

School of Biomedical Engineering Accelerated Option for Graduate School

Information Session

March 2022



Master of Applied Science (MASc)

Accelerated Option- Complete in 12-months of full-time study

- The MASc. degree is a thesis-based program.
- Academic requirement is a minimum B+ (77 – 79%), 9 GPA.
- Available only to McMaster students in the undergraduate 5-year Integrated Biomedical Engineering Health Science (IBEHS) program.
- Application for entry into the accelerated option occurs in the last year of undergraduate studies.

Admission Requirements

3rd year
undergraduate

- Annual sessional average of 9.0 or B+ (i.e. in the 3rd year) at the time of contacting the Director of the School of Biomedical Engineering to express their intention to apply for the accelerated MASc. option.

4th year
undergraduate

- Maintain 9.0 or B+ average
- Take IBEHS 4F04 (Biomedical Instrumentation and Measurement) with the additional 600 level evaluation components (ie: IBEHS 6F04)
- At the end of their 4th year, students will need to complete the first term of their research project with their proposed supervisor (i.e. during May through August), prior to completion of their undergraduate degree.

5th year
undergraduate

- Maintain 9.0 or B+ average
- Take IBEHS 4QZ3 (Modelling of Biological Systems) with the additional 600 level evaluation components (ie: IBEHS 6QZ3)

Graduate School Program Structure

- Students will officially start their accelerated MASc in May (after completion of their 5th year, and once they have been cleared to graduate) and pursue research through the summer.
- Students would take either core course Biomed 701 (required by HESE students) in the Fall or Biomed 706 (required for Engineering students) in the Winter.
- They would be required to take a **third course, at the 700 level**, which would be decided upon between them and their supervisor.

Admission Guide

- Admission is very competitive, so meeting/surpassing the minimum requirements does not guarantee admission to this program. Many variables are considered when the School of Biomedical Engineering is making a decision to recommend an applicant for admission, some of which include: research fit; available funding; the applicant's statement of interest; the applicant's specific industry/research experience outlined in their resume/CV; and the applicant's reference reports.
- Determine if you meet our minimum eligibility requirements; you can do this yourself by reviewing the Admission Requirements tab.
- Students entering the Accelerated would start their program in May. The deadline to have your application complete is February 30 for Canadians and October 1 for International students.
- The caveat for international applicants: we recognize that you may need a number of months to obtain a student visa after a final decision of admission is made; therefore, we recommend that you take that timing into consideration when you apply.
- In preparation for your application, you should decide on a list of prospective supervisors (as the application will allow you to indicate up to three).

Admission Guide

- It is recommended that you review the bios and research of our faculty members before applying to identify Areas of Research and projects that align with your interests and experience. At this point, you may wish to reach out to your chosen faculty member(s) by email to generate their interest. In your initial communication with faculty members, you should offer a brief introduction sharing your research interests and explain how you expect your education and experience will contribute to their research. It is recommended that you attach your curriculum vitae for reference. Electronic transcripts may be attached for further support.
- After you have decided on a list of prospective supervisors, area(s) of research, and term of study, you can start to prepare your documents for your online application. To ensure that nothing is overlooked, please refer to the Documents Checklist tab.
- For instructions on how to construct your application, please see the How to Apply tab found on the [Accelerated Option](#) web site.

Program Chart

3rd year
undergraduate-
summer

- Find a supervisor
- Email the Director of your intension to apply
- Email the instructor of either IBEHS 4F04 or 4QZ3 to tell them you will be taking the course at the 600 level
- The 600 level course is at the graduate level

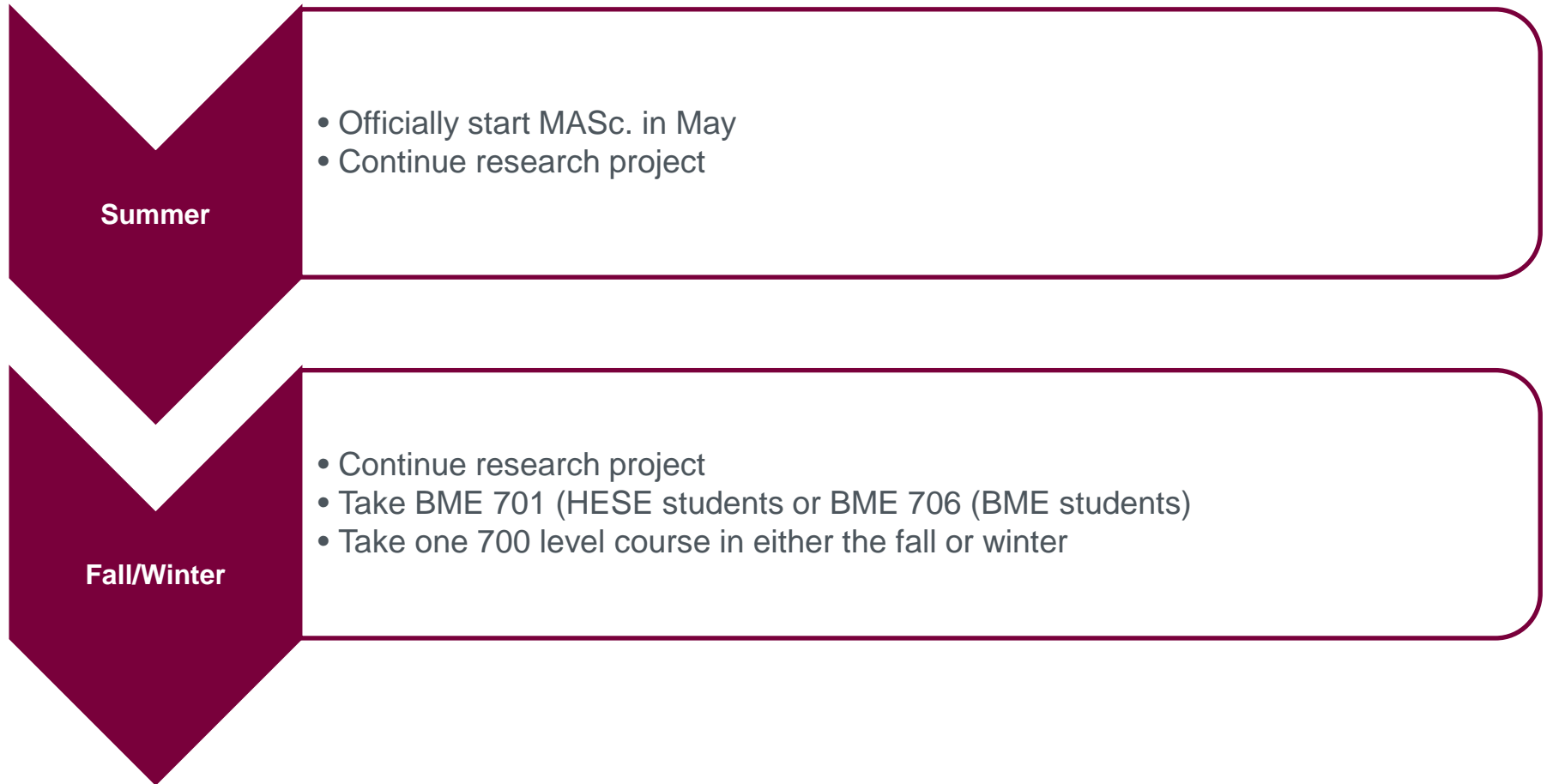
4th year
undergraduate

- Fall/Winter – take 4F04
- Summer – 1st semester of your research project

5th year
undergraduate

- Fall/Winter – take 4QZ3
- Apply to the School of Graduate Studies

Program Chart: One Year Master Graduate Program



Program Chart: Three Year PhD Graduate Program

Years 1 - 3

- Year one - officially start PhD in May
- Continue research project
- Take BME 701 (HESE students or BME 706 (BME students)
- Take **three** 700 level courses over the next 3 years

Years 2 - 3

- In the 2nd year do the Comprehensive Examination
- Continue research project
- Research and writing finishes at the end of the winter term, April of 3rd year

Direct to PhD Option

- Applicants must have a sessional average of **11.0 or A** (i.e. in their 3rd year) at the time of contacting the Director of the School of Biomedical Engineering to express their intention to apply for this option.
- Students will need to maintain 11 or an A average until undergraduate degree completion.
- Students would follow the same schedule as the MASc. option, however, they would extend the degree by at least 2 extra years (for a total of 3 years, post-undergraduate studies).
- Students would need an additional **three 700 level** courses beyond the one 600 level and one core course (**total of 5 courses**). This option would be available only to McMaster IBEHS undergraduate students.
- Enrolled students would be required to take **3 other courses**, at the 700 level, which would be decided upon between them and their supervisory committee.

How To Apply

- Students must apply to Graduate Studies by the end of the final year of their undergraduate program and are expected to begin in May of the year they graduate. They will need to follow the normal application procedures of Graduate Studies and must meet the requirements of both the School of Biomedical Engineering and the School of Graduate Studies. Entry into the MASc program under the accelerated option must occur less than one year upon completing one's undergraduate degree and must meet the same requirements for admissions as other candidates.
- The School of Graduate Studies (SGS) at McMaster University uses an online graduate application system; for instructions on how to apply, please visit <http://graduate.mcmaster.ca/academic-services/how-apply>
- Deadline to apply for May:
 - Domestic: February 30, International: October 1,

Document Checklist

- **NOTE:** a complete application is required for review; applications deemed incomplete will not be reviewed. To ensure that your application is complete, please review this checklist of the required documents that you must upload into your application before you apply. Details on each item are provided below.
- Statement of Interest – 1 page indicating your research interest
- Resume/CV
- 2 Academic Reference Letters
- PDF of Current Academic Transcripts
- Proof of Permanent Resident Status (if applicable)
- ELP English Language Proficiency (TOEFL/IELTS) Scores (if applicable)

Additional Graduate Program Requirements

Seminar Requirement

- Students must present one seminar (at a department seminar or at an International Conference) on the research they have carried out while enrolled in the program.
- In Spring, BME runs a 2 day Symposium as a venue for students to present. Attendance is mandatory. Another option is the METRIC conference, usually held in the fall and organized by the EGS, Engineering Graduate Society.

Supervisory Committee Meeting – Annual Requirement

- Within 12 months must meet with their supervisor plus 2 members. 1 member must be a faculty member in BME.
- Accelerated students should do around the half-way point approximately 6 months.

Additional Graduate Program Requirements

CARP – Career Planning Milestone Training & Report

- Engineering students need to attend a seminar on career and job search-related skills.
- Your attendance and participation at this seminar is required in order to complete your degree.

Defense

- Completed by the 12 month of your program.

Tips to Finding a Supervisor

Here are some tips to find a supervisor for your graduate studies.

1. Visit the SBME faculty page (<https://www.eng.mcmaster.ca/msbe/people/faculty>) to see the supervisors within the School of Biomedical Engineering. Look for supervisors that are doing research in your field of interest.
2. Contact the potential supervisor you are interested in before or after you have completed your application. Best methods of contact will depend on the professor, which include emails, phone calls, or in person meetings. Professors are busy and you might have to reach out a couple times before you get a response.
3. Set a meeting with your potential supervisor. It is important to meet with your supervisor to understand each other expectations.
4. Ask your potential supervisory if you can internship in their lab. This will help you get research experience and help you know if you will like the research.

FAQ's

- On the BME web site, we have 2 FAQ's posted and a video.
 - Check our [Resources](#) page under Graduate Students. See the file 'More FAQ's About the Accelerated Program'
 - Additional FAQ's can be found on the Accelerated Option [FAQ's](#) page.
 - Video recording of an Accelerated Information Session we ran in September 2019. Hosted by Dr. Hubert deBruin and Dr. Mike Noseworthy.

Accelerated Program Information Session Video - PC: #4QnA@%@

FAQ's

- **Will projects or courses from 5th yr continue into the masters?**
No, you'll need to have completed your undergraduate requirements completely before you will be cleared to graduate.
- **Would HESE student be able acquire sufficient background knowledge to partake in this program?**
Yes. We have had a great number of students over the years with biological sciences based backgrounds.
- **Can your supervisor not be from McMaster? No.**
- **If we choose to take a year off for Co-op, how does that impact the timeline of the accelerated masters program? Would we still have to find a supervisor the summer after 3rd year if we plan on going on Co-op in 4th year?**
You could wait until your return to the start of your 4th year before you start your search. You have to have a supervisor prior to starting your Master's, it doesn't really matter when you start your search.

FAQ's

- **What is the difference between the application/expectations for the PhD and the MASc programs?**

The application process is the same for both programs. The requirements/milestones differ between the 2 programs. See the BME Graduate Students Requirements/Milestones Checklist found on our [Resources](#) page.

- **Would it be possible to complete part of the masters in an industry position/job?**

No, you are required to take courses and do research during the 12 months.

- **Which professors can we ask to be our supervisors? Can they be part of our Stream department (i.e. Chemical Eng)?**

A good number of the faculty members in the Faculty of Engineering are currently Associate Members of BME. Furthermore, there are also members of the Faculty of Health Sciences and Faculty of Sciences who are also members and are eligible to supervise you as a graduate student in BME (check our faculty website for current membership). You are welcome to approach any faculty member in Engineering, FHS or anywhere on campus. If they agree to supervising a project with you, we will invite them to become an Associate Member of the School, if they are not members already. They are required to be a part of the School in order to supervise graduate students..

FAQ's

- **By when do we have to find a supervisor by and do they have to be in the school of biomedical engineering?**

You need to have a supervisor in place before you begin your first summer of research. As mentioned above, if they are not associate members of BME we will invite them to be.

- **There is a direct Ph.D. route for students who had an average higher than an 11.**

Yes the Direct Entry to the PhD. requires a minimum of an 11 in your last 2 years.

- **Is it possible to choose the Master's route first and then if I change my mind, switch into the Ph.D. program or if I choose Master's then I would have to do the normal Ph.D. route?**

The option to transfer to a PhD is not possible in the accelerated program. In our regular Master's program, a student needs to have completed a minimum of 12 months (full time) before they can request a transfer to PhD. This minimum has been set by the School of Graduate Studies.

FAQ's

- **I want to know about admission after working for a couple of years after the B.Eng.BME degree.**

Yes, you are welcome to apply to the accelerated program if you have one of the requisite 600 level courses and one research semester completed, and you will be doing the accelerated MASc with the faculty member who supervised you for that summer of research. If you do not have these you are welcome to apply for the regular MASc.

- **Is it just IBEHS 4F04 and IBEHS 4QZ3 that we have to take at the 600 level?**

It is either 4F04 or 4Qz3 that are required, not both. Grad studies only permits one 600 level course in the MASc or PhD programs

- **What happens if we decide later on that we don't want to do it anymore? Will we be penalized in any way? No**

FAQ's

- **Are there specific grade requirements as well?**

For the Master's a minimum of a B+ average in both the 4th & 5th year. That is the same requirement as our regular Master's program. The Direct Entry to the PhD. is an A - in the last two years.

- **What is the application process?**

The application process is clearly laid out on our web site - [How to Apply](#)

- **When is the last day to make the decision? Are we able to opt out after choosing the program? What are the consequences?**

We can make an offer just prior to a term start date, however, offers usually go out to students well before that. If you decide not to enter the graduate program after you have met the requirements, there is no penalty. If you apply however, you will be required to pay the application fee to the School of Graduate Studies and it is non-refundable.

FAQ's

- **What kind of research will grad students be conducting? Which professors can we work with and where can we find their research?**

The research project is decided on by the supervisor and it varies. Look at the individual web sites of our Associate Members to see the types of research current being worked on. <https://www.eng.mcmaster.ca/msbe/people/faculty> For faculty members, who are not currently Associate Members, it will be the research areas that they are currently working on. They too will have a profile on McMaster's web site.

- **When and how do we apply for the program?**

The deadline dates to apply for the various intakes are available on the [How to Apply](#) page. The next intake is for September 1, 2022 and application portal is now open. You would apply to that intake and we would change your start day in the offer letter to May 2022.

- **How do we find a supervisor and can the research involved count towards the 12 months required for the co-op undergraduate program?**

We have created a web page with ['Tips to Finding a Supervisor'](#). As a graduate student you would start a new research project. Early in the planning of the accelerated program we explored the idea of the undergraduate research term being counted as a co-op term. However, this absolutely is not possible.

FAQ's

- **Is there any estimate of tuition costs for a BME masters?**

Tuition Fees are available on the Office of the Registrar's web site. It varies for Canadian and Visa students. Currently fees for a 1 year Master program for Canadian students is \$6307.20 per year, or \$2102.40 per term. It should be noted, however, that you are paid when doing a research-based graduate degree. The pay comes primarily from the faculty, TAing and your research supervisor. This base annual salary for a BME MASc Canadian student is \$23,000., while a PhD Canadian base student salary is \$26,000.

- **If we are planning to do a 16 month co-op at the end of Fourth year, is it possible to do the research term after? (possibly after 5th year?)**

Unfortunately, you cannot do your 1st research term after you've completed your 5th year, it must be done in the summer of your 4th year. You would start your 2nd research work term in May, once you've been admitted into the graduate program..

FAQ's

- **Do research terms only have to be done under the supervision of staff members who are part of the School of Biomedical Engineering?**
You are welcome to approach any faculty member in Engineering, FHS or anywhere on campus. If they agree to supervising a project with you, we will invite them to become an Associate Member of the School. They are required to be a part of the School in order to supervise graduate students.
- **When should we start preparing for it?**
At the end of your 3rd year, you are to email the instructor of IBHS 4F04 and indicate that you want to take that course at the 600 level. This is the required course you need to take in order to be eligible for the Accelerated Master's. You are also asked to complete the 'Intent to Apply to the BME Accelerated' form that IBEHS has available.

FAQ's

- **Can we be co supervised with a lab outside of McMaster?**

No. Professors who supervise students must be at McMaster. Sometimes, however, a faculty member sometimes gets a student to do some research at a lab at another university. That requires a formal agreement that must be in place between university faculty members but does not mean this is co-supervision. The faculty member at a different university can apply to be an “Adjunct Member” of McMaster BME and can act as a member of the grad student advisory committee. However, If this question refers to some of the McMaster affiliated teaching hospitals within the city then as long as they have a McMaster faculty appointment (not an adjunct appointment) then that is fine. All academic physicians and scientists at McMaster affiliated teaching hospitals do have McMaster faculty appointments. But a professor outside, like at Toronto, Brock, Waterloo, etc. is not acceptable.

BME Statistics

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Master's
Students

45

PhD. Students

1

MD/PhD

68

Associate
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Contact Us



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Questions?

