

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

<b>PROGRAM NAME</b>	Building Information Modeling Management	<b>TUITION</b>	\$9,971.00 *
<b>COURSE CODE</b>	T412	<b>ADDITIONAL COST</b>	*Amount listed is the total of tuition, materials, student service and ancillary fees for the <b>three semesters</b> of the program starting in the fall of <b>2017</b> . Fees are subject to change for programs starting in Fall 2018 and at later dates.
<b>SCHOOL</b>	Angelo DelZotto School of Construction Management	<b>International students:</b>	Visit the International Fees and Related Costs <sup>2</sup> page for more information.
<b>CENTRE</b>	Construction Engineering Technology		
<b>LOCATION</b>	Casa Loma Campus		
<b>DURATION</b>	1 year (3 semesters)		
<b>STARTING MONTH</b>	September, January		
<b>CREDENTIAL</b>	Ontario College Graduate Certificate		
<b>YEAR OF STUDY</b>	2018-2019		
<b>METHOD OF STUDY</b>	FT		
<b>APPLY TO</b>	Ontario Colleges <sup>1</sup>		



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 for Thursday afternoon, all day Friday and all day 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.
4. Conduct project risk analysis using BIM processes.
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

Code	Course Name
BIM1004	Revit Architecture 1
BIM1005	Revit Architecture 2
BIM1002	Building Information Modeling (BIM) Management
BIM1003	BIM Software Integration
BIM1006	BIM Pre-Construction Visualization
BIM1071	Workplace Preparation

## SEMESTER 2

Code	Course Name
BIM1010	BIM Implementation Strategies
BIM1011	BIM Project Planning
BIM1012	Building Energy Modeling
BIM1013	BIM Capstone Project
BIM1014	Work Term Preparation

## SEMESTER 3

Code	Course Name
BIM1020	Work Term

For a list of General Education Electives click here.

## YOUR CAREER

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



- Project Model Manager
- BIM Manager
- BIM Specialist
- BIM Coordinator
- BIM Construction Officer
- BIM Project Manager
- Energy Modeller

## ADMISSION REQUIREMENTS

- Bachelor's Degree or 3-year Diploma in Construction Engineering (Structural, Civil, Mechanical, Electrical) or Architectural Studies.
- Proof of English language proficiency (www.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/ca<sup>3</sup>**

## 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](http://georgebrown.ca/englishproficiency) for more details.

## COURSE EXEMPTIONS

College or University credits may qualify you for course exemptions. Please visit [georgebrown.ca/transferguide](http://georgebrown.ca/transferguide) for more information.

## INTERNATIONAL (VISA) STUDENTS

Visit the International Admissions<sup>4</sup> 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](mailto: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 Session<sup>5</sup>.

## LINKS REFERENCE

<sup>1</sup><https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T412&lang=en>

<sup>2</sup><http://www.georgebrown.ca/international/futurestudents/tuitionfees/>

<sup>3</sup><http://wes.org/ca>

<sup>4</sup><http://www.georgebrown.ca/international/futurestudents/applynow/>

<sup>5</sup>[http://www.georgebrown.ca/tours\\_technology/](http://www.georgebrown.ca/tours_technology/)

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# CIVIL ENGINEERING TECHNOLOGY PROGRAM (T164)

<b>PROGRAM NAME</b>	Civil Engineering Technology	<b>TUITION</b>	\$4,145.00 *
<b>COURSE CODE</b>	T164	<b>ADDITIONAL COST</b>	
<b>SCHOOL</b>	Angelo DelZotto School of Construction Management		*Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in fall 2017. Fees are subject to change for programs starting in fall 2018 and at later dates.
<b>CENTRE</b>	Construction Engineering Technology		
<b>LOCATION</b>	Casa Loma Campus		
<b>DURATION</b>	3 years (6 semesters)		
<b>FIELD EDUCATION</b>	Available in Year 3 through a Divisional Select process	<b>International students:</b>	Visit the International Fees and Related Costs <sup>2</sup> page for more information.
<b>STARTING MONTH</b>	September, January		
<b>CREDENTIAL</b>	Ontario College Advanced Diploma		
<b>YEAR OF STUDY</b>	2018-2019		
<b>METHOD OF STUDY</b>	FT		
<b>APPLY TO</b>	Ontario Colleges <sup>1</sup>		



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 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. Students learn business management techniques necessary to create and manage a construction company.

\*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.

## 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

Code	Course name
BLDG1025	Construction Field Practices
CIVL1001	Civil Engineering Technology - Fundamentals
CIVL1002	Civil Engineering Materials
CIVL1003	Basics of Structural Analysis
GSCI1022	Building Science and the Environment
COMM1007	College English**
MATH1136	Mathematics for Building Technologies 1

### SEMESTER 2

Code	Course name
BLDG1077	Construction Health and Safety
CIVL1004	Civil Engineering Materials Testing 1
CIVL1005	Civil Engineering Technology - Steel Structures
CIVL1085	Land Use Planning and Regulations
CIVL1141	Construction Graphics 1
GHUM1106	History of Architecture
MATH1146	Mathematics for Building Technologies 2

### SEMESTER 3

Code	Course name
BLDG1201	Work Preparation
BLDG1202	Field Experience 1
CIVL2045	Site Management for Civil Works
CIVL2054	Structural Systems
CIVL2059	Construction Graphics 2
CIVL2063	Estimating Civil Works 1
CIVL2064	Construction Materials Testing 2
CIVL2078	Civil Engineering Technology - Rail and Transit
COMM1113	Professional Communications for Building Technologies
GNEED	General Education Elective

### SEMESTER 4

Code	Course name
BLDG2090	Principles of Construction Law
BLDG2130	Field Experience 2
CIVL2021	Planning and Scheduling for Civil Projects
CIVL2053	Civil Engineering Materials and Testing
CIVL2058	Quality Management for Civil Projects
CIVL3035	Estimating Civil Works 2
CIVL3050	Trenchless Technologies
CIVL3065	Civil Engineering Technology - Heavy Industrial
GNEED	General Education Elective

### SEMESTER 5

Code	Course name
CIVL2056	Civil Engineering Technology - Municipal Services
CIVL3006	Civil Construction Project Administration
CIVL3028	GIS Technology for Civil Works
CIVL3039	Rehabilitation of Civil Infrastructure Works
BLDG3065	Construction Accounting
CIVL3080	Estimating Civil Works 3

### SEMESTER 6

Code	Course name
BLDG3030	Environmental Assessment
CIVL3033	Value Engineering
BLDG3034	Construction Graphics 3
BLDG3057	Applied Construction Management Practices
BLDG3075	Technical Research Report
CIVL3078	Civil Engineering Technology - Bridge and Tunnel
CIVL3082	Sustainable Construction Practices for Civil Projects
CIVL3085	Capstone Industry Project

\*\*Based on the results of your placement test, you may be required to take COMM1003 (English Skills) or CESL1003 (English Skills – ESL) before progressing to COMM1007. COMM1003/CESL1003 does not count as a course required for graduation, and you will be charged for this extra course. Please visit [georgebrown.ca/assessment](http://georgebrown.ca/assessment) for more information.

General Education Electives

## 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)<sup>3</sup> degree program are also available for qualified graduates from the three-year Construction Engineering Technology program. For more information, see [georgebrown.ca/T312\\_Diploma\\_to\\_Degree](http://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)

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

Mature Students may take the Admissions Assessment<sup>4</sup> for English and Math, OR may consider upgrading to achieve the credit(s) needed in English<sup>5</sup> and Math<sup>6</sup>.

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](http://georgebrown.ca/transferguide) for more information.

## INTERNATIONAL STUDENTS

Visit the International Admissions<sup>7</sup> page for more information.

## CONTACT US

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## LINKS REFERENCE

<sup>1</sup><https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T164&lang=en>

<sup>2</sup><http://www.georgebrown.ca/international/futurestudents/tuitionfees/>

<sup>3</sup><http://www.georgebrown.ca/programs/honours-bachelor-of-technology-construction-management-t312/>

<sup>4</sup><http://www.georgebrown.ca/assessment/admi-pre/>

<sup>5</sup><http://www.georgebrown.ca/upgrading-credits/english-diploma/>

<sup>6</sup><http://www.georgebrown.ca/upgrading-credits/math-diploma/>

<sup>7</sup><http://www.georgebrown.ca/international/futurestudents/applynow/>

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# CONSTRUCTION ENGINEERING TECHNICIAN PROGRAM (T161)

<b>PROGRAM NAME</b>	Construction Engineering Technician	<b>TUITION</b>	\$4,144.00 *
<b>COURSE CODE</b>	T161	<b>ADDITIONAL COST</b>	
<b>SCHOOL</b>	Angelo DelZotto School of Construction Management		* Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in fall 2017. Fees are subject to change for programs starting in fall 2018 and at later dates.
<b>CENTRE</b>	Construction Engineering Technology		<b>International students:</b> Visit the International Fees and Related Costs <sup>2</sup> page for more information.
<b>LOCATION</b>	Casa Loma Campus		
<b>DURATION</b>	2 years (4 semesters)		
<b>STARTING MONTH</b>	September, January		
<b>CREDENTIAL</b>	Ontario College Diploma		
<b>YEAR OF STUDY</b>	2018-2019		
<b>METHOD OF STUDY</b>	FT		
<b>APPLY TO</b>	Ontario Colleges <sup>1</sup>		



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

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](http://coned.georgebrown.ca)

## 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

### SEMESTER 1

Code	Course name
BLDG1025	Construction Field Practices
BLDG1026	Housing and Small Building Construction
BLDG1074	Fundamentals of Building Architecture
GSCI1022	Building Science and the Environment
COMM1007	College English**
MATH1136	Mathematics for Building Technologies 1

### SEMESTER 2

Code	Course name
BLDG1042	Construction Theory – Methods and Materials
BLDG1043	Quantity Surveying
BLDG1073	Construction Materials Testing
BLDG1076	Building Code 1
BLDG1077	Construction Health and Safety
BLDG1078	Introduction to 3D Modeling
GHUM1106	History of Architecture
MATH1146	Mathematics for Building Technologies 2

### SEMESTER 3

Code	Course name
BLDG1084	Timber Construction Technology
BLDG1165	Introduction to Building Science
BLDG1201	Work Preparation
BLDG1202	Field Experience 1
BLDG2076	Building Code 2
BLDG2019	Estimating – Small Buildings
BLDG2045	Construction Site Management, Supervision and Inspection
COMM1113	Professional Communications for Building Technologies
GNED	General Education Elective

### SEMESTER 4

Code	Course name
BLDG2021	Construction Planning and Scheduling
BLDG2090	Principles of Construction Law
BLDG2091	Steel Construction Technology
BLDG2130	Field Experience 2
BLDG2135	Building Services - Electrical
BLDG2136	Building Services - Mechanical
BLDG3004	Pricing Construction Works
GNED	General Education Elective

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General Education Electives

## 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)

## 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)<sup>3</sup>.

## 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<sup>4</sup> 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](http://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)

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## **COURSE EXEMPTIONS**

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## **INTERNATIONAL STUDENTS**

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## **CONTACT US**

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## **LINKS REFERENCE**

<sup>1</sup><https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T161&lang=en>

<sup>2</sup><http://www.georgebrown.ca/international/futurestudents/tuitionfees/>

<sup>3</sup><http://www.georgebrown.ca/programs/construction-engineering-technology-program-t105/>

<sup>4</sup><http://www.georgebrown.ca/transferguide/>

<sup>5</sup><http://www.georgebrown.ca/assessment/admi-pre/>

<sup>6</sup><http://www.georgebrown.ca/upgrading-credits/english-diploma/>

<sup>7</sup><http://www.georgebrown.ca/upgrading-credits/math-diploma/>

<sup>8</sup><http://www.georgebrown.ca/international/futurestudents/applynow/>

<sup>9</sup>[http://www.georgebrown.ca/tours\\_technology/](http://www.georgebrown.ca/tours_technology/)

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# CONSTRUCTION ENGINEERING TECHNOLOGY PROGRAM (T105)

<b>PROGRAM NAME</b>	Construction Engineering Technology	<b>TUITION</b>	\$4,144.00 *
<b>COURSE CODE</b>	T105	<b>ADDITIONAL COST</b>	
<b>SCHOOL</b>	Angelo DelZotto School of Construction Management		* Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in fall 2017. Fees are subject to change for programs starting in fall 2018 and at later dates.
<b>CENTRE</b>	Construction Engineering Technology		<b>International students:</b> Visit the International Fees and Related Costs <sup>2</sup> page for more information.
<b>LOCATION</b>	Casa Loma Campus		
<b>DURATION</b>	3 years (6 semesters)		
<b>FIELD EDUCATION</b>	Experiential Learning		
<b>STARTING MONTH</b>	September, January		
<b>CREDENTIAL</b>	Ontario College Advanced Diploma		
<b>YEAR OF STUDY</b>	2018-2019		
<b>METHOD OF STUDY</b>	FT		
<b>APPLY TO</b>	Ontario Colleges <sup>1</sup>		

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.

## 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](http://coned.georgebrown.ca)

## 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

Code	Course name
BLDG1025	Construction Field Practices
BLDG1026	Housing and Small Building Construction
BLDG1074	Fundamentals of Building Architecture
GSCI1022	Building Science and the Environment
COMM1007	College English**
MATH1136	Mathematics for Building Technologies 1

### SEMESTER 2

Code	Course name
BLDG1042	Construction Theory – Methods and Materials
BLDG1043	Quantity Surveying
BLDG1073	Construction Materials Testing
BLDG1076	Building Code 1
BLDG1077	Construction Health and Safety
BLDG1078	Introduction to 3D Modeling
GHUM1106	History of Architecture
MATH1146	Mathematics for Building Technologies 2

### SEMESTER 3

Code	Course name
BLDG1084	Timber Construction Technology
BLDG1165	Introduction to Building Science
BLDG1201	Work Preparation
BLDG1202	Field Experience 1
BLDG2076	Building Code 2
BLDG2019	Estimating – Small Buildings
BLDG2045	Construction Site Management, Supervision and Inspection
COMM1113	Professional Communications for Building Technologies
GNED	General Education Elective

### SEMESTER 4

Code	Course name
BLDG2021	Construction Planning and Scheduling
BLDG2090	Principles of Construction Law
BLDG2091	Steel Construction Technology
BLDG2130	Field Experiences 2
BLDG2135	Building Services - Electrical
BLDG2136	Building Services - Mechanical
BLDG3004	Pricing Construction Works
GNED	General Education Elective

### SEMESTER 5

Code	Course name
BLDG3006	Construction Project Management – Contractual Viewpoint
BLDG3017	Estimating and Bidding Construction Works
BLDG3038	Building Assessment
BLDG3047	Concrete Construction Technology
BLDG3060	Applied Building Science
BLDG3065	Construction Accounting

### SEMESTER 6

Code	Course name
BLDG3019	Construction Project Management – Cost Control
BLDG3020	Applied Construction Practices
BLDG3075	Technical Research Report
BLDG3076	Construction Quality Practices
BLDG3077	Sustainable Building Practices
BLDG3082	Construction Business Management

\*\*Based on the results of your placement test, you may be required to take COMM1003 (English Skills) or CESL1003 (English Skills – ESL) before progressing to COMM1007. COMM1003/CESL1003 does not count as a course required for graduation, and you will be charged for this extra course. Please visit [georgebrown.ca/assessment/](http://georgebrown.ca/assessment/) for more information.

## 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

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/](http://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<sup>3</sup> 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<sup>4</sup> for English and Math, OR may consider upgrading to achieve the credit(s) needed in English<sup>5</sup> and Math<sup>6</sup>.

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](http://georgebrown.ca/transferguide) for more information.

## INTERNATIONAL STUDENTS

Visit the International Admissions<sup>7</sup> page for more information.

“The Construction Engineering Technology program prepared me for the real world by placing me in real-world situations.”

**Neal McGovern** (Graduate, Construction Engineering Technology)



“My program at George Brown College has allowed me to become a well-trained contributor to the construction industry. Not only did I gain strong technical skills and develop my critical thinking skills with all of the teamwork, I had great exposure to the industry while working at Eastern

Construction during a co-op placement. I feel confident that I am a strong asset to my employer and look forward to a rewarding career.”

**Aristi Lambakis** (Graduate, Construction Engineering Technology)



“While researching a career in construction management, I received many recommendations for George Brown College. Some of the most valuable experiences I've had at George Brown are not from textbooks but rather from the advice of the instructors on how

to conduct myself in the real world, manage my time and organize myself to complete tasks efficiently.”

**Jake Zadro** (Graduate, Construction Engineering Technology)

## CONTACT US

### Angelo DelZotto School of Construction Management

Phone: 416-415-5000, ext. 4398.

Email: [construction\\_eng@georgebrown.ca](mailto: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.

## 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<sup>8</sup>.

## LINKS REFERENCE

<sup>1</sup><https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T105&lang=en>

<sup>2</sup><http://www.georgebrown.ca/international/futurestudents/tuitionfees/>

<sup>3</sup><http://www.georgebrown.ca/transferguide/>

<sup>4</sup><http://www.georgebrown.ca/assessment/admi-pre/>

<sup>5</sup><http://www.georgebrown.ca/upgrading-credits/english-diploma/>

<sup>6</sup><http://www.georgebrown.ca/upgrading-credits/math-diploma/>

<sup>7</sup><http://www.georgebrown.ca/international/futurestudents/applynow/>

<sup>8</sup>[http://www.georgebrown.ca/tours\\_technology/](http://www.georgebrown.ca/tours_technology/)

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# CONSTRUCTION MANAGEMENT (FOR INTERNATIONALLY EDUCATED PROFESSIONALS) PROGRAM (POSTGRADUATE) (T403)

<b>PROGRAM NAME</b>	Construction Management	<b>TUITION</b>	\$12,969.00 †
<b>COURSE CODE</b>	T403	<b>ADDITIONAL COST</b>	† Amounts listed are the total of tuition, materials, student service and ancillary fees for the <b>three</b> semesters of programs starting in fall 2017. Fees are subject to change for programs starting in fall 2018 and at later dates.
<b>SCHOOL</b>	Angelo DelZotto School of Construction Management	<b>International students:</b>	Visit the International Fees and Related Costs <sup>2</sup> page for more information.
<b>CENTRE</b>	Construction Engineering Technology		
<b>LOCATION</b>	Casa Loma Campus		
<b>DURATION</b>	1 year (3 semesters)		
<b>FIELD EDUCATION</b>	Work Practicum Semester		
<b>STARTING MONTH</b>	January		
<b>CREDENTIAL</b>	Ontario College Graduate Certificate		
<b>YEAR OF STUDY</b>	2018-2019		
<b>METHOD OF STUDY</b>	FT		
<b>APPLY TO</b>	Ontario Colleges <sup>1</sup>		



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

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.

## FIELD EDUCATION 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.
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

### SEMESTER 1

Code	Course Name
BLDG1172	Communication for Construction Managers
BLDG1174	Construction Estimating 1
BLDG1175	Construction Industry Practices
BLDG1196	Construction Methods and Materials
HSAF1182	Construction Health and Safety
STS1170	Career Portfolio

### SEMESTER 2

Code	Course Name
BLDG1173	Construction Contract Law
BLDG1180	Ontario Building Code
BLDG1184	Construction Project Management
BLDG1186	Construction Estimating 2
BLDG1187	Pre-Construction Management Practices
BLDG1189	Work Term Preparation

### SEMESTER 3

Code	Course Name
BLDG1191	Work Term

## 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](http://icascanada.ca) or WES (World Education Services) at [wes.org/ca](http://wes.org/ca)<sup>3</sup>**

## 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](http://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)

## CONTACT US

**Angelo DelZotto School of Construction Management**

Phone: 416-415-5000, ext. 4398

Email: [construction\\_mgmt@georgebrown.ca](mailto:construction_mgmt@georgebrown.ca)

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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 Session<sup>4</sup>.

## LINKS REFERENCE

<sup>1</sup><https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T403&lang=en>

<sup>2</sup><http://www.georgebrown.ca/international/futurestudents/tuitionfees/>

<sup>3</sup><http://wes.org/ca>

<sup>4</sup>[http://www.georgebrown.ca/tours\\_technology/](http://www.georgebrown.ca/tours_technology/)

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# HONOURS BACHELOR OF TECHNOLOGY (CONSTRUCTION MANAGEMENT) (T312)

<b>PROGRAM NAME</b>	Honours Bachelor of Technology (Construction Management)	<b>TUITION</b>	\$10,174.00 * †
<b>COURSE CODE</b>	T312	<b>ADDITIONAL COST</b>	
<b>SCHOOL</b>	Angelo DelZotto School of Construction Management		* Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in fall 2017. Fees are subject to change for programs starting in fall 2018 and at later dates.
<b>CENTRE</b>	Construction Engineering Technology		† Fees for this program do not include the cost of the co-op work term.
<b>LOCATION</b>	Casa Loma Campus		<b>International students:</b> Visit the International Fees and Related Costs <sup>2</sup> page for more information.
<b>DURATION</b>	4 years (1 field placement semester)		
<b>FIELD EDUCATION</b>	Mandatory Work Term		
<b>STARTING MONTH</b>	September		
<b>CREDENTIAL</b>	Honours Bachelor's Degree		
<b>YEAR OF STUDY</b>	2018-2019		
<b>METHOD OF STUDY</b>	FT		
<b>APPLY TO</b>	Ontario Colleges <sup>1</sup>		

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 earn the academic designation of **Hons. Bachelor of Technology** (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 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 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.

## FIELD EDUCATION 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 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.



The Work Term is a mandatory requirement of the program to graduate. It offers you the opportunity to:

- Practice job-hunting skills and strategies.
- Explore career interests during your academic program to help you determine the type of job you want after graduation.
- Gain practical knowledge about various workplace environments, ethics, behaviour and expectations.
- Gain relevant work experience and contacts that can help you get a full-time job. Develop your skills.
- Potentially find a full-time position with the Work Term employer after graduation.

Students are required to complete a minimum of 14 weeks of verifiable work experience in the field of construction management in order to fulfill the Work Term requirements.

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

- **Field Placement Option:** Students register in the Work Term course (TCOP 1001), secure field placement in a relevant construction field, obtain a minimum of 14 weeks of relevant field work experience and pass the course.
- **Prior Learning Assessment Recognition (PLAR) Option:** Students who have prior work experience equivalent to the minimum requirement (that is, 14 weeks 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 Management College (SUMC) in China, including two weeks of studies and two weeks of work. Shanghai Urban Management College is a multi-divisional 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 new 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 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.
9. Assess and apply business, accounting and financial principles.
10. Assess and apply logistical concepts and practices in the management of time, cost and quality performance.

## REQUIRED COURSES

### SEMESTER 1

Code	Course Name
BLDG1106	Construction Materials
BLDG1151	Residential Construction Technology
BLDG1153	Introduction to Construction
BLDG1156	Construction Materials Testing and Analysis
BLDG1193	Technical Communications
MATH1151	Technical Mathematics 1
Liberal Studies Elective	

### SEMESTER 2

Code	Course Name
BLDG1107	Construction Surveying
BLDG1152	Introduction to Building Information Modeling
BLDG1162	Building Code and Regulations 1
BLDG2102	Construction Health and Safety
BLDG2108	Workplace Communications 1
BSCI2101	Foundations in Building Science
MATH1181	Technical Mathematics 2
Liberal Studies Elective	

### SEMESTER 3

Code	Course Name
BLDG2080	Construction Estimating 1 – Quantity Surveying
BLDG2109	Building Foundations Construction Technology
BLDG2120	Structural Systems in Building Construction
BSCI3101	Applications in Building Science
LAW1151	Construction Law
Liberal Studies Elective	

### SEMESTER 4

Code	Course Name
BLDG2105	Construction Estimating 2 – Pricing
BLDG2204	Commercial Construction Technology
BLDG3040	Building Codes and Regulations 2
BLDG3045	Heavy Construction Management Practices
MGMT3101	Construction Project Management 1 – Planning
Liberal Studies Elective	

### SEMESTER 5

Code	Course Name
BLDG2111	Highrise Construction Technology
BLDG3025	Construction Estimating 3 – Bidding
BLDG3108	Workplace Communications 2
MGMT3120	Construction Quality Management
MGMT3130	Construction Site Management – Supervision
Liberal Studies Elective	

### SEMESTER 6

Code	Course Name
BLDG3148	Construction Safety Management Practices
BLDG3149	Construction Business Management
BLDG3150	Construction Estimating 4 – Cost Control
BLDG3166	Construction Project Accounting
MGMT3150	Construction Project Management 2 – Contract Administration
Liberal Studies Elective	
TCOP1001	Work Term (Summer semester, 14 weeks)*

### SEMESTER 7

Code	Course Name
BLDG3152	Economics of Project Development
BLDG3164	Capstone Industry Research 1
BLDG3170	Reconstruction Cost Planning
BLDG3203	Building Information Modeling Management
MGMT4049	Construction Risk Management
MGMT4050	Construction Project Procurement
MGMT4051	Leadership Development for Construction Managers

### SEMESTER 8

Code	Course Name
BLDG3151	Construction Law - Case Studies
BLDG4051	Innovation in Construction Project Management
BLDG4150	Capstone Industry Research 2
MGMT4052	Project Financial Monitoring
MGMT4053	Practicum in Construction Project Management
MGMT4054	Ethics for Construction Managers
MGMT4055	Labour Relations and Human Resources Management

\*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.

The Ontario Ministry of Training, Colleges and Universities requires that any institution offering a program leading to a degree obtain a program consent of the Ministry administered through the Postsecondary Education Quality Assessment Board (PEQAB). George Brown College has been granted a consent of program renewal by the Ministry of Training, Colleges and Universities to offer this degree

for a five-year term starting January 14, 2013 and ending in 2018. George Brown College shall ensure that all students admitted to the Honours Bachelor of Technology (Construction Management) program during the period of consent will have the opportunity to complete the program within a reasonable time frame. The Angelo DelZotto School of Construction Management continuously reviews the program to ensure its currency.

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](mailto:construction_degree@georgebrown.ca), or visit [georgebrown.ca/T312\\_Diploma\\_to\\_Degree](http://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
- Site Superintendent
- Estimator
- Quantity Surveyor
- Construction Loan Monitor
- Construction Project Controller
- Construction Claims Specialist
- Construction Quality Specialist
- Construction Safety Specialist
- Construction Cost Consultant
- Construction Sales Specialist
- Building Science Specialist
- Building Condition Assessment Specialist
- Contractor
- Subcontractor
- Developer

## 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:

- Provide feasibility, cost planning and budget analysis for building designs.
- Identify sustainable alternatives for building components & systems via value analysis.
- Prepare estimates for project bidding and procurement.
- Prepare construction schedules and milestones for project.
- Monitor construction progress and develop time and cost control reports.
- Prepare contracts & negotiate design changes with architects, consultants, suppliers.
- Develop and implement safety and quality control plans in construction projects.
- Direct the procurement of construction labour, materials and equipment.
- Analyze projects for constructability.
- Implement the most practical and cost effective construction technology available.
- Select optimum energy-efficient systems and sustainable methods of construction.
- Contract and manage subcontractors and supervise their activities.
- Represent their employer in union contract negotiations.
- Manage all documents 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.

### 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 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 further graduate studies in relevant program areas. They need to directly contact universities to explore what qualified graduate school opportunities exist.

## BECOME A QUALIFIED TEACHER IN TECHNOLOGICAL EDUCATION

Students who have completed all academic requirements up to and including Semester 6 may be eligible to study concurrently for a Bachelor of Education (B.Ed.) in Technological Education at York University. For further information, please contact York University at [ouac.on.ca](http://ouac.on.ca).

## 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. Information on where and how to upgrade can be found on the English<sup>3</sup> and Math<sup>4</sup> 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](http://georgebrown.ca/englishproficiency) for more details.

## COURSE EXEMPTIONS

College or university credits may qualify you for course exemptions. Please visit [georgebrown.ca/transferguide](http://georgebrown.ca/transferguide) for more information.

## INTERNATIONAL (VISA) STUDENTS

Visit the International Admissions<sup>5</sup> 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.

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## CONTACT US

### Angelo DelZotto School of Construction Management

Phone: 416-415-5000, ext. 4398

Email: [construction\\_degree@georgebrown.ca](mailto: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](http://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](mailto: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<sup>6</sup>.

## LINKS REFERENCE

<sup>1</sup><https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T312&lang=en>

<sup>2</sup><http://www.georgebrown.ca/international/futurestudents/tuitionfees/>

<sup>3</sup><http://www.georgebrown.ca/upgrading-credits/english-degree/>

<sup>4</sup><http://www.georgebrown.ca/upgrading-credits/math-degree/>

<sup>5</sup><http://www.georgebrown.ca/international/futurestudents/applynow/>

<sup>6</sup>[http://www.georgebrown.ca/tours\\_technology/](http://www.georgebrown.ca/tours_technology/)

# RESIDENTIAL CONSTRUCTION MANAGEMENT PROGRAM (POSTGRADUATE) (T408)

<b>PROGRAM NAME</b>	Residential Construction Management	<b>TUITION</b>	\$3,716.00 *
<b>COURSE CODE</b>	T408	<b>ADDITIONAL COST</b>	
<b>SCHOOL</b>	Angelo DelZotto School of Construction Management		* Amounts listed are the total of tuition, materials, student service and ancillary fees for the first two semesters of programs starting in fall 2017. Fees are subject to change for programs starting in fall 2018 and at later dates.
<b>CENTRE</b>	Construction Engineering Technology		
<b>LOCATION</b>	Casa Loma Campus		
<b>DURATION</b>	2 semesters		
<b>FIELD EDUCATION</b>	Placement with a member firm of RESCON		
<b>STARTING MONTH</b>	May		
<b>CREDENTIAL</b>	Ontario College Graduate Certificate		
<b>YEAR OF STUDY</b>	2018-2019		
<b>METHOD OF STUDY</b>	FT		
<b>APPLY TO</b>	Ontario Colleges <sup>1</sup>		



The Residential Construction Management graduate certificate program is offered in collaboration with the Residential Construction Council of Ontario<sup>2</sup> (RESCON). The program is open to domestic graduates of a three-year Construction 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

## 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 co-operative 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.

- 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)<sup>3</sup> or WES (World Education Services)<sup>4</sup>.**

## 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](http://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](mailto:construction_mgmt@georgebrown.ca)

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## LINKS REFERENCE

<sup>1</sup><https://collegeapply.ontariocolleges.ca/?collegeCode=GBTC&programCode=T408&lang=en>

<sup>2</sup><http://rescon.com/>

<sup>3</sup><http://icascanada.ca/>

<sup>4</sup><http://wes.org/ca>

<sup>5</sup>[http://www.georgebrown.ca/tours\\_technology/](http://www.georgebrown.ca/tours_technology/)

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## REQUIRED COURSES

### SEMESTER 1

Code	Course Name
BLDG4011	Quality Control & Defect Prevention
BLDG4012	Home Design & Value Engineering
BLDG4013	Purchasing and Bid Processes
BLDG4014	Residential Construction Project Management
BLDG4015	High Rise Residential Construction

### SEMESTER 2

Code	Course Name
BLDG1080	Field Placement (4 months) from September to December

## 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