

# MECHANICAL ENGINEERING TECHNOLOGY - DESIGN PROGRAM (T121)

|                        |   |   |              |
|------------------------|---|---|--------------|
| <b>PROGRAM NAME</b>    | Mechanical Engineering Technology – Design        | <b>TUITION</b>  | \$4,430.00 * |
| <b>COURSE CODE</b>     | T121  | <b>ADDITIONAL COST</b>  |              |
| <b>SCHOOL</b>          | School of Mechanical and Engineering Technologies | * 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>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>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>                     |   |              |



A solid grounding in engineering sciences and practical hands-on experience in mechanical shops and computer assisted design laboratories provide the combination of applied and theoretical knowledge that employers expect in today's integrated work environments.

In the third year of the program, teams plan and craft their own creations that require the application of all of the knowledge accumulated throughout the program. Once built, projects such as medical devices, entertainment equipment, solar-powered products and automotive accessories are often put on display and form an important part of the student assessment. More importantly, graduates learn to work in teams while solidifying their mechanical engineering knowledge and skills.

Note: If you enrol in the program in January, you must complete semester 2 in the summer (May to August) of the same year.

## FIELD EDUCATION OPTIONS

Field study in the form of applied research is provided to all students.

Some students will also have the opportunity to complete a Co-op term. Co-op participants will be selected based on their academic performance, including a minimum GPA of 3.0 and an interview component.

## PROGRAM STANDARDS AND LEARNING OUTCOMES

The graduate has reliably demonstrated the ability to:

1. Communicate clearly and concisely in written, graphic and oral form using appropriate formal and informal vocabulary and formats.
2. Display appropriate responsible attitudes.
3. Carry out established design procedures, making use of handbooks, catalogues, specifications and codes. He/she should be able to recognize problems and apply established engineering practice to arrive at practical solutions.
4. Prepare and interpret detail drawings, assembly drawings and compile technical specifications.
5. Inspect, conduct tests, and compare and compile data in accordance with standard formats and procedures.
6. Assist in the planning, operation, control and improvement of manufacturing and production processes.
7. Participate in the installation and maintenance of equipment and systems.

## REQUIRED COURSES

### SEMESTER 1

| Code     | Course name                              |
|----------|--|
| EMNG1001 | Circuit Analysis                         |
| EMNG1004 | Metrology                                |
| MENG1002 | Engineering Drawing                      |
| MENG1027 | Introduction to Machining                |
| GSSC1027 | Personal Finance                         |
| MATH1160 | Mathematics for Engineering Technology 1 |
| COMM1007 | College English**                        |

## SEMESTER 2

| Code     | Course name                              |
|----------|--|
| CADE1004 | Introduction to CNC                      |
| EMNG1003 | Engineering Mechanics                    |
| MENG1004 | Intermediate Machining                   |
| MENG1026 | Introduction to Mechanical CAD           |
| MENG2008 | Pneumatic Systems                        |
| GSSC1100 | Small Business Plan and Operation        |
| MATH1171 | Mathematics for Engineering Technology 2 |

## SEMESTER 3

| Code     | Course name                |
|----------|----------------------------|
| CADE2003 | Advanced Mechanical CAD    |
| CADE3010 | Applied CAM & CNC          |
| EMNG1013 | Electronic Devices         |
| MENG2010 | Electro-Pneumatic Controls |
| MENG2039 | Statics                    |
| MENG2070 | Workplace Essentials       |
| MATH2015 | Calculus 1                 |

## SEMESTER 4

| Code     | Course name  |
|----------|--|
| DFRT1014 | Jig & Fixture Design   |
| MENG2040 | Strengths of Materials                                       |
| MENG2047 | Geometric Dimensioning and Tolerancing for Mechanical Design |
| MENG2049 | Product Development Engineering                              |
| MENG3023 | Engineering Dynamics   |
| MENG3030 | Technical Report Writing                                     |
| MATH3006 | Calculus 2   |
| GNED     | General Education Elective                                   |

## SEMESTER 5

| Code     | Course name                |
|----------|----------------------------|
| EMNG3001 | Embedded Systems 1         |
| MENG1019 | Fluid Mechanics            |
| MENG3008 | Capstone Project 1         |
| MENG3009 | Programmable Logic Control |
| MENG3012 | Finite Element Analysis    |
| MENG3024 | Machine Design 1           |
| MENG3026 | Engineering Materials      |

## SEMESTER 6

| Code     | Course name                |
|----------|----------------------------|
| EMNG3008 | Embedded Systems 2         |
| MENG3006 | Thermodynamics             |
| MENG3010 | Capstone Project 2         |
| MENG3025 | Machine Design 2           |
| GNED     | General Education Elective |

\*\*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.

Detailed course outlines

## YOUR CAREER

Graduates can expect to find positions on technical teams that design, produce and maintain automated equipment and systems in all industries. An engineering background will enable graduates to move to more senior levels of responsibility at an earlier stage of their careers.

## FUTURE STUDY OPTIONS

Graduates may be eligible for advanced standing in the engineering programs of various universities. For example, qualifying graduates have entered the third year of McMaster University's Bachelor of Technology program and into Lakehead University's Engineering program.

For further information, see [georgebrown.ca/transferguide](http://georgebrown.ca/transferguide)

**Is this program right for you?** Not sure what to expect in this program? Check out this at-a-glance brochure<sup>3</sup>  designed to help you chart your path through the program and into your future career.

## 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>.

## 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.



"I chose George Brown because I was looking for a more hands-on approach to learning and the university route was not for me. Not only does George Brown have excellent professors and support staff who provide great learning opportunities, but they have been mentors during my three years at the college. I would personally recommend George Brown to anyone thinking about a career in mechanical engineering technologies."

**Lawrence Lee** (Graduate 2008, Mechanical Technician – Tool and Die & Mechanical Engineering – Design)

## CONTACT US

### School of Mechanical Engineering Technologies

Phone: 416-415-5000, ext. 4365

Email: [engineeringtech@georgebrown.ca](mailto:engineeringtech@georgebrown.ca)

Our office hours are 8 a.m. – 4 p.m., room D305

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=T121&lang=en>

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

<sup>3</sup><http://www.georgebrown.ca/programs/careerclaritybrochure/t121.pdf>

<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.*