtain the Professional Quantity Surveyors (PQS) or Construction Estimator Certified (CEC) designation. Members of the Royal Institution of Chartered Surveyors (RICS) obtain the designation of Chartered Surveyor.

Graduates also receive 50 credits out of the total 100 credits required to obtain the Gold Seal Certification (GSC) offered by the Canadian Construction Association (CCA). The Gold Seal Certification in the Canadian construction industry is available for Superintendents, Estimators, Project Managers, Owner's Construction Managers and Construction Safety Coordinators. Gold Seal Certification is based on the candidate's education, training and professional work experience.

FUTURE STUDY OPTIONS

Graduates of the Honours Bachelor of Technology (Construction Management) program qualify to pursue graduate studies in relevant fields of study. They need to directly contact universities to explore what qualified graduate school opportunities exist.

ADMISSION REQUIREMENTS

Only graduates of an Ontario College Advanced (three-year) diploma in Architectural Technology will be considered for this program.

Graduates must have a program GPA of 3.0 or higher.

COURSE EXEMPTIONS

College or university credits may qualify you for course exemptions. Please visit georgebrown.ca/transferguide for more information.

George Brown has been granted a consent by the Minister of Advanced Education and Skills Development to offer this applied degree for a 7–year term starting May 7, 2018. The college shall ensure that all students admitted to the above-named program during the period of consent will have the opportunity to complete the program within a reasonable time frame. An application for renewal of the consent has been submitted and the current consent remains in effect until a decision on the renewal application is made.

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VISIT OUR CAMPUS

Do you have questions about this program or your career options? Join us for an on-campus Information Session. You'll have the opportunity to meet our friendly instructors and staff, ask questions and experience what it's like to be in a George Brown College classroom.

Sign up for an Information Session².

LINKS REFERENCE

²http://www.georgebrown.ca/tours_technology/

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## Honours Bachelor of Technology (Construction Management) (Bridging) Program (T316)

<table>
<thead>
<tr>
<th>PROGRAM NAME</th>
<th>Honours Bachelor of Technology (Construction Management)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COURSE CODE</td>
<td>T316</td>
</tr>
<tr>
<td>SCHOOL</td>
<td>Angelo DelZotto School of Construction Management</td>
</tr>
<tr>
<td>CENTRE</td>
<td>Construction Engineering Technology</td>
</tr>
<tr>
<td>LOCATION</td>
<td>Casa Loma Campus</td>
</tr>
<tr>
<td>DURATION</td>
<td>5 semesters (Plus 1 Field Placement semester)</td>
</tr>
<tr>
<td>EXPERIENTIAL LEARNING</td>
<td>Mandatory Work Term</td>
</tr>
<tr>
<td>STARTING MONTH</td>
<td>May</td>
</tr>
<tr>
<td>CREDENTIAL</td>
<td>Honours Bachelor’s Degree</td>
</tr>
<tr>
<td>YEAR OF STUDY</td>
<td>2019-2020</td>
</tr>
<tr>
<td>METHOD OF STUDY</td>
<td>FT</td>
</tr>
<tr>
<td>APPLY TO</td>
<td>Ontario Colleges¹</td>
</tr>
</tbody>
</table>

**Tuition**

$10,492.00 * †

**Additional Cost**

* Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in Fall 2018. Fees are subject to change for programs starting in Fall 2019 and at later dates.

† Fees for this program do not include the cost of the work term.

---

T316 – Honours Bachelor of Technology (Construction Management) is a degree completion pathway designed for graduates of an Ontario college advanced (three-year) diploma program in Building Renovation Technology who wish to pursue a degree in Construction Management. Students completing this pathway are required to complete Year 3 and Year 4 of the program to obtain their bachelor's degree in Construction Management.

The Honours Bachelor of Technology (Construction Management) program provides a dynamic curriculum that integrates theory, applied research, field study and hands-on practical education. Recognizing that today's successful construction manager must possess both technical and managerial competencies, the curriculum combines studies in construction science and technology with studies in business and management methods as applied to construction.

Students obtain the knowledge and skills to manage the functions and processes of construction projects from start to finish. They master construction-related technical disciplines and soft skills that are critical to completing projects on time and within budget. Graduates of this program are entitled to the academic credential designation of Hons. B.Tech. (Construction Management).

With the completion of this degree program, graduates will have satisfied all academic requirements for professional membership of the Chartered Institute of Building (CIOB), the Canadian Institute of Quantity Surveyors (CIQS), and the Royal Institution of Chartered Surveyors (RICS). Memberships in these associations must be applied for separately.

Graduates also will have completed all academic requirements towards their Gold Seal Certification (GSC) offered by the Canadian Construction Association (CCA) to become certified Superintendents, Estimators, Project Managers, Construction Managers and Construction Safety Coordinators.

### PART TIME STUDY OPTIONS

Part time studies are not available for this program.

### EXPERIENTIAL LEARNING

Mandatory Work Term

### YOUR FIELD STUDY OPTIONS

WORK TERM

---

¹ For details on the application process, please visit the official website of the relevantcollege.
An integral component of the Honours Bachelor of Technology (Construction Management) degree program is a mandatory field study or Work Term offered in the Spring/Summer of the third year of the program. The Work Term is jointly facilitated through the Angelo DelZotto School of Construction Management and the Centre for Construction and Engineering Technologies (CCET)'s Industry Liaison Office (ILO).

Prior to the Work Term, students participate in job preparation courses that cover areas such as workplace communication practices, resume writing, job search strategies and interview practice to enable them to communicate clearly and effectively. In the field settings, students practice team building, managing and tracking project resources, analyzing project performance, preparing technical proposals and reports, and improving their construction project management skills.

Students are required to complete a minimum of 14 weeks of full-time work experience, or part-time equivalent of no less than 420 hours of verifiable work experience, in the field of construction management in order to fulfill the Work Term requirement.

Students are allowed to complete the Work Term requirement through the following pathways:

Field Placement: Students register in the Work Term course (TCOP 1001), secure field placement in a relevant construction field, obtain a minimum of 14 weeks of full-time field work experience, or part-time equivalent of no less than 420 hours of relevant field work experience, and pass the course.

Prior Learning Assessment Recognition (PLAR): Students who have prior work experience equivalent to the minimum requirement (that is, minimum of 14 weeks of full-time or part-time equivalent of no less than 420 hours of relevant work) can seek to complete the Work Term requirement of the program through the PLAR process.

WORK/STUDY ABROAD OPPORTUNITIES

There is also a work/study abroad opportunity that will allow a limited number of students to complete one month of field studies at Shanghai Urban Construction College (SUCC) in China, including two weeks of studies and two weeks of work. SUCC is a multidivisional college that serves 6,000 students with over 400 faculty members.

THE INDUSTRY

The industrial, commercial and institutional (ICI) construction sector drives the success of the Honours Bachelor of Technology (Construction Management) degree. Here's what sector leaders had to say about our program:

"The introduction of the Construction Management program at George Brown College is the next stage of development of professionalism in the construction industry. For the first time, the industry has its own degree-specific program which brings together the two most important elements identified by leading construction executives – the science of construction and the science of management."

Temple Harris, Vice-Chairman, Gillam Group

"In order to provide the necessary leadership, we need to staff our projects with construction professionals. Therefore, we believe the four-year degree program in Construction Management at George Brown College is an important component to ensure our continual requirement for construction professionals will be met."

Christopher Rick, PCL Constructors, Canada Inc.

"As the industry expands and continues to change, it is imperative that individuals overseeing and managing construction projects are properly trained in all facets of the business."

James Zippel, General Manager, Electrical Service & Projects, Ainsworth

"Producing future graduates who already have the necessary construction-specific skills as they start their careers will only help strengthen the long-term success of our industry."

Greg Kozicz, President, Alberici Constructors, Ltd.

"In our opinion, there continues to be a real need for improved and advanced education and training in the construction sector and an improved method of attracting and retaining the best and brightest of our future generations. We submit that this program is a significant step in the right direction towards achieving these goals and believe that successful graduates of an effective four-year degree program will help to raise the bar in terms of the knowledge and capabilities of companies involved in the construction industry."

Michael George, President, Trisura Insurance

"The urgency for a program of this nature is fuelled by the rapid change in our construction industry and the fact that it is becoming more technology-driven each day. Having graduates of such competency enter the industry with refined skills on both the technical and managerial aspects of construction will not only fill a void that currently exists, but bring immeasurable promise to the future of project managers, site superintendents and construction management in general."

Mike Van Volsen, Operations Manager, Access Suspended Platforms Inc.

PROGRAM STANDARDS AND LEARNING OUTCOMES

The graduate has reliably demonstrated the ability to:

1. Use relevant media to communicate all manner of information related to a construction project.
2. Analyze past performance of construction projects to predict and improve the execution of future projects.
3. Manage construction projects in a compliant, safe, ethical and sustainable manner.
4. Apply management tools and techniques to execute construction projects on time and within budget.
5. Recognize and value diversity of opinions, processes, and approaches in executing construction projects.
6. Incorporate effective leadership strategies to develop high-functioning, multidisciplinary and multicultural teams and work groups.

7. Apply the principles and practices of leadership development and human resources to manage and develop people in the construction industry.

8. Analyze technical problems encountered in construction projects and develop appropriate solutions in accordance with the principles and practices of construction science and management.

9. Apply business, accounting and financial principles and practices to effectively manage construction project costs.

10. Apply the principles and practices of construction management in assessing the key performance indicators of construction projects.

11. Evaluate potential risks impacting construction projects and devise appropriate risk mitigation strategies.

12. Create technical documents relevant to the design, procurement and execution of construction projects and manage documentation flow effectively.

13. Behave in a fair, ethical and responsible manner consistent with professional codes of conduct, laws, policies, and contracts.

REQUIRED COURSES

SEMESTER 4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLDG 1106</td>
<td>Construction Materials</td>
</tr>
<tr>
<td>BLDG 1107</td>
<td>Construction Surveying (1st 7 weeks)</td>
</tr>
<tr>
<td>BLDG 1156</td>
<td>Construction Materials Testing and Analysis</td>
</tr>
<tr>
<td>BLDG 2095</td>
<td>Construction Estimating 1 (1st 7 weeks)</td>
</tr>
<tr>
<td>BLDG 2105</td>
<td>Construction Estimating 2 – Pricing (2nd 7 weeks)</td>
</tr>
<tr>
<td>BLDG 2204</td>
<td>Commercial Construction Technology</td>
</tr>
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</table>

| Liberal Studies Elective |

SEMESTER 5

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLDG 3025</td>
<td>Construction Estimating 3 – Bidding</td>
</tr>
<tr>
<td>BLDG 3045</td>
<td>Heavy Construction Management Practices 1</td>
</tr>
<tr>
<td>BLDG 3108</td>
<td>Workplace Communications 2</td>
</tr>
<tr>
<td>BSCI 3101</td>
<td>Applications in Building Science</td>
</tr>
<tr>
<td>MGMT 3120</td>
<td>Construction Quality Management (online)</td>
</tr>
<tr>
<td>MGMT 3130</td>
<td>Construction Site Management - Supervision</td>
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| Liberal Studies Elective | Liberal Studies Electives (select one) |

SEMESTER 6

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<th>Course Code</th>
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<tbody>
<tr>
<td>BLDG 2111</td>
<td>Highrise Construction Technology</td>
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<tr>
<td>BLDG 3040</td>
<td>Building Codes and Regulations 2</td>
</tr>
<tr>
<td>BLDG 3148</td>
<td>Construction Safety Management Practices (online)</td>
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<tr>
<td>BLDG 3150</td>
<td>Construction Estimating 4 – Cost Control</td>
</tr>
<tr>
<td>BLDG 3175</td>
<td>Heavy Construction Management Practices 2</td>
</tr>
<tr>
<td>MGMT 3150</td>
<td>Construction Project Management 2 - Contract Administration</td>
</tr>
<tr>
<td>MGMT 4055</td>
<td>Labour Relations and Human Resources Management (hybrid)</td>
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SUMMER WORK TERM SEMESTER

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<th>Course Title</th>
</tr>
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<tbody>
<tr>
<td>TCOP 1001</td>
<td>Work Term (14 weeks)</td>
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SEMESTER 7

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<thead>
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BLDG 3152</td>
<td>Economics of Project Development</td>
</tr>
<tr>
<td>BLDG 3164</td>
<td>Capstone Industry Research 1</td>
</tr>
<tr>
<td>BLDG 3170</td>
<td>Preconstruction Cost Planning</td>
</tr>
<tr>
<td>BLDG 3203</td>
<td>Building Information Modeling - Management</td>
</tr>
<tr>
<td>MGMT 4049</td>
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ADMISSION REQUIREMENTS

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Graduates must have a GPA of 3.0 or higher

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The Honours Bachelor of Technology (Construction Management) program provides a dynamic curriculum that integrates theory, applied research, field study and hands-on practical education. Recognizing that today's successful construction manager must possess both technical and managerial competencies, the curriculum combines studies in construction science and technology with studies in business and management methods as applied to construction.

Students obtain the knowledge and skills to manage the functions and processes of construction projects from start to finish. They master construction-related technical disciplines and soft skills that are critical to completing projects on time and within budget. Graduates of this program are entitled to the academic credential designation of Hons. B.Tech. (Construction Management).

With the completion of this degree program, graduates will have satisfied all academic requirements for professional membership of the Chartered Institute of Building (CIOB), the Canadian Institute of Quantity Surveyors (CIQS), and the Royal Institution of Chartered Surveyors (RICS). Memberships in these associations must be applied for separately.

Graduates also will have completed all academic requirements towards their Gold Seal Certification (GSC) offered by the Canadian Construction Association (CCA) to become certified Superintendents, Estimators, Project Managers, Construction Managers and Construction Safety Coordinators.

**PART TIME STUDY OPTIONS**
Part time studies are not available for this program.

**EXPERIENTIAL LEARNING**
Mandatory Work Term

**YOUR FIELD STUDY OPTIONS**

**WORK TERM**
An integral component of the Honours Bachelor of Technology (Construction Management) degree program is a mandatory field study or Work Term offered in the Spring/Summer of the third year of the program. The Work Term is jointly facilitated through the Angelo DelZotto School of Construction Management and the Centre for Construction and Engineering Technologies (CCET)'s Industry Liaison Office (ILO).

Prior to the Work Term, students participate in job preparation courses that cover areas such as workplace communication practices, resume writing, job search strategies and interview practice to enable them to communicate clearly and effectively. In the field settings, students practice team building, managing and tracking project resources, analyzing project performance, preparing technical proposals and reports, and improving their construction project management skills.

Students are required to complete a minimum of 14 weeks of full-time work experience, or part-time equivalent of no less than 420 hours of verifiable work experience, in the field of construction management in order to fulfill the Work Term requirement.

Students are allowed to complete the Work Term requirement through the following pathways:

Field Placement: Students register in the Work Term course (TCOP 1001), secure field placement in a relevant construction field, obtain a minimum of 14 weeks of full-time field work experience, or part-time equivalent of no less than 420 hours of relevant field work experience, and pass the course.

Prior Learning Assessment Recognition (PLAR): Students who have prior work experience equivalent to the minimum requirement (that is, minimum of 14 weeks of full-time or part-time equivalent of no less than 420 hours of relevant work) can seek to complete the Work Term requirement of the program through the PLAR process.

WORK/STUDY ABROAD OPPORTUNITIES

There is also a work/study abroad opportunity that will allow a limited number of students to complete one month of field studies at Shanghai Urban Construction College (SUCC) in China, including two weeks of studies and two weeks of work. SUCC is a multidivisional college that serves 6,000 students with over 400 faculty members.

THE INDUSTRY

The industrial, commercial and institutional (ICI) construction sector drives the success of the Honours Bachelor of Technology (Construction Management) degree. Here's what sector leaders had to say about our program:

"The introduction of the Construction Management program at George Brown College is the next stage of development of professionalism in the construction industry. For the first time, the industry has its own degree-specific program which brings together the two most important elements identified by leading construction executives – the science of construction and the science of management."

Temple Harris, Vice-Chairman, Gillam Group

"In order to provide the necessary leadership, we need to staff our projects with construction professionals. Therefore, we believe the four-year degree program in Construction Management at George Brown College is an important component to ensure our continual requirement for construction professionals will be met."

Christopher Rick, PCL Constructors, Canada Inc.

"As the industry expands and continues to change, it is imperative that individuals overseeing and managing construction projects are properly trained in all facets of the business."

James Zippel, General Manager, Electrical Service & Projects, Ainsworth

"Producing future graduates who already have the necessary construction-specific skills as they start their careers will only help strengthen the long-term success of our industry."

Greg Kozicz, President, Alberici Constructors, Ltd.

"In our opinion, there continues to be a real need for improved and advanced education and training in the construction sector and an improved method of attracting and retaining the best and brightest of our future generations. We submit that this program is a significant step in the right direction towards achieving these goals and believe that successful graduates of an effective four-year degree program will help to raise the bar in terms of the knowledge and capabilities of companies involved in the construction industry."

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Mike Van Volsen, Operations Manager, Access Suspended Platforms Inc.

PROGRAM STANDARDS AND LEARNING OUTCOMES

The graduate has reliably demonstrated the ability to:

1. Use relevant media to communicate all manner of information related to a construction project.
2. Analyze past performance of construction projects to predict and improve the execution of future projects.
3. Manage construction projects in a compliant, safe, ethical and sustainable manner.
4. Apply management tools and techniques to execute construction projects on time and within budget.
5. Recognize and value diversity of opinions, processes, and approaches in executing construction projects.
6. Incorporate effective leadership strategies to develop high-functioning, multidisciplinary and multicultural teams and work groups.

7. Apply the principles and practices of leadership development and human resources to manage and develop people in the construction industry.

8. Analyze technical problems encountered in construction projects and develop appropriate solutions in accordance with the principles and practices of construction science and management.

9. Apply business, accounting and financial principles and practices to effectively manage construction project costs.

10. Apply the principles and practices of construction management in assessing the key performance indicators of construction projects.

11. Evaluate potential risks impacting construction projects and devise appropriate risk mitigation strategies.

12. Create technical documents relevant to the design, procurement and execution of construction projects and manage documentation flow effectively.

13. Behave in a fair, ethical and responsible manner consistent with professional codes of conduct, laws, policies, and contracts.

REQUIRED COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>BLDG2095</td>
<td>Construction Estimating 1 (1st 7 weeks)</td>
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<td>BLDG2105</td>
<td>Construction Estimating 2 – Pricing (2nd 7 weeks)</td>
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<tr>
<td>BLDG2204</td>
<td>Commercial Construction Technology</td>
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<tr>
<td>BSCI2101</td>
<td>Foundations in Building Science 1 (1st 7 weeks)</td>
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SEMESTER 5

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<td>BLDG1152</td>
<td>Introduction to Building Information Modeling</td>
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<td>BLDG3025</td>
<td>Construction Estimating 3 – Bidding</td>
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<td>BLDG3045</td>
<td>Heavy Construction Management Practices 1</td>
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<tr>
<td>BLDG3108</td>
<td>Workplace Communications 2</td>
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<tr>
<td>BSCI3101</td>
<td>Applications in Building Science</td>
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<tr>
<td>MGMT3120</td>
<td>Construction Quality Management (Online)</td>
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SEMESTER 6

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<td>BLDG3040</td>
<td>Building Codes and Regulations 2</td>
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<td>BLDG3148</td>
<td>Construction Safety Management Practices (online)</td>
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<td>BLDG3150</td>
<td>Construction Estimating 4 – Cost Control</td>
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<td>BLDG3175</td>
<td>Heavy Construction Management Practices 2</td>
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<tr>
<td>MGMT3150</td>
<td>Construction Project Management 2 – Contract Administration</td>
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<tr>
<td>MGMT4055</td>
<td>Labour Relations and Human Resources Management (hybrid)</td>
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SUMMER WORK TERM SEMESTER

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<th>Code</th>
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<tr>
<td>TCOP1001</td>
<td>Work Term (14 weeks)</td>
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SEMESTER 7

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<tr>
<td>BLDG3152</td>
<td>Economics of Project Development</td>
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<tr>
<td>BLDG3164</td>
<td>Capstone Industry Research 1</td>
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<td>BLDG3170</td>
<td>Preconstruction Cost Planning</td>
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<td>BLDG3203</td>
<td>Building Information Modeling - Management</td>
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<td>MGMT4049</td>
<td>Construction Risk Management</td>
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<td>MGMT4050</td>
<td>Construction Project Procurement</td>
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<td>Liberal Studies</td>
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<td>Case Studies in Construction Management</td>
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<tr>
<td>BLDG4050</td>
<td>Sustainable Construction Management Practices</td>
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<tr>
<td>BLDG4150</td>
<td>Capstone Industry Research 2</td>
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<td>MGMT4051</td>
<td>Leadership Development For Construction Managers</td>
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<tr>
<td>MGMT4052</td>
<td>Project Financial Monitoring</td>
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<tr>
<td>MGMT4053</td>
<td>Practicum in Construction Project Management</td>
</tr>
<tr>
<td>MGMT4054</td>
<td>Ethics for Construction Managers (online)</td>
</tr>
</tbody>
</table>

*An additional field placement fee applies for the work semester.

The program is continuously reviewed and adjusted to meet the needs of the construction industry and therefore may be subject to change.

If you are a George Brown College student graduating with a grade point average of 3.0 or higher from the three-year Construction Engineering Technology program (T105), the three-year Architectural Technology program (T109), the three-year Interior Design Technology (T170), the three-year Building Renovation Technology program (T148) or the three-year Civil Engineering Technology program (T164), or you are graduating from a program comparable to the four programs above at another Ontario college, you...
may be eligible to enter a degree completion pathway to this program. The Centre for Construction and Engineering Technologies regularly hosts "Diploma-to-Degree" information sessions. You are invited to attend if you wish to learn more about the diploma-to-degree application process and the evaluation criteria. For more information, call 416-415-5000, ext. 4398, email construction_degree@georgebrown.ca, or visit georgebrown.ca/T312_Diploma_to_Degree.

CAREER OPTIONS

The Honours Bachelor of Technology (Construction Management) program prepares graduates to assume leadership roles in all aspects of the construction industry. Career options available to graduates of this program may include, but are not limited to, the following:

- construction manager
- project manager
- project coordinator
- field engineer
- site superintendent
- estimator
- project monitor
- building science specialist
- building condition assessor
- construction sales manager
- construction claims specialist
- construction quality control specialist
- construction health and safety specialist
- construction cost consultant
- developer
- project controls specialist
- site inspector
- contractor
- subcontractor

YOUR CAREER

CONSTRUCTION MANAGERS NEED SPECIALIZED SKILLS TO SUCCEED

According to the 2015 Build Force Canada report 420,000 workers in the 34 core construction and trades occupations will be needed to replace existing workers and meet new labour market demand between now and 2024.

In this rapidly changing and growing industry, more and more highly trained construction managers are needed – managers who can effectively function within multidisciplinary teams of owners/developers, project managers, architects, engineers, planners, government authorities, contractors and trade contractors. In addition, the industry needs construction managers with a comprehensive knowledge of construction safety and quality management systems and sustainable construction practices. The construction industry also requires professionals who possess a broad technical and business management background that allows them to coordinate multidisciplinary teams and liaise with various stakeholders.

Construction managers plan, organize, lead and control construction projects from start to finish, according to design, regulatory compliance requirements, contracts, specifications, budgets and schedules, with a focus on sustainable construction techniques and practices.

CONSTRUCTION MANAGERS:

- Conduct feasibility studies for project development and prepare cost planning and budget analysis for building designs.
- Identify sustainable alternatives for building design and construction via value analysis.
- Prepare estimates for project bidding and procurement.
- Prepare construction schedules and milestones for project.
- Monitor construction progress and produce project control reports.
- Prepare contracts and negotiate design changes with architects, consultants, and suppliers.
- Develop and implement safety and quality control plans in construction projects.
- Manage the procurement of construction labour, materials and equipment.
- Analyze projects for constructability.
- Implement appropriate construction technology for efficient execution of construction projects.
- Select sustainable methods of construction.
- Contract and manage subcontractors and supervise their activities.
- Represent the employer in union contract negotiations.
- Manage documentation for project procurement and construction.
- Manage information and construction processes through Building Information Modeling (BIM).
- Manage construction and construction-related businesses.
- Provide expertise in selecting an appropriate method of delivery for construction projects.
- Provide project loan monitoring expertise to lenders.
- Apply practical solutions and innovations to construction project management.
- Conduct property condition assessment and prepare reserve fund studies.
- Provide building science expertise for sustainable projects.

ACADEMIC ACCREDITATIONS

The Honours Bachelor of Technology (Construction Management) program is fully accredited by the Canadian Institute of Quantity Surveyors (CIQS), the Chartered Institute of Building (CIOB), and the Royal Institution of Chartered Surveyors (RICS).

Graduates of the Hons. B.Tech. (Construction Management) program are qualified to obtain professional memberships in various construction management associations. Professional memberships are based on the candidate’s education, training and work experience.
With the completion of this degree program, graduates will have completed all academic requirements for professional membership at the Chartered Institute of Building (CIOB), the Canadian Institute of Quantity Surveyors (CIQS), and the Royal Institution of Chartered Surveyors (RICS). Memberships in these associations must be applied for separately. Members of the CIOB (MCIOB) are entitled to use the descriptor of Chartered Construction Manager or Chartered Builder. Members of the CIQS obtain the Professional Quantity Surveyors (PQS) or Construction Estimator Certified (CEC) designation. Members of the Royal Institution of Chartered Surveyors (RICS) obtain the designation of Chartered Surveyor.

Graduates also receive 50 credits out of the total 100 credits required to obtain the Gold Seal Certification (GSC) offered by the Canadian Construction Association (CCA). The Gold Seal Certification in the Canadian construction industry is available for Superintendents, Estimators, Project Managers, Owner’s Construction Managers and Construction Safety Coordinators. Gold Seal Certification is based on the candidate’s education, training and professional work experience.

FUTURE STUDY OPTIONS

Graduates of the Honours Bachelor of Technology (Construction Management) program qualify to pursue graduate studies in relevant fields of study. They need to directly contact universities to explore what qualified graduate school opportunities exist.

ADMISSION REQUIREMENTS

Only graduates of an Ontario College Advanced (three-year) diploma in Civil Engineering Technology will be considered for this program.

Graduates must have a GPA of 3.0 or higher.

The Centre for Construction and Engineering Technologies (CCET) regularly hosts “Diploma-to-Degree” information sessions. You are invited to attend if you wish to learn more about the diploma-to-degree application process and evaluation criteria. For more information, contact us at the phone number or email address listed above, or visit georgebrown.ca/T312_Diploma_to_Degree.

For general information about George Brown College, you may also call the Contact Centre at 416-415-2000 (TTY 1-877-515-5559) or long distance 1-800-265-2002.

VISIT OUR CAMPUS

Do you have questions about this program or your career options? Join us for an on-campus Information Session. You’ll have the opportunity to meet our friendly instructors and staff, ask questions and experience what it’s like to be in a George Brown College classroom.

Sign up for an Information Session.

LINKS REFERENCE

1https://www.ontariocolleges.ca/en/programs?q=t317&page=0
2http://www.georgebrown.ca/tours_technology/

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CONTACT US

Angelo DelZotto School of Construction Management
Phone: 416-415-5000, ext. 4398
Email: construction_degree@georgebrown.ca
Our office hours are 8 a.m. - 4 p.m., room E228.
HONOURS BACHELOR OF TECHNOLOGY (CONSTRUCTION MANAGEMENT) PROGRAM (T312)

The Honours Bachelor of Technology (Construction Management) program provides a dynamic curriculum that integrates theory, applied research, field study and hands-on practical education. Recognizing that today’s successful construction manager must possess both technical and managerial competencies, the curriculum combines studies in construction science and technology with studies in business and management methods as applied to construction.

Students obtain the knowledge and skills to manage the functions and processes of construction projects from start to finish. They master construction-related technical disciplines and soft skills that are critical to completing projects on time and within budget. Graduates of this program are entitled to the academic credential designation of Honors B.Tech. (Construction Management).

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PART TIME STUDY OPTIONS
Part time studies are not available for this program.

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Mandatory Work Term

YOUR FIELD STUDY OPTIONS
WORK TERM
An integral component of the Honours Bachelor of Technology (Construction Management) degree program is a mandatory field study or Work Term offered in the Spring/Summer of the third year of the program. The Work Term is jointly facilitated through the Angelo DelZotto School of Construction Management and the Centre for Construction and Engineering Technologies (CCET)’s Industry Liaison Office (ILO).
Prior to the Work Term, students participate in job preparation courses that cover areas such as workplace communication practices, resume writing, job search strategies and interview practice to enable them to communicate clearly and effectively. In the field settings, students practice team-building, managing and tracking project resources, analyzing project performance, preparing technical proposals and reports, and improving their construction project management skills.

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There is also a work/study abroad opportunity that will allow a limited number of students to complete one month of field studies at Shanghai Urban Construction College (SUCC) in China, including two weeks of studies and two weeks of work. SUCC is a multi-divisional college that serves 6,000 students with over 400 faculty members.

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2. Analyze past performance of projects to predict and improve future projects.
3. Manage projects in a compliant, safe, ethical and green manner.
4. Apply management tools and concepts in the execution of construction projects.
5. Recognize and value diversity of opinion, process and approach.
6. Incorporate effective leadership strategies to form multidisciplinary and multicultural teams and work groups.
7. Use the theories and practice of organizational behaviour and human resources to manage and develop people.
8. Model and analyze technical problems by applying sound engineering and building science principles.
10. Assess and apply logistical concepts and practices in the management of time, cost and quality performance.

REQUIRED COURSES

**SEMESTER 1**

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<td>Construction Materials</td>
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<td>BLDG 1151</td>
<td>Residential Construction Technology</td>
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<tr>
<td>BLDG 1153</td>
<td>Introduction to Construction Management</td>
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<td>BLDG 1156</td>
<td>Construction Materials Testing and Analysis</td>
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<td>BLDG 1152</td>
<td>Introduction to Building Information Modeling</td>
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<td>BLDG 1162</td>
<td>Building Codes and Regulations 1</td>
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<td>BLDG 2102</td>
<td>Construction Health and Safety</td>
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<td>BLDG 2108</td>
<td>Workplace Communications 1</td>
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<td>BSCI 2011</td>
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<td>MATH 1181</td>
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<td>BLDG 2081</td>
<td>Structural Systems in Building Construction 1</td>
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<td>BLDG 2109</td>
<td>Building Foundations Construction Technology</td>
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<td>Structural Systems in Building Construction 2</td>
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<td>Construction Estimating 2 – Pricing</td>
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<td>Highrise Construction Technology</td>
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<td>BLDG 3040</td>
<td>Building Codes and Regulations 2</td>
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<td>BLDG 3041</td>
<td>Mechanical and Electrical Construction Practices</td>
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<td>Construction Project Management 1 - Planning</td>
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<td>BLDG 3045</td>
<td>Heavy Construction Management Practices</td>
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<td>BLDG 3108</td>
<td>Workplace Communications 2</td>
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<tr>
<td>BLDG 3166</td>
<td>Construction Project Accounting</td>
</tr>
<tr>
<td>MGMT 3120</td>
<td>Construction Quality Management</td>
</tr>
<tr>
<td>MGMT 3130</td>
<td>Construction Site Management - Supervision</td>
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<tr>
<td>Liberal Studies Elective</td>
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**SEMESTER 5**

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<tr>
<th>Course Code</th>
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<tr>
<td>BLDG 3148</td>
<td>Construction Safety Management Practices</td>
</tr>
<tr>
<td>BLDG 3150</td>
<td>Construction Estimating 4 – Cost Control</td>
</tr>
<tr>
<td>BLDG 3175</td>
<td>Heavy Construction Management Practices 2</td>
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<tr>
<td>MGMT 3150</td>
<td>Construction Project Management 2 - Contract Administration</td>
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<tr>
<td>MGMT 4055</td>
<td>Labour Relations and Human Resources Management (hybrid)</td>
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**SEMESTER 6**

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<tr>
<th>Course Code</th>
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<tr>
<td>BLDG 3101</td>
<td>Work Term (14 weeks)</td>
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**SUMMER WORK TERM SEMESTER:**

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>TCOP 1001</td>
<td>Work Term (14 weeks)</td>
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George Brown College Full-Time Programs 2019-2020
### SEMESTER 7

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>BLDG 3149</td>
<td>Construction Business Management</td>
</tr>
<tr>
<td>BLDG 3152</td>
<td>Economics of Project Development</td>
</tr>
<tr>
<td>BLDG 3164</td>
<td>Capstone Industry Research 1</td>
</tr>
<tr>
<td>BLDG 3170</td>
<td>Preconstruction Cost Planning</td>
</tr>
<tr>
<td>BLDG 3203</td>
<td>Building Information Modeling - Management</td>
</tr>
<tr>
<td>MGMT 4049</td>
<td>Construction Risk Management (online)</td>
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<tr>
<td>MGMT 4050</td>
<td>Construction Project Procurement</td>
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### SEMESTER 8

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BLDG 3151</td>
<td>Case Studies in Construction Management</td>
</tr>
<tr>
<td>BLDG 4050</td>
<td>Sustainable Construction Management Practices</td>
</tr>
<tr>
<td>BLDG 4150</td>
<td>Capstone Industry Research 2</td>
</tr>
<tr>
<td>MGMT 4051</td>
<td>Leadership Development for Construction Managers</td>
</tr>
<tr>
<td>MGMT 4052</td>
<td>Project Financial Monitoring</td>
</tr>
<tr>
<td>MGMT 4053</td>
<td>Practicum in Construction Project Management</td>
</tr>
<tr>
<td>MGMT 4054</td>
<td>Ethics for Construction Managers (online)</td>
</tr>
</tbody>
</table>

*An additional field placement fee applies for the work semester.

The program is continuously reviewed and adjusted to meet the need of the construction industry and therefore may be subject to change.

If you are a George Brown College student graduating with a grade point average of 3.0 or higher from the three-year Construction Engineering Technology program (T105), the three-year Architectural Technology program (T109), the three-year Interior Design Technology (T170), the three-year Building Renovation Technology program (T148) or the three-year Civil Engineering Technology program (T164), or you are graduating from a program comparable to the four programs above at another Ontario college, you may be eligible to enter a degree completion pathway to this program. The Centre for Construction and Engineering Technologies regularly hosts “Diploma-to-Degree” information sessions. You are invited to attend if you wish to learn more about the diploma-to-degree application process and the evaluation criteria. For more information, call 416-415-5000, ext. 4398, email construction_degree@georgebrown.ca, or visit georgebrown.ca/T312_Diploma_to_Degree.

### CAREER OPTIONS

The Honours Bachelor of Technology (Construction Management) program prepares graduates to assume leadership roles in all aspects of the construction industry. Career options available to graduates of this program may include, but are not limited to, the following:

- Construction Manager
- Project Manager
- Project Coordinator
- Field Engineer
- Site Superintendent
- Estimator
- Project Monitor
- Building Science Specialist
- Building Condition Assessor
- Construction Sales Manager
- Construction Claims Specialist
- Construction Quality Control Specialist
- Construction Health and Safety Specialist
- Construction Cost Consultant
- Developer
- Project Controls Specialist
- Site Inspector
- Contractor
- Subcontractor

### YOUR CAREER

**CONSTRUCTION MANAGERS NEED SPECIALIZED SKILLS TO SUCCEED**

According to the 2015 Build Force Canada report, 420,000 workers in the 34 core construction and trades occupations will be needed to replace existing workers and meet new labour market demand between now and 2024.

In this rapidly changing and growing industry, more and more highly trained construction managers are needed – managers who can effectively function within multidisciplinary teams of owners/developers, project managers, architects, engineers, planners, government authorities, contractors and trade contractors. In addition, the industry needs construction managers with a comprehensive knowledge of construction safety and quality management systems and sustainable construction practices. The construction industry also requires professionals who possess a broad technical and business management background that allows them to coordinate multi-disciplinary teams and liaise with various stakeholders.

Construction managers plan, organize, lead and control construction projects from start to finish, according to design, regulatory compliance requirements, contracts, specifications, budgets and schedules, with a focus on sustainable construction techniques and practices.
CONSTRUCTION MANAGERS:

- Conduct feasibility studies for project development and prepare cost planning and budget analysis for building designs.
- Identify sustainable alternatives for building design and construction via value analysis.
- Prepare estimates for project bidding and procurement.
- Prepare construction schedules and milestones for project.
- Monitor construction progress and produce project control reports.
- Prepare contracts and negotiate design changes with architects, consultants, and suppliers.
- Develop and implement safety and quality control plans in construction projects.
- Manage the procurement of construction labour, materials and equipment.
- Analyze projects for constructability.
- Implement appropriate construction technology for efficient execution of construction projects.
- Select sustainable methods of construction.
- Contract and manage subcontractors and supervise their activities.
- Represent the employer in union contract negotiations.
- Manage documentation for project procurement and construction.
- Manage information and construction processes through Building Information Modeling (BIM).
- Manage construction and construction-related businesses.
- Provide expertise in selecting an appropriate method of delivery for construction projects.
- Provide project loan monitoring expertise to lenders.
- Apply practical solutions and innovations to construction project management.
- Conduct property condition assessment and prepare reserve fund studies.
- Provide building science expertise for sustainable projects.

ACADEMIC ACCREDITATIONS

The Honours Bachelor of Technology (Construction Management) program is fully accredited by the Canadian Institute of Quantity Surveyors (CIQS), the Chartered Institute of Building (CIOB), and the Royal Institution of Chartered Surveyors (RICS).

Graduates of the Honours Bachelor of Technology (Construction Management) program are qualified to obtain professional memberships in various construction management associations. Professional memberships are based on the candidate’s education, training and work experience.

With the completion of this degree program, graduates will have completed all academic requirements for professional membership at the Chartered Institute of Building (CIOB), the Canadian Institute of Quantity Surveyors (CIQS), and the Royal Institution of Chartered Surveyors (RICS). Memberships in these associations must be applied for separately. Members of the CIOB (MCIOB) are entitled to use the descriptor of Chartered Construction Manager or Chartered Builder. Members of the CIQS obtain the Professional Quantity Surveyors (PQS) or Construction Estimator Certified (CEC) designation. Members of the Royal Institution of Chartered Surveyors (RICS) obtain the designation of Chartered Surveyor.

Graduates also receive 50 credits out of the total 100 credits required to obtain the Gold Seal Certification (GSC) offered by the Canadian Construction Association (CCA). The Gold Seal Certification in Canadian construction industry is available for Superintendents, Estimators, Project Managers, Owner’s Construction Managers and Construction Safety Coordinators. Gold Seal Certification is based on the candidate’s education, training and professional work experience.

FUTURE STUDY OPTIONS

Graduates of the Honours Bachelor of Technology (Construction Management) program qualify to pursue graduate studies in relevant fields of study. They need to directly contact universities to explore what qualified graduate school opportunities exist.

ADMISSION REQUIREMENTS

Applicants are selected on the basis of their academic achievement, including the required courses, and any other selection criteria outlined below.

- Ontario Secondary School Diploma with six Grade 12 University (U) or University/College (M) courses, or equivalent, including: Grade 12 (U) English and any Grade 12 (U) Mathematics.
- A grade of at least 60% in English and Math
- An overall average of 65% in six Grade 12 (U) or (M) courses.
- Recommended courses: basic computer software applications and Calculus and Vectors.

OR

MATURE STUDENT STATUS (19 YEARS OF AGE OR OLDER AND NO OSSD)**

- Grade 12 (U) English and Grade 12 (U) Mathematics are required
- Grade of 65% or higher in English and Math
- Post-secondary courses in English and Mathematics will be considered (only specific courses will be accepted).
There is no mature student testing in the required credits for degree programs. Mature applicants must have the English and Math credits required. Mature student applicants, who require Grade 12 University (U-level) credits for their application to a George Brown degree program, may consider completing our on-campus Degree Preparation (U-level) Courses at no extra cost. Additional information on where and how to upgrade can be found on the English and Math upgrading pages.

**ENGLISH LANGUAGE PROFICIENCY**

- George Brown College ESL Level 9; TOEFL 84 overall and 21 in each skill band (Online); IELTS 6.5 overall and 6.0 in each skill band; MELAB 85; CAEL overall 70 (writing 60)

Proficiency in English communication is necessary for success in this program.

Please visit georgebrown.ca/englishproficiency for more details.

**COURSE EXEMPTIONS**

College or university credits may qualify you for course exemptions. Please visit georgebrown.ca/transferguide for more information.

**INTERNATIONAL (VISA) STUDENTS**

Visit the International Admissions page for more information.

George Brown has been granted a consent by the Minister of Advanced Education and Skills Development to offer this applied degree for a 7-year term starting May 7, 2018. The college shall ensure that all students admitted to the above-named program during the period of consent will have the opportunity to complete the program within a reasonable time frame. An application for renewal of the consent has been submitted and the current consent remains in effect until a decision on the renewal application is made.

“I owe a big thank you to the Centre for Construction and Engineering Technologies at George Brown College for giving me the opportunity to interview with so many large construction firms. With the help of the Industry Liaison Office and my professor, I was interviewed by nine construction firms for the field placement semester. By my sixth interview, I already had four job offers. I know that without the relationship between the school and the companies, I would never have had interviews with them. The skills I have learned here and my field placement experience help guarantee my future success. I’ve seen it around the city and I can say it myself: George Brown really does get you the job.”

Jonathan Graf (Graduate, Construction Science and Management)

Project Engineer, Kenaidan Contracting Ltd.

**CONTACT US**

Angelo DelZotto School of Construction Management
Phone: 416-415-5000, ext. 4398
Email: construction_degree@georgebrown.ca
Our office hours are 8 a.m. - 4 p.m., room E228.

The Centre for Construction and Engineering Technologies (CCET) regularly hosts “Diploma-to-Degree” information sessions. You are invited to attend if you wish to learn more about the diploma-to-degree application process and evaluation criteria. For more information, contact us at the phone number or email address listed above, or visit georgebrown.ca/T312_Diploma_to_Degree.

If you are an International Visa student, please contact the International Centre at 416-415-5000, ext. 2115 or by email at international@georgebrown.ca

For general information about George Brown College, you may also call the Contact Centre at 416-415-2000 (TTY 1-877-515-5559) or long distance 1-800-265-2002.

**VISIT OUR CAMPUS**

Do you have questions about this program or your career options? Join us for an on-campus Information Session. You’ll have the opportunity to meet our friendly instructors and staff, ask questions and experience what it’s like to be in a George Brown College classroom.

Sign up for an Information Session.

**LINKS reference**

1 https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T312&lang=en
2 http://www.georgebrown.ca/international/futurestudents/tuitionfees/
3 http://www.georgebrown.ca/admissions/academic-upgrading/degree-preparation-u-level/
4 http://www.georgebrown.ca/upgrading-credits/english-degree/
5 http://www.georgebrown.ca/upgrading-credits/math-degree/
6 http://www.georgebrown.ca/international/futurestudents/howtoapply/
7 http://www.georgebrown.ca/tours_technology/

George Brown College is continually striving to improve its programs and their delivery. The information contained in this calendar is subject to change without notice. It should not be viewed as a representation, offer or warranty. Students are responsible for verifying George Brown College admission, graduation, and fee requirements as well as any requirements of outside institutions, industry associations, or other bodies that may award additional designations concurrently with, or after completion of, a George Brown College program.
The Residential Construction Management graduate certificate program is offered in collaboration with the Residential Construction Council of Ontario (RESCON). The program is open to domestic graduates of a three-year Construction and Civil Engineering Technology program and will provide you with opportunities to broaden your existing skills for work on low-rise and high-rise residential construction projects. This includes gaining experience in estimating, scheduling and controlling costs of residential construction projects as well as applying workplace practices that ensure compliance with relevant health and safety legislation and regulations.

The program provides a hands-on environment for you to learn the specialized skills employers value in residential project management: procurement, quality control and defects prevention. Class and lab work is project based to replicate on-site construction activities and will give you increased practice in current industry practices and procedures.

**Key features of the program:**

- Class size is a maximum of 15 students. This smaller class size provides increased access to lab facilities and instructor interaction
- Semester 1 classes are scheduled for three days per week (Tuesday, Wednesday & Thursday) to assist students who wish to work part-time while in the program
- Semester 2 consists of a 4-month paid field placement with a member of RESCON. This placement provides you with real-life opportunities to practice skills learned in first semester

**EXPERIENTIAL LEARNING**

Placement with a member firm of RESCON

**THE INDUSTRY**

The Residential Construction Management postgraduate program was developed in response to industry demand for graduates with exposure to the residential sector, supported by a $500,000 endowment from RESCON. Together, George Brown and RESCON have created a cooperative educational program specifically focused on the needs of the residential sector (both low rise and high rise). This partnership allows students to complete a four-month intensive semester at the Centre for Construction & Engineering Technologies followed by a four-month field placement at a RESCON member firm. The program has been successfully preparing graduates with on-the-job experience in the residential sector since its launch in 2013.

**PROGRAM STANDARDS AND LEARNING OUTCOMES**

The graduate has reliably demonstrated the ability to:

1. Assess requirements for construction industry business planning and management.
2. Formulate strategies for human resource planning and management.
3. Analyze and explain the fundamentals of building codes and legal issues including contract law.
4. Assess safe work practices including risk analysis and risk management theory, assisting in the formulation of options on the basis of specific project/operational requirements.
5. Produce, analyze and present data in graphic, oral and written formats to communicate residential construction project information effectively and accurately.
6. Estimate, schedule and control costs of residential construction proficiently, in accordance with best practices in construction management.
7. Coordinate time, cost and quantity for the successful completion of work for residential construction projects.
8. Select and use appropriate electronic technology to support residential construction projects.
9. Formulate the principles and practice of team-building in an interdisciplinary setting, and integrate negotiation and problem-solving skills.
10. Analyze technical problems and integrate knowledge of mechanical, structural and finish components of buildings in a residential project.
11. Evaluate technical and historic construction field information for use on bidding on and planning residential construction projects.

REQUIRED COURSES

SEMESTER 1

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<tr>
<th>Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>BLDG4011</td>
<td>Quality Control &amp; Defect Prevention</td>
</tr>
<tr>
<td>BLDG4012</td>
<td>Home Design &amp; Value Engineering</td>
</tr>
<tr>
<td>BLDG4013</td>
<td>Purchasing and Bid Processes</td>
</tr>
<tr>
<td>BLDG4014</td>
<td>Residential Construction Project Management</td>
</tr>
<tr>
<td>BLDG4015</td>
<td>High Rise Residential Construction</td>
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SEMESTER 2

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<tr>
<th>Code</th>
<th>Course Name</th>
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</thead>
<tbody>
<tr>
<td>BLDG1080</td>
<td>Field Placement (4 months) from September to December</td>
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</tbody>
</table>

YOUR CAREER

Graduates will be able to fill roles in the residential construction sector such as:

- Junior Estimator
- Junior Residential Construction Manager
- Junior Residential Construction Project Manager
- Junior Site Superintendent
- Junior Project Coordinator

ADMISSION REQUIREMENTS

- 3-year advanced diploma in Construction Engineering Technology, Civil Engineering or equivalent*
- Minimum program GPA of 2.7
- Department interview (resume required)
- Space is limited

* Main criteria to determine equivalency will be based on gained knowledge of the following:

- Wood-frame construction details and principles
- Canadian construction industry standards, procedures, protocols and codes
- Canadian estimating and bidding practices

Please note that Domestic applicants who are submitting International transcripts require a Canadian equivalency evaluation. This can be obtained through ICAS (International Credential Assessment Service) or WES (World Education Services).

ENGLISH LANGUAGE PROFICIENCY

Applicants with international transcripts who do not provide English proficiency test results must test at the College level in the George Brown College English assessment to be considered for admission.

Please visit georgebrown.ca/englishproficiency for more details.

CONTACT US

Angelo DelZotto School of Construction Management
Phone: 416-415-5000, ext. 6944
Email: construction_mgmt@georgebrown.ca

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