



Certificate in Biomedical Engineering

Frequency Asked Questions

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This document offers answers to common questions about the Certificate in Biomedical Engineering certificate offered by the Electrical and Computer Engineering Department.

What is the Certificate in Biomedical Engineering?

The Certificate in Biomedical Engineering is a recognition for students in Electrical Engineering who specialize their studies in biomedical engineering topics by directing their Electrical coursework towards biomedical topics and by taking biomedical courses outside the department. It is recognized with a certificate delivered with your parchment at convocation or from the registrar's office. Details on Dalhousie Certificate programs can be found here:

<https://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=81&chapterid=4596&loaduseredits=False>

Where can I find the requirements for the Certificate in Biomedical Engineering?

The current requirements for the Certificate can be found at

<https://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=81&chapterid=4596&topicgroupid=29405&loaduseredits=False>

I want to get a Certificate in Biomedical Engineering. How do I sign up?

You sign up for the Certificate via Dal Online by taking the following steps:

1. In DalOnline select the Student tab and click Admissions
2. Click Declare your Major/Minor
3. Fill in your banner ID, name and email in the fields at the top of the page.
4. At the bottom of the page, from the Certificate menu, select "Biomedical Engineering"
5. Click the Submit Information button

If I register for the certificate but fail to meet the requirements, what happens?

If you fail to meet the requirements for the certificate you will not receive the certificate, but there is no other record on your transcript or diploma showing that you registered for it and did not complete it. You will remain registered in the certificate after you graduate and you can still receive your certificate post-graduation as long as you complete all requirements within 36 months of registering for the certificate. This allows you, for instance to take additional courses after graduation in order to complete the requirements if you are not able to do it during your undergraduate degree.

I met some of the requirements before I registered for the certificate. Do they still count?

Yes. You can count courses or senior year projects done prior to registering for the certificate toward the certificate.

How do I meet the requirement 1a for a biology course given the constraints of my engineering courseload?

The requirement for a biology course can be met by taking any first-year biology course at Dalhousie (BIOL1010, BIOL1011, BIOL1020, BIOL1021 or BIOL1030). If you have a full engineering course schedule, the easiest way to meet the requirements is to take the online version of the course, BIOL1020. This allows you to complete the course on your own time.

How do I meet requirement 1b for a discipline-specific core course?

As an electrical engineering student, you will meet this course requirement by taking ECED4502 as part of the standard ECED curriculum.

How do I meet requirement 1c for “two additional Biomedical Engineering-related courses”?

Most ECED students will obtain one of the two courses by taking the technical elective ECED4760 Biomedical Engineering.

For the second biomedical engineering-related course, if your schedule allows it, you may register for one of the other undergraduate biomedical courses offered within the Faculty of Engineering, BIOE3321, BIOE4391, IENG3303, IENG4564, IENG4573, MECH4650 or MECH4652. However, these courses often conflict with the electrical engineering course calendar. Check the academic timetable to see if it is possible for you to take these.

If you are taking a full electrical engineering courseload, the easiest way to obtain the second biomedical engineering-related course is to take a distance education course that you can complete on your own time or during a co-op term. The following distance education courses qualify as biomedical engineering-related.

Distance education courses

ANAT1010 Basic Human Anatomy

BIOL1021 Introductory Biology 2 (prerequisite BIOL1020 or equivalent)

IPHE2201 Introduction to Aboriginal Peoples' Health and Healing

MIC11100 Intro to Microbiology and Immunology

PHYL1001 Human Physiology 1

PHYL1002 Human Physiology 2 (prerequisite PHYL1001)

You may also take any undergraduate course offered within the departments of Anatomy, Biochemistry, Biology, Kinesiology, Microbiology, Neuroscience, Pathology, Pharmacology, or Psychology. Note that upper year courses generally have prerequisites. Please check the academic timetable for course times and prerequisites.

You may also take a graduate-level course. Generally, for an undergraduate student to register in a graduate course, the course instructor needs to give approval. You may contact graduate course instructors directly to see if the course is a good fit. The School of Biomedical Engineering offers the following graduate courses, all of which qualify for the certificate. Note that graduate courses are typically more challenging than undergraduate courses and typically require about 50% more work than a typical undergraduate course.

School of Biomedical Engineering Courses (with instructor permission)

BMNG5020 Cell and Molecular Biology

BMNG5060Y Clinical Technologies

BMNG5110 Biocompatibility and Biomaterial Design

BMNG5120 Biomechanics and surgical implant design

BMNG5150 Intro to Tissue Engineering

BMNG5210 Biomedical Instrumentation, Data Acquisition and Data Analysis

BMNG5230 Biomedical Signals

BMNG5260 Principles of Medical Imaging

How do I meet the sub-requirement of requirement 2 that my Senior Year Project must be designated as “being on a biomedical engineering topic by their department’s senior year” project coordinator?

When you go to pick senior year projects in ECED4900, the course instructor will indicate which ones are eligible for the certificate. You are strongly encouraged to form a group with other students who are interested in the certificate program to help ensure that everybody who wants a biomedical project can do one. You can also propose a project if you can't find one that seems suitable. The Certificate coordinator, Dr. Rob Adamson, can help if you are having trouble finding a senior year project to meet the Certificate requirements.

I've met all the requirements. When do I receive my certificate?

Biomedical Engineering Certificates are given out at convocation along with your degree or can be sent by mail from the registrar's office on request. Even if you have registered for the Certificate and meet all its requirements before graduating you still have to wait until you graduate with your Electrical and Computer Engineering degree to receive the Certificate.

I have more questions. How do I get them answered?

If you have any more questions you can contact the Certificate Coordinator, Dr. Rob Adamson at rob.adamson@dal.ca.