

# CIVIL ENGINEERING TECHNOLOGY PROGRAM (T164)

<b>PROGRAM NAME</b>	Civil Engineering Technology	<b>TUITION</b>	\$4,281.00 *
<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 2018. Fees are subject to change for programs starting in Fall 2019 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>	2019-2020		
<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 knowledge and skills to interpret construction drawings and specifications through extensive practical training and also have the ability to estimate, bid, schedule and manage/supervise projects using the latest software. Students also extensively learn health and safety management as well as quality management on construction sites. Students learn to undertake risk analysis and value analysis for construction projects. Students also gain in-depth knowledge of the various types of contracts used by the construction industry as well as the legal aspects of construction. Students learn business management techniques to pre-qualify projects based on expected returns, to create and manage a construction company and to understand the financial statements involved in running a construction business. Students gain the knowledge and skills to interpret construction drawings and specifications through extensive practical training and also have the ability to estimate, schedule and manage projects using the latest software.

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

## FIELD EDUCATION OPTIONS

### Purpose and Definition of Field Experience

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

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

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

## THE INDUSTRY

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

## PROGRAM STANDARDS AND LEARNING OUTCOMES

The graduate has reliably demonstrated the ability to:

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

11. Apply teamwork, leadership, supervision and interpersonal skills when working individually or within multidisciplinary teams to complete civil engineering projects.

## REQUIRED COURSES

### SEMESTER 1

Code	Course name
BLDG1025	Construction Field Practices
BLDG1077	Construction Health and Safety
CIVL1001	Civil Engineering Technology - Fundamentals
CIVL1002	Civil Engineering Materials
CIVL1004	Civil Engineering Materials Testing 1
COMM1007	College English**
MATH1136	Mathematics for Building Technologies 1

### SEMESTER 2

Code	Course name
CIVL1085	Land Use Planning and Regulations
CIVL1141	Construction Graphics 1
CIVL2064	Civic Engineering Materials Testing 2
GHUM1106	History of Architecture
GSCI1022	Building Science and the Environment
MATH1146	Mathematics for Building Technologies 2
GNEDE	General Education Elective

### SEMESTER 3

Code	Course name
BLDG1201	Work Preparation
BLDG1202	Field Experience 1
CIVL1003	Basics of Structural Analysis
CIVL2045	Site Management for Civil Projects
CIVL2059	Construction Graphics 2
CIVL2063	Estimating Civil Projects 1
COMM1113	Professional Communications for Building Technologies
GNEDE	General Education Elective

### SEMESTER 4

Code	Course name
BLDG2130	Field Experience 2
CIVL1005	Civil Engineering Technology - Steel Structures
CIVL2021	Planning and Scheduling for Civil Projects
CIVL2058	Quality & Risk Management for Civil Projects
CIVL3035	Estimating Civil Projects 2
CIVL3050	Trenchless Technologies
CIVL3065	Civil Engineering Technology - Heavy Industrial

## SEMESTER 5

Code	Course name
BLDG2090	Principles of Construction Law
BLDG3075	Technical Research Report
BLDG3090	Business Economics & Management
CIVL2078	Civil Engineering Technology - Rail and Transit
CIVL3028	GIS Technology for Civil Projects
CIVL3033	Value Analysis for Civil Projects
CIVL3034	Civil Infrastructure Modeling
CIVL3080	Budgeting & Bidding Civil Projects

## SEMESTER 6

Code	Course name
CIVL2056	Civil Engineering Technology - Municipal Services
CIVL3006	Civil Construction Project Administration
CIVL3039	Rehabilitation of Civil Infrastructure Projects
CIVL3078	Civil Engineering Technology - Bridge and Tunnel
CIVL3082	Sustainable Construction Practice 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 <http://assessment.georgebrown.ca> 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 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

### 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/?](https://collegeapply.ontariocolleges.ca/?collegeCode=GBT&programCode=T164&lang=en)

[collegeCode=GBT&programCode=T164&lang=en](https://collegeapply.ontariocolleges.ca/?collegeCode=GBT&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/>

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

*George Brown College is continually striving to improve its programs and their delivery. The information contained in this calendar is subject to change without notice. It should not be viewed as a representation, offer or warranty.*

*Students are responsible for verifying George Brown College admission, graduation, and fee requirements as well as any requirements of outside institutions, industry associations, or other bodies that may award additional designations concurrently with, or after completion of, a George Brown College program.*