ELECTRICAL ENGINEERING TECHNOLOGY

Program: EETY
Credential: Ontario College Advanced Diploma, Co-op
Delivery: Full-time
Work Integrated Learning: 3 Co-op Work Terms
Length: 6 Semesters, plus 3 work terms
Duration: 3 Years
Effective: Fall 2018, Winter 2019
Location: Barrie

Description

The curriculum incorporates theory, applications and practical experience from the manufacturing, robotics, computer communications and utilities industries, along with concepts from the sciences and humanities to ensure the graduate is provided with current technical knowledge, skills and practice.

Career Opportunities

There has never been a better time to enter the field of Engineering Technology to serve today's global market economy. The numbers of jobs in Electrical Technology have been growing steadily including opportunities in specialized robotics manufacturers, automotive support industries, equipment manufacturers, and utilities as well as product installation and service, design and testing, research, maintenance, industrial sales and marketing, estimating, contract and project administration as well as quality control.

Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. analyze, interpret, and produce electrical and electronics drawings, technical reports including other related documents and graphics;
2. analyze and solve complex technical problems related to electrical systems by applying mathematics and science principles;
3. design, use, verify, and maintain instrumentation equipment and systems;
4. design, assemble, test, modify, maintain and commission electrical equipment and systems to fulfill requirements and specifications under the supervision of a qualified person;
5. commission and troubleshoot static and rotating electrical machines and associated control systems under the supervision of a qualified person;
6. design, assemble, analyze, and troubleshoot electrical and electronic circuits, components, equipment and systems under the supervision of a qualified person;
7. design, install, analyze, assemble and troubleshoot control systems under the supervision of a qualified person;
8. use computer skills and tools to solve a range of electrical related problems.
9. create, conduct and recommend modifications to quality assurance procedures under the supervision of a qualified person;
10. prepare reports and maintain records and documentation systems;
11. design, install, test, commission and troubleshoot telecommunication systems under the supervision of a qualified person;
12. apply and monitor health and safety standards and best practices to workplaces;
13. perform and monitor tasks in accordance with relevant legislation, policies, procedures, standards, regulations, and ethical principles;
14. configure installation and apply electrical cabling requirements and system grounding and bonding requirements for a variety of applications under the supervision of a qualified person;
15. design, commission, test and troubleshoot electrical power systems under the supervision of a qualified person;
16. select and recommend electrical equipment, systems and components to fulfill the requirements and specifications under the supervision of a qualified person;
17. apply project management principles to contribute to the planning, implementation, and evaluation of projects;
18. apply basic entrepreneurial strategies to identify and respond to new opportunities;
19. explain how electrical and electronic systems and work practices impact the environment.

Practical Experience

Co-operative Education is a mandatory component of all Co-op programs at Georgian College; it has been designed as a process by which students integrate their academic education with work experience related to their programs of study. This integration affects much more than simply earning a salary, including the adjustment to the work environment and the development of professionalism. It also reinforces skills and theory learned during academic semesters, develops professional contacts, job knowledge and career path, improves human relations and communication skills, and promotes personal maturity and financial independence.

Students are requested to register, attend and participate in their scheduled co-operative education classes. These classes are scheduled for all first year students and are expected to be completed in order for students to proceed successfully to their first co-op work experiences. To ensure students are eligible to proceed onto any co-op work experience, students should refer to Promotional Status and Eligibility for Co-op as outlined in the College Calendar. Co-op policies and procedures can be located on our website: www.georgiancollege.ca/student-services/co-op-and-career-services/students-tab/ (http://www.georgiancollege.ca/student-services/co-op-and-career-services/students-tab)

Georgian College follows the Co-operative Education guidelines set out by the Canadian Association for Co-operative Education (CAFCE) and Education at Work Ontario (EWO) by supporting the learning outcomes designed for the program specific graduate profile and curriculum as set out by the Ministry of Advanced Education and Skills Development.

External Recognition

This program is accredited by Technology Accreditation Canada (TAC) and by the Ontario Association of Certified Engineering Technicians and Technologists (OACETT).

This program is accredited by the Canadian Association for Co-operative Education (CAFCE).

The Program Progression

Fall Intake

- **Sem 1:** Fall 2018
- **Sem 2:** Winter 2019
- **Work Term 1:** Summer 2019
- **Sem 3:** Fall 2019
- **Work Term 2:** Winter 2020
- **Sem 4:** Summer 2020
- **Work Term 3:** Fall 2020
- **Sem 5:** Winter 2021
- **Sem 6:** Summer 2021

Winter Intake - Barrie

- **Sem 1:** Winter 2019
- **Sem 2:** Summer 2019
- **Work Term 1:** Fall 2019
- **Sem 3:** Winter 2020
- **Work Term 2:** Summer 2020
- **Sem 4:** Fall 2020
- **Work Term 3:** Winter 2021
- **Sem 5:** Summer 2021
- **Sem 6:** Fall 2021

Articulation

A number of articulation agreements have been negotiated with universities and other institutions across Canada, North America and internationally. These agreements are assessed, revised and updated on a regular basis. Please contact the program co-ordinator for specific details if you are interested in pursuing such an option. Additional information can be found on our website at http://www.georgiancollege.ca/admissions/credit-transfer/

Admission Requirements

OSSD or equivalent with

- Grade 12 English (C or U)
- Grade 12 Mathematics (C or U)

Mature students, non-secondary school applicants (19 years or older), and home school applicants may also be considered for admission. Eligibility may be met by applicants who have taken equivalent courses, upgrading, completed their GED, and equivalency testing. For complete details refer to: www.georgiancollege.ca/admissions/policies-procedures/ (http://www.georgiancollege.ca/admissions/policies-procedures)

Applicants who have taken courses from a recognized and accredited post-secondary institution and/or have relevant life/learning experience may also be considered for admission; refer to the Credit Transfer Centre website for details: www.georgiancollege.ca/admissions/credit-transfer/ (http://www.georgiancollege.ca/admissions/credit-transfer)

Additional Information

Students who have graduated from Georgian College's Electrical Techniques Certificate program (ELTQ) must apply to be admitted with advanced standing. ELTQ students, upon admission, must complete a selection of semester 1 and 2 courses to align with program progression.

Graduation Requirements

32 Program Courses
2 Communications Courses
3 General Education Courses
3 Co-op Work Terms

Graduation Eligibility

To graduate from this program, the passing weighted average for promotion through each semester, from year to year, and to graduate is 60%. Additionally, a student must attain a minimum of 50% or a letter grade of P (Pass) or S (Satisfactory) in each course in each semester unless otherwise stated on the course outline.

Program Tracking

Semester 1		**Hours**
Program Courses		
DRFT 1003	Introduction to Technical Drafting	42
ELEN 1000	DC Circuit Fundamentals	56
MATH 1018	Introduction to Technical Mathematics	42
PHYS 1001	Physical Sciences	42
Communications Course		
Select 1 course from the communications list during registration.		42
General Education Course		
Select 1 course from the general education list during registration.		42
	Hours	266
Semester 2		
Program Courses		
ELEC 1000	CAD Electrical Circuits	42
ELEC 1001	AC Circuit Fundamentals	56
ELEC 1002	Electrical Systems and Control	56
MATH 1019	Technical Mathematics	42
Communications Course		
Select 1 course from the communications list during registration.		42
General Education Course		
Select 1 course from the general education list during registration.		42
	Hours	280
Semester 3		
Program Courses		
ELEC 2005	Electrical Machines	56
ELEC 2007	CAD Electrical Layouts	42
ELEC 2023	Power Transmission and Distribution 1	56
ELEC 2024	Electronic Fundamentals	42
GEOG 2000	Geographic Information Systems	42
ROBT 2000	Introduction to Robotics	42
	Hours	280
Semester 4		
Program Courses		
COMP 2123	Introduction to Microprocessors and Computing	42
ELEC 2008	Programmable Logic Controller 1	42
ELEC 2010	Progressive Electrical Maintenance	42
ELEC 2014	Hydro Codes and Standards	56
ELEC 2025	Digital Circuits	42
STAT 3002	Applied Statistics	42

General Education Course		
Select 1 course from the general education list during registration.		42
	Hours	308
Semester 5		
Program Courses		
ELEC 3002	Instrumentation	42
ELEC 3007	Electrical Protection and Control	42
ELEC 3010	Advanced Programmable Logic Controllers	56
MATH 3000	Calculus	42
MGMT 2002	Project Management	42
ROBT 3003	Advanced Robotics	42
	Hours	266
Semester 6		
Program Courses		
COMP 3031	Networking	42
ELEC 3004	Systems Integration	42
ELEC 3006	Power Quality and Distribution	42
ELEC 3009	Power Transmission and Distribution 2	56
ELEN 3001	Electronic Motor Control	42
TECR 3008	Technical Report	42
	Hours	266
	Total Hours	1666

Co-op Work Terms		**Hours**
COOP 1044	Electrical Engineering Work Term 1 (occurs after Semester 2)	560
COOP 2036	Electrical Engineering Work Term 2 (occurs after Semester 3)	560
COOP 3014	Electrical Engineering Work Term 3 (occurs after Semester 4)	560
	Hours	1680
	Total Hours	1680

Information contained in College documents respecting programs is correct at the time of publication. Academic content of programs and courses is revised on an ongoing basis to ensure relevance to changing educational objectives and employment market needs. The college reserves the right to add or delete programs, options, courses, timetables or campus locations subject to sufficient enrolment, and the availability of courses.