

Graduate Programs in Electrical and Computer Engineering

Program Overviews

❖ **Master of Engineering (M.Eng.)**

*Average Completion Time: **12-16 months***

*Maximum Program Length: **5 years***

*Number of Students accepted per year: **80-100 students***

The M.Eng. program is designed for students who want to pursue their electrical and computer engineering education beyond the undergraduate level but are looking for an alternative to a thesis-based research program. The M.Eng. is now considered a minimum qualification for graduation in Europe and the content provided here exceeds those expectations.

The Master of Engineering program requires students to complete 30 credits of coursework with the option of completing a supervised project. Students are free to choose among a number of graduate and senior undergraduate courses to complete the program.

Possible areas of concentration include:

- Communications
- Computer Systems
- Energy Production
- Energy Utilization
- Micro/Nano Electronic Systems
- Signal Processing
- Software Engineering

Note: Applicants who are considering taking a Ph.D. in the future should apply for admission to the M.A.Sc. program rather than the M.Eng. program.

Project Option:

After completing one term in the program, an M.Eng. candidate can choose to conduct an engineering project in their area of specialization, in lieu of 6 credits of conventional coursework. Students will receive guidance from their project supervisor in developing the research topic. The project also requires a written report, which may be based on work performed outside the university in conjunction with an Engineering Co-op placement or a volunteer position. In this case, someone outside the university may have involvement with the project supervision, but the final mark will be decided by the Program Advisor.

Students can also design their own projects in this course. Students are encouraged to approach individual faculty members if they have project ideas. The faculty member will be responsible for the day-to-day direction of the project and will agree on a final mark with the M.Eng. Program Advisor. Unlike a research degree, there is no expectation that this project will be publishable, although students are encouraged to submit it to the UBC eCircle repository. Confidential work can form part of a project and although this does not need to be published, the faculty supervisor and program advisor must be able to review it.

❖ **Master of Applied Science (M.A.Sc.)**

Average Completion Time: 24 months

Maximum Program Length: 5 years

Number of Students accepted per year: 30-50 students

The M.A.Sc. program is intended for students who are interested in pursuing advanced studies and research at the postgraduate level. The M.A.Sc. degree requires the completion of a thesis and course work, made up of 30 credits. Successful completion of the thesis is 12 credits while the remaining 18 credits are from course work. Full time students usually complete these courses within the first year of registration.

An M.A.Sc. is expected to take about 24 months. An examining committee of three, including the supervisor, a co-reader, and the committee chair, conduct a public examination after copies of the thesis have been made publicly available, for a minimum of one week prior to the exam. M.A.Sc. degree candidates registered as full-time students are required to spend at least one winter session at the University. M.A.Sc. candidates may also register as part-time students.

❖ **Doctor of Philosophy (Ph.D.)**

Average Completion Time: Approximately: 48 months

Maximum Program Length: 6 years

Number of Students Accepted per Year: 30-50 students

The Ph.D. program is designed to develop the candidate's ability for independent research. Applicants to the program must have a high scholastic standing and demonstrated an aptitude for research. A minimum of 24 credits of approved courses is required for adequate completion. For those holding a Master's degree or transferring from a Master's program, appropriate credit will be given for courses completed (maximum of 18 credits). Courses are intended to provide both a general intellectual proficiency and specialization in a selected area.

Ph.D. students will normally be required to spend a minimum of three winter sessions at the University, although in some circumstances it is possible to complete in 2 years following a Master's degree. Substantial completion of the Ph.D. requirements is expected within three years for students with a Master's degree, and within 4 years for those students who have transferred from the M.A.Sc. program.

Admission Requirements

Applicants to all ECE Grad Programs must:

- Hold an accredited (by UBC) four-year Bachelor's degree in Electrical or Computer Engineering or a closely related field, with a minimum overall GPA of 76% (3.3 on a 4-point scale) or equivalent
 - It is preferred that applicants have a GPA in the first-class range – 80% or higher (3.7 on a 4-point scale)
- *For PhD Applicants:* Hold a recognized course and thesis-based Master's degree which includes graduate level courses and a written thesis with a minimum overall GPA of 76% (3.3 on a 4-point scale) or equivalent

- It is preferred that applicants have a GPA in the first-class range – 80% or higher (3.7 on a 4-point scale)
- Provide:
 - PDF copies of official transcripts from each post-secondary institution they have attended. (Current transcripts are accepted for degrees that are in progress at the time of application.)
 - Curriculum Vitae (CV) or Resume
 - UBC-specified Statement of Purpose
 - Copy of Permanent Resident card (if applicable)
 - Three confidential reference reports.
 - At least one of your references should detail your academic achievement and how you would perform in a graduate level degree program.
 - *For PhD applicants:* one reference should be from your Master's thesis supervisor
 - The online application form will ask for the contact information for the referees. The referee will be invited by email and will respond by email. Applicants can check the status of submission through their online application form account.
- Submit a current, official English Proficiency exam score, if required
 - TOEFL score of 100 on the IBT with minimum component scores of 22 (reading, listening) and 21 (writing, speaking)
 - IELTS academic test score (NOT general) of 7/9 with a minimum score of 6.0 in each component.
 - *Note:* Unless applicants have recently (within 5 years) completed a degree from one of the countries mentioned on our [website](#), we require a current, official language score to be submitted, even if the medium of instruction of a degree was English. This requirement cannot be waived and applications will not be processed until a language score is received, nor will applicants be considered for conditional admission, pending further English language training.

Program Specific Requirements:

M.Eng.

- A video interview submission is mandatory for all MEng applicants through our video submission platform. The video interview includes one question that applicants will have 1 minute to answer.
- It is preferred that applicants have some industrial experience
- M.Eng. applicants do not require a supervisor in order to apply.

M.A.Sc.

- It is preferred that applicants show some demonstrated aptitude for research
- Although not mandatory, it is recommended that applicants contact faculty members they are interested in working with directly

Ph.D.

- If applicants have a Master's degree that included research only, they may have to complete a year of additional coursework as part of their Ph.D. program.
 - Applicants who wish to apply for the PhD program who have not completed a Master's degree or who have completed a course-based Master's degree are eligible to apply as Direct Entry Candidates. In addition to the requirements mentioned above, direct entry candidates must have:
 - A first class standing in your bachelor's degree and evidence of prior research ability
 - It is understood that such a grade-average is a minimum requirement and depending on the overall applicant profile, higher grades can be expected.
 - Hard evidence of research experience and ability, demonstrated by
 - Previously holding a research internship
 - Co-author on a manuscript or paper accepted in a high visibility, rigorously peer reviewed academic venue (e.g., an internationally recognized journal, or, in certain disciplines, especially computer and software engineering, a top tier conference)
 - Prospective supervisors of direct entry students must submit a maximum one-page explanation of why the student is deemed sufficiently-prepared to be directly admitted to the Ph.D. program.
 - Although not mandatory, it is recommended that applicants contact faculty members they are interested in working with directly
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Application Dates and Deadlines

September 2021 Intake – All programs

- Applications open **October 15, 2020**
- Applications must be submitted by **January 15, 2021**
- All references, supporting documents, and test scores must be received by **January 31, 2021**
- Admission decisions made on an ongoing basis until March, 2021

January 2022 Intake – M.A.Sc. and Ph.D. programs only

- Applications open **May 1, 2021**
- Applications must be submitted by **June 1, 2021**
- All references, supporting documents and test scores must be received by **June 15, 2021**
- Admission decisions made on an ongoing basis until August, 2021

Please note, the M.Eng. program only has one intake per year, in September.

Should any application deadlines be extended, all updates will be posted on our website:

<https://www.ece.ubc.ca/admissions/graduate/apply>