

Biomedical Engineering Technology

Program Code: 3427

3437 (co-op)

Program Length: 2 years/4 semesters (3427)

2 years/6 semesters (3437)

Credential: Ontario College

Advanced Diploma

Start: Fall, Winter

Campus: Centennial Science and
Technology Centre

bet@centennialcollege.ca

Program Overview

Qualified college or university graduates with the electronics background gain direct admission into this two-year program and receive their technology diploma in four semesters.

In the biomedical equipment industry, engineering and scientific disciplines merge, resulting in innovations that bring progress to the health care system and benefit society as a whole. Firms in this industry must now meet the challenge of providing a wider range of quality products. As a result, there will be a greater need for qualified professionals. Biomedical engineering integrates various principles including electronics, computers, embedded microcontrollers, chemical, biology, medicine, health, and product engineering in the design of medical equipment, rehabilitation and health improvement devices.

In response to this growing demand for technology professionals who understand health-related fields, Centennial College is offering the Biomedical Engineering Technology. The program will prepare you for a challenging career with the latest technology, while continuing to evolve to reflect the ever-growing innovations.

This program provides an optimum balance between theory and hands-on labs with ever present technical problem-solving. You can choose to participate in an optional co-op component where academically-qualified students enhance their education by working three 4-months terms as paid employees in the field. The experience not only allows you to put classroom learning into practice, but also provides valuable contacts for future careers.

BENEFITS

PROGRAM HIGHLIGHTS

- instruction from biomedical industry professionals
- hands-on experience is gained with a wide range of high-tech equipment
- a strong focus is placed on hands-on labs to enhance classroom learning
- the program is part of an active student chapter of Institute of Electrical and Electronic Engineers (IEEE)
- the program has its own Biomedical Student Club
- the advanced diploma that is earned is recognized in Canada and abroad, reflecting high standards of learning
- opportunity exists for three paid co-op work terms (if in the co-op program)

EDUCATIONAL PARTNERS

Qualified graduates may be eligible to participate in an articulated program with selected universities. These partnerships allow graduates to apply academic credit towards further study.

Our partners are:

- Lakehead University, engineering degree
- Cape Breton University, engineering technology degree

ADMISSION REQUIREMENTS

Applicants to Fast-track programs must submit an official transcript demonstrating proof of successful completion of a post-secondary diploma or degree program. We will consider applicants presenting a combination of post-secondary education and relevant work experience in areas of science and/or engineering.

NON-ACADEMIC REQUIREMENTS

- English and/or math skills assessment may be required
- interview with the original transcript and resumé review may be required

For information on the admission process, please see p. 14.

CO-OP REQUIREMENTS

- completion of COMM-170/171 with a minimum C grade or the equivalent English assessment result is required for COOP-221

SEMESTER AND GRADUATION REQUIREMENTS

- minimum 2.0 GPA required for progression to semesters 5 and 6 and technology graduation

PROGRAM OUTLINE

Semester 3

ANAT-106	Applied Anatomy & Physiology
BTEC-211	Biomedical Engineering 1
BTEC-212	Infection Control & Microbiology
ETEC-201	Electronics 2
ETEC-204	Electronic Communication Systems
MLAB-101	Clinical Laboratory Techniques
COMM-160/161	College Communications 1 (3427)
COMM-170/171	College Communications 2 (3437)
COOP-221	Employment Pre-placement (3437)

Co-op Work Term 1 (3437)

Semester 4

BTEC-221	Biomedical Engineering 2
BTEC-222	Dialysis & Water Treatment
ETEC-202	Microcontrollers 1
ETEC-203	Measurement & Instrumentation
ETEC-221	Electronics 3
BTEC-225	Project Design Applications

Co-op Work Term 2 (3437)

Semester 5

BTEC-312	Biomechanics & Rehabilitation Engineering
BTEC-313	Medical Imaging Systems
BTEC-314	Photonics Devices & Laser Treatment
ETEC-306	QA and Project Management
ETEC-222	Microcontrollers 2
ETEC-223	Control Systems 1
ETEC-224	Data Communications & Networks

Co-op Work Term 3 (3437)

Semester 6

BTEC-321	Advanced Topics in Biomedical Engineering
BTEC-325	Computer Integrated Surgery & Telemedicine
BTEC-327	Biomedical Project
ETEC-205	RF Transmission & Measurements
ETEC-324	Wireless Networks & Applications
GNED-500	Global Citizenship: From Social Analysis to Social Action
EMPS-101	Employment Skills (3427)

Note: Students will be placed in the appropriate English and math level based on skills assessment results.

At A Glance

Health care technology professionals work in settings such as:

- hospitals
- medical equipment companies
- pharmaceutical companies
- rehabilitation facilities