

# 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>DURATION</b>	4 years (1 field placement semester)		
<b>FIELD EDUCATION</b>	Mandatory Work Term		
<b>STARTING MONTH</b>	September		<b>International students:</b> Visit the International Fees and Related Costs <sup>2</sup> page for more information.
<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.

*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.*

## 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/)