



**UNIVERSITY
OF ALBERTA**

Graduate Program Manual for the Department of Biomedical Engineering

This document is intended for the use of faculty members and students enrolled in or applying to enter the Department of Biomedical Engineering or in/to the Department when serving as the conjoint department in the [Individual Interdisciplinary Studies Program](#) and contains information related to Department programs. General guidelines concerning graduate studies can be found on the [Faculty of Graduate & Postdoctoral Studies \(GPS\) website](#).

The programs offered by the Department of Biomedical Engineering are an M.Sc. (course-based), an M.Sc. (thesis-based) and a Ph.D. (thesis-based), with either an 'in Biomedical Engineering' or an 'in Biomedical Sciences' designation.

Policies of the Department of Biomedical Engineering may differ from those set by the GPS.

NOTE: All conditions and procedures specified in this document apply to both students enrolled in the Department of Biomedical Engineering and to those enrolled in the Individual Interdisciplinary Studies Program of the University with the Department of Biomedical Engineering serving as the conjoint department.

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0. PREAMBLE

- 0.1 The purpose of this manual is to provide graduate students and faculty members with a statement of the rules and policies for graduate study in the Department of Biomedical Engineering (“the Department”). The rules and policies outlined herein also apply when The Department of Biomedical Engineering serves as the conjoint department in the [Individual Interdisciplinary Studies Program](#)
- 0.2 The information contained herein is meant to supplement the University of Alberta Calendar, which is the primary document describing course and program requirements. This manual is concerned with program, course, and examination requirements that are specific to The Department of Biomedical Engineering. The Department’s rules, policies and timelines for admission and promotion may be more stringent than those of the Faculty of Graduate and Postdoctoral Studies (GPS) and are fully described below. None of the material below is meant to contravene the rules and policies of GPS or the University as stated in the Calendar. In the event of a discrepancy, the Calendar shall be considered the authoritative document.
- 0.3 All graduate students enrolled in thesis-based programs (thesis-based M.Sc. or Ph.D.) within the Department require a supervisor. Given the particular importance of the graduate student / supervisor relationship, some guidelines for the conduct of supervisors and graduate students are also included below. Graduate students experiencing difficulty in the administration of their program are encouraged to consult with the Associate Dean Graduate Students, Biomedical Engineering (“ADGrad”). Early resolution of conflicts or misunderstandings is beneficial to all involved. Other sources of assistance are also briefly outlined.
- 0.4 Graduate students requiring additional information over and above what is presented below are encouraged to read / consult:
- [Faculty of Graduate & Postdoctoral Studies \(GPS\)](#)
 - [Graduate Students’ Association](#)
 - [Tuition & Fees](#)
 - [University of Alberta International](#)
 - [Center for Teaching and Learning](#)
 - [Office of the Student Ombuds](#)
 - [Copyright Office](#)

1. ADMISSION

1.1 Applicants are expected to hold a Bachelor's Degree in engineering, science, or a related field from a recognized university. Applicants to the graduate program that have not yet received a Bachelor's degree (i.e. they are in the final year of their Bachelor's studies) are welcome and encouraged to apply but should expect to provide confirmation of successful graduation from the Bachelor's program to GPS as soon as that confirmation is available.

1.2 Before applying to thesis-based graduate studies (Ph.D. and M.Sc.) in the Department of Biomedical Engineering (BME), a prospective student must have a faculty member from the Department of BME (primary or cross-appointment) to act as their primary supervisor; see the [BME website](#) for a listing of faculty members. Prospective students that are applying to the course-based master's program in BME do not need a supervisor before applying.

1.3 The Department of BME has a minimum entrance requirement of a 3.3 (B+) Grade Point Average (GPA) for thesis-based programs (Ph.D. and M.Sc.). The Department of BME has a minimum entrance requirement of a 3.0 (B) GPA for the BME course-based masters. Grades from external institutions are converted according to an internal procedure. Generally, we consider your most recent two years of full-time study (or equivalent).

1.4 For applicants to the Ph.D. program, a Master's degree is required for admission. For students already in the thesis-based M.Sc. program at the University of Alberta, after one year in the M.Sc. program, a student may be allowed to transfer to the Ph.D. program. This decision is not automatic and requires above average performance with a minimum GPA of 3.3, along with a strong recommendation from the student's supervisory / supervisory committee and the ADGrad.

1.5 International applicants for whom the language of instruction of previous degree(s) was not English must meet the English Language Proficiency Requirement. For applicants to thesis-based programs (M.Sc. and Ph.D.), the Department of BME and GPS recognize five English language examinations. They are:

1. Test of English as a Foreign Language (TOEFL iBT, in-person or special at-home edition). Total score of 100 with a score of at least 25 on each of the individual skill areas (internet-based) or equivalent.
2. Academic International English Language Testing System (IELTS). A minimum overall band score of 7.5, with at least 7 on each test band.
3. Canadian Academic English Language Assessment (CAEL or CAEL CE). Overall 70 with at least 60 on each subtest.
4. Pearson Test of English Academic (PTE Academic) 61 with a minimum band score of 60.
5. Duolingo English Test (120 with no sub score below 100).

For applicants to the Course-Based Master's program, The Department of BME accepts [GPS minimum requirements](#). Departments and GPS reserve the right to require further demonstration of English Language proficiency.

2. FUNDING COMMITMENT AND FINANCIAL RESOURCES

- 2.1 All graduate students in the thesis-based BME programs (M.Sc. and Ph.D.) must receive funding throughout the tenure of their program. The department **does not** have funds to support a student's stipend, which is the **responsibility in whole of the supervisor**.
- 2.2 Please note that students in the Course-Based Master's program do not typically receive any funding and are responsible for funding all aspects of their programs.
- 2.3 Before a student commences their thesis-based graduate program, the supervisor and Department must provide a letter stating the salary of the student, e.g., xx dollars is available for xx years. Minimum pay per year should exceed \$25,000 for M.Sc. and \$28,000 for Ph.D.
- 2.4 To attract top students, supervisors can offer additional funding beyond the department's minimum amount but the amount and duration should be clearly stated in the letter to the student.
- 2.5 All U of A graduate assistantships are governed by a collective agreement. See the [Human Resources, Health, Safety & Environment](#) website for complete information.
- 2.6 Students are encouraged to apply for all graduate scholarships that they are eligible for. Please refer to the [GPS awards website](#) for the latest award types and procedures. Other awards that students might be eligible for include the University (Province of Alberta, Dissertation fellowships, etc.) and external agencies (Alberta Innovates, NSERC, CIHR, and disease-specific agencies like Heart and Stroke, etc.). Please ensure that you are eligible to apply since the requirements (found on their websites) for each agency are different.

3. REQUIREMENTS WHILE IN THE GRADUATE PROGRAM

3.1 **Registration:**

- 3.1.1 For full details see [University Calendar](#) minimum registration requirements.
- 3.1.2 **Thesis-Based students:** For full-time status, students must be registered in 9 units of course weight in each of the fall and winter terms, and in THES 906 (6 credits) in every spring and summer term of the program. See [Graduate Project Course and Thesis Registration](#) for further information on THES 906.
- 3.2 This booklet does not cover questions regarding tuition. Students should check the [GPS website](#) for regulations and fees.

3.3 Graduate students are ultimately responsible for their own programs. They are expected to read the Calendar and any other relevant documents to become familiar with all regulations and deadlines relating to their programs.

3.4 The students' fundamental responsibilities include ensuring that their registration is accurate and does not lapse, submitting appropriate forms to the department for signature and processing, and paying all fees required by the deadline dates set out in the Calendar.

3.5 Graduate students should:

- Make themselves aware of the contents of the graduate portions of the Calendar and take responsibility for their own programs in that the Calendar sets out the requirements for the various programs;
- Be aware of possible scholarship opportunities, and seek advice and assistance from the department in making applications, etc.;
- Be aware of the supervisor's and any departmental expectations;
- Inform the supervisor or advisor regularly about progress, and provide the supervisor with an annual report for distribution to the supervisory committee;
- Maintain open communication with their supervisor or advisor and Associate Dean, Graduate Students concerning any problem; and in the event of a conflict in the supervisor-student or advisor-student relationship, discuss with the supervisor or advisor and Associate Dean, Graduate Students in a timely fashion
- Make research results accessible (beyond their appearance in a thesis) to an appropriate audience;

3.6 Academic Standing:

3.6.1 All students in degree programs (including time spent as a qualifying graduate student) or diploma programs must maintain a minimum cumulative grade point average of 3.0 (B) throughout the course of the program. In cases where the cumulative grade point average falls below 3.0, the Department may recommend termination of the program or continuation in the program for a specified period as a probationary student; in any case, convocation shall not take place with a cumulative grade point average of less than 3.0. Notwithstanding the above, a student whose academic standing falls below a grade point average of 2.7 may be required to withdraw at any time.

3.6.2 The minimum pass mark in any graduate level course taken is a grade of C+ (2.3).

3.6.3 Students failing a course or falling below the minimum cumulative GPA may be placed on academic probation during which time they must address the failing grade and /or raise their cumulative GPA above the appropriate minimum level. Customarily, the student will be supplied a memorandum that explains the academic conditions required to be met in order to return to acceptable academic standing.

Note: As with entrance requirements, the Department of Biomedical Engineering minimum may differ from the GPS requirement.

3.6.4 A student who has been placed on academic probation must, by the end of the probationary term, satisfy the academic probationary conditions defined by the ADGrad and approved by GPS. If the student fails to meet the requisite conditions, the ADGrad may recommend to GPS that the student be required to withdraw.

4. PROGRAM TERMINATION

4.1 On occasion, it becomes necessary to consider the termination of a student's program. Only the GPS can terminate a graduate student's program. All departmental requests for termination of a student's program must be made in writing by the Chair or ADGrad of the department to an Associate Dean of GPS, with a copy to the student. Supervisors and department administrators cannot terminate a student's program but they can recommend such action to an Associate Dean, GPS through the Chair or ADGrad.

4.2 The written recommendation should give the effective date of the proposed termination and document carefully the reasons for the recommendation. Reference should be made to any previous discussions or correspondence with the student related to the matter. It is expected that the Chair or ADGrad will have discussed the issue with the student (and with the supervisor, where appropriate) prior to the letter being sent. Departments are encouraged, but not required, to have internal appeal procedures. If the recommendation is upheld, the student's transcript will indicate "Required to Withdraw".

4.3 If a student completes a Withdrawal form due to lack of adequate academic progress, this does not preclude a department from recommending the student be required to withdraw.

4.4 The reasons for termination may include:

- Failure to maintain adequate academic standing; failure to meet requirements set out in a conditional admission; candidacy or final oral examination failure; or expiry of program time limit. Requests to terminate for these reasons must be documented in the academic record or student's file: for example, grades, exam reports, etc.;
- Failure to make satisfactory academic progress in other aspects of the program, such as adequate progress in research. Requests to terminate for these reasons should be supported by evidence that the process of progressive discipline (as outlined below) has been followed;
- Failure to secure (or hold) a supervisor (for thesis-based students); or
- Failure to complete the practicum component of a graduate program, if that practicum component is an integral part of the program.
- Failure to complete the capstone component for course-based Masters students;

4.5 Except in documented emergency cases (health, safety issues, etc.) students shall be given adequate warning, feedback and timelines related to what is the nature of the inadequate progress, what special performance would be required to rectify the inadequacy, and a timeline for demonstration of the required improved performance. Students should be given an opportunity to respond in writing to any warning given.

4.6 Cases requiring mediation should be brought first to the Chair and then, if necessary to the GPS for resolution.

4.7 See the GPS [academic appeals procedures](#).

4.8 Termination Made by a Student:

4.8.1.1 Students wishing to terminate their own program of studies are strongly advised to discuss the issue with their supervisor, ADGrad and, if desired, with an Associate Dean, GPS before terminating their program. There may be alternative actions that are more in the student's interest.

4.8.1.2 Following this consultation if a student still wishes to withdraw from the program, the student should complete a Withdrawal form indicating on it, withdrawal from the entire program. The form should include the effective date of the proposed termination. The transcript will indicate "Voluntarily Withdrew from Program."

5. DEGREE REQUIREMENTS

5.1 Course Requirements:

5.1.1 Course-based Master's Program

5.1.1.1 Students must complete a minimum of eight 3-credit graduate courses (500 level or above) as well as BME 600 A/B during the degree program. Attendance in BME 600 is compulsory. The course selection must have the ultimate approval from the BME ADGrad. Students must also complete INT D 710, professional development training, and one 3-credit capstone project (BME 900).

5.1.2 Thesis-Based Master Program:

5.1.2.1 Students must complete a minimum of 3 graduate level (500 level or above) courses (at least 1 BME course) as well BME 600 A/B during the degree program. Attendance in BME 600 is compulsory. Student's courses in the thesis-based M.Sc. program are suggested by the supervisory committee but must have the ultimate approval from the BME ADGrad. Students must also complete INT D 710, professional development training, and complete and orally defend a thesis deemed acceptable to the BME Department and GPS.

5.1.3 Ph.D. Program:

5.1.3.1 Students must complete a minimum of 4 graduate level courses (at least 1 BME course) as well as BME 600 A/B during the degree program. Attendance in BME 600 is compulsory. Students

with a prior Master's degree only require 2 graduate courses for the Ph.D. program (at least 1 BME course). If a student transfers from a Master's program in BME at the University of Alberta to a Ph.D. program without completing the Master's degree, all courses and time taken in the M.Sc. program will be credited towards the Ph.D. program (see time limit for Ph.D. program below).

5.1.3.2 Approval of the course list is suggested by the supervisory committee but must have the ultimate approval from the BME ADGrad. For this reason, it is important that the Supervisory Committee meet within the student's first year.

5.1.3.3 If a suitable graduate-level BME course is not available, another graduate-level course may be taken pending approval from the BME ADGrad.

5.1.3.4 Students must also complete INT D 710, INT D 720, professional development training, and complete and orally defend a thesis deemed acceptable to the BME Department and GPS. Note that completion of a Ph.D. thesis also requires successful completion of a candidacy exam as described below.

5.1.4 NOTE: BME 600 is a seminar series course, presently required of all first year (thesis-based M.Sc. and Ph.D.) students. BME 600 must be taken in addition to the required credit courses. Attendance is compulsory. Course-based M.Sc. students are required to take BME 600 and should enroll in the course towards the end of their degree program.

5.2 Ethics and Academic Citizenship Requirements:

5.2.1 The Ethics and Academic Citizenship Requirement outlined by GPS is mandatory for all graduate students. It is the student's responsibility to complete all training and to keep track of any policy changes or changes in requirements or training delivery modes.

5.2.2 Students are required to successfully complete University-wide online courses (INT D 710 for students in all programs plus INT D 720 for Ph.D. students only).

5.2.3 All students must complete INT D 710 and INT D 720 (Ph.D. students only) in their first semester. Master's students that change category to the Ph.D. program must complete INT D 720 in the first semester that they are registered in the Ph.D. program.

5.3 Professional Development Requirements:

5.3.1 The Professional Development requirement outlined by GPS is mandatory for all BME graduate students. See the [current GPS requirements](#). Students are required to complete an Individual Development Plan (IDP) and eight (8) hours of professional development activities. Requirements may be met by attending various workshops offered by the university

5.3.2 Students are required to submit IDP to the Department for their program of studies within 12 months of the program's commencement for M.Sc. students and within 18 months of the program's commencement for Ph.D. students.

5.4 Course-based M.Sc. students must complete the above requirements before program completion.

5.5 Thesis-based M.Sc. students must complete the above requirements before the final thesis defense.

5.6 Ph.D. students must complete these requirements within the first 3 years of their program and **before** the candidacy exam.

6. APPOINTMENT OF A SUPERVISOR AND SUPERVISORY COMMITTEE

6.1 All thesis-based M.Sc. and Ph.D. students must secure a supervisor before admission into the program

6.2 Supervisory Committee:

6.2.1 Thesis-Based M.Sc. Program

6.2.1.1 The M.Sc. supervisory committee shall be comprised of a minimum of the supervisor (with primary or cross-appointment in the Department of BME) plus one full-time faculty member. The Supervisory Committee Form shall be completed within the first year of the student's graduate program and submitted to GPS via the BME Graduate Program Administrator.

6.2.1.2 The Supervisory Committee must meet within the first year of the student's program and no less than once per year after that. A summary of the meeting shall be filled out and placed in the student's file.

6.2.2 Ph.D. Program

6.2.2.1 The Ph.D. Supervisory Committee shall be comprised of a minimum of the three members including the supervisor (primary or cross-appointment in the Department of BME) plus two full-time faculty members. The Supervisory Committee Form shall be sent within the first year of the student's graduate program to GPS via the BME Graduate Program Administrator.

6.2.2.2 The Supervisory Committee must meet within the first year of the student's program and no less than once per year after that. A summary of the meeting shall be filled out and placed in the student's file

6.2.3 Course-Based Master's Program

6.2.3.1 Students in the course-based Master's program are not required to have supervisors or supervisory committees. Once they have completed their course requirements or completed a significant volume of their course requirements, they should select a capstone supervisor who is an expert in the area that they are interested in exploring in their capstone. The Graduate Program Administrator should be notified when a capstone supervisor has been selected.

6.3 Eligibility Criteria for Supervisors & Supervisory Committee Members

6.3.1 As minimum criteria, supervisors must:

- Normally be full-time faculty
- Be active in the general area of the student's research

- Have a tenured (or tenure track) faculty appointment in a department relevant to the field
- Hold a degree equivalent to or higher than that for which the student is a candidate (this would always be the case for newly appointed faculty, but certain recognized and well-established exceptions should be respected)
- Demonstrate continuing scholarly or creative activity of an original nature
- Must have a primary or cross-appointment in the Department of BME

6.3.2 Note that supervisory committee members may be Adjunct Professors (if permitted within the terms of the Adjunct appointment) and/or may be faculty members outside of the Department of BME

6.4 Student Program Monitoring

6.4.1 A student summary report must be filled out each year by the supervisor and student.

6.4.2 Conditions of admissions are monitored regularly by the GPS.

6.4.3 Grades of individual students are monitored and approved by the GPS after each term.

6.4.4 The Department and GPS monitor individual student time limits.

6.4.5 The Department and GPS monitor to ensure students have registered in at least the minimum number of course weights (or equivalent) in order to convocate.

6.4.6 **For thesis-based students, it is the responsibility of the supervisors to monitor their students' program, RE: committee members, meetings, and courses taken and their grades after each term and duration of their degree program.** It is the responsibility of the supervisor to keep the Student Progress Form up to date and to send updated forms to the Graduate Program Administrator.

6.4.7 Program advisors and Associate Dean, Graduate Programs will monitor progress for course-based master's students.

7. DURATION OF THE PROGRAM

7.1 Course-Based Master's Program

7.1.1 A course-based master's program is recommended for 2 years and not more than 6 years.

7.1.2 If the student is not finished after 6 years, an explanatory letter shall be sent to the ADGrad.

7.1.3 Students in part-time programs can have up to six (6) years to complete their programs.

7.1.4 Course-based master's programs are considered complete when students in the program have completed all course requirements including the capstone. The Graduate Program Administrator sends a notice of completion of course-based master's program to GPS

7.2 Thesis-Based M.Sc. Program

- 7.2.1 A thesis-based M.Sc. program is recommended for 2 years (minimum) and not more than 3 years.
- 7.2.2 If the student is not finished after 3 years, an explanatory letter shall be sent to the ADGrad. After a 4th year, the supervisor must apply for an extension to GPS to allow student to continue in a 5th year

7.3 Ph.D. Program

- 7.3.1 Recommended duration of the Ph.D. program is 4 years (minimum 3 years) and should not exceed 5 years.
- 7.3.2 Supervisors must provide a written letter to the BME ADGrad outlining the reasons for the Ph.D. program extending beyond 5 years. After a 6th year, the supervisor must apply for an extension to GPS to allow the student to continue in a 7th year.

7.4 Program Extension:

- 7.4.1 The GPS will consider a departmental recommendation for an extension of the time limit for a candidate who has failed to complete all the requirements for the degree within the appropriate period.
- 7.4.2 GPS limit for M.Sc. is 4 years. The Department of BME limit is 3 years.
- 7.4.3 GPS limit for Course-Based Masters is 6 years. The BME limit is 6 years.
- 7.4.4 GPS limit for Ph.D. is 6 years. The Department of BME limit is 5 years.
- 7.4.5 Extensions are viewed as exceptions. Requests for one or more extensions will be considered only under compelling circumstances. The department approves a first extension. Second and subsequent extensions are approved by GPS. To qualify for an extension, candidates must present in writing to the department the causes for the delay and demonstrate substantial progress on the thesis or in the course-based program. Unanticipated events unrelated to the student's program, such as family emergency, personal crisis, and parental leave may be considered. An extension is normally granted for no more than one year.
- 7.4.6 To request a 1st extension, the department must submit a Program Extension form. For second and subsequent extensions, the department must also submit the following:
- From the supervisor: An explanatory letter summarizing the student's progress to date, a timeline for completion of program approved by the supervisor and/or supervisory committee.
 - From the student: An explanatory letter with the expected completion date and a timeline for completion of program.
- 7.4.7 The GPS will return its decision in writing to the department and the student. An approved extension begins when the time limit for the degree has been reached.

8. THESIS PROPOSAL & EXAM REQUIREMENTS FOR THESIS-BASED PROGRAMS

8.1 Thesis Proposal & Candidacy Exam

8.1.1 For the thesis-based M.Sc. Program, a thesis-proposal is not required, but supervisory meetings should occur each year.

8.1.2 M.Sc. students do not require a candidacy examination.

8.1.3 Ph.D. Program:

8.1.3.1 A thesis proposal must be completed within the first two years of program. This requirement includes both students entering into the Ph.D. program with a prior master's and students transferring from a M.Sc. to a Ph.D. with a minimum requirement of GPA 3.3.

8.1.3.2 An oral candidacy exam must be completed within the first two years of the Ph.D. program, preferably after completion of required courses. The Ph.D. proposal must be approved before scheduling the candidacy exam.

8.1.3.3 The purpose of the candidacy exam is to ensure that the student has adequate preparation to proceed with the thesis research. The student must demonstrate adequate knowledge of the discipline and of the subject matter relevant to the thesis and the ability to pursue and complete original research at an advanced level.

8.1.3.4 Please refer to the [Structure of Examining Committees](#) on the U of a Calendar for additional information. Additional information about the typical structure of an examining committee for BME is found in Appendix A of this document.

Students must complete all required course work, INT D 710, INT D 720, Professional Development, and the Candidacy exam within the first three years of the program to meet GPS guidelines. However, the Department requirement is to complete these within the first two years of the Ph.D. program.

8.2 Thesis Defense

8.2.1 Please refer to the [Structure of Examining Committees](#) on the U of a Calendar for additional information. Additional information about the typical structure of an examining committee for BME is found in Appendix A of this document.

8.2.2 An oral defense of the thesis is a program requirement for both the thesis-based M.Sc. and the Ph.D. programs. The purpose of the oral defense is to ensure that the thesis research is of high quality, that the student carried out the work, and that the student understands and can interpret the results.

8.2.3 **According to GPS regulations, it is the responsibility of the supervisor, and not the student to arrange the final oral examination.**

8.2.4 Scheduling the Final Oral Exam for the M.Sc. Program

8.2.4.1 For the M.Sc. Program, at least three weeks prior to the final oral examination the [M.Sc. Preliminary Acceptance of Thesis](#) should be completed and sent to the Department before the “Notice of Examining Committee & Examination Date (Masters Final)” is completed and submitted to GPS.

8.2.4.2 Student must supply to the examiners a copy of the thesis a minimum of three weeks in advance of the scheduled defense so that they may have adequate time to appraise the thesis

8.2.5 Scheduling the Final Oral Exam for the Ph.D. Program

8.2.5.1 The arrangements that must be made before the final oral examination include:

- Three months in advance: The supervisor must submit the name and CV of external examiner to the Department (who then submits to GPS) for approval.
- Five weeks in advance: Supervisory committee members must each declare in writing that the thesis is of adequate substance to warrant that the student proceed to the final examination. The [Ph.D. Preliminary Acceptance of Thesis](#) form must be submitted to the Department.
- Four weeks in advance: Notice of final exam must be submitted to the Department for approval. A copy of thesis is distributed to External examiner.

8.2.6 Three weeks in advance: Distribute copies of thesis to remaining examining committee member(s).

8.2.7 External examiners and supervisory committee members deserve the courtesy of receiving a complete, carefully written thesis well in advance of the final examination and students need to know that arrangements for their thesis defenses will not be changed at the last minute.

8.2.8 **All students in the M.Sc. and Ph.D. program must give a public seminar within 2 weeks before their Final Oral examinations.** A copy of the public seminar abstract must be submitted to the Department Graduate Program Administrator in advance of the public seminar for advertisement. All members of the Department are invited to attend.

8.2.9 The Department standard Thesis Defense form ([Summary Report for Oral Examination](#)) may be used.

8.3 Thesis Submission

8.3.1 For complete details on the process of thesis submission (electronic format) see [Thesis Preparation, Requirements & Deadlines](#) information.

8.3.2 Students may still have bound copies produced for their supervisor/personal use, should they choose.

APPENDIX A

STRUCTURE OF TYPICAL BME EXAMINING COMMITTEES

Master's final exam

- Non-Examining Chair (required)
- Examiner 1 – Supervisor
- Examiner 2 – Supervisory Committee Member (or Co-supervisor if student has two supervisors)
- Examiner 3 – One University Examiner or one Specialized Knowledge Examiner

Note: if a master's student has two supervisors and one supervisory committee member all three are required to attend the examination as well as one university or specialized knowledge examiner. In this instance it would be a 4 person examining committee plus the exam chair.

Doctoral candidacy exam

- Non-Examining Chair (required)
- Examiner 1 - Supervisor
- Examiner 2 - Supervisory Committee Member (or Co-supervisor if student has two supervisors)
- Examiner 3 - Supervisory Committee Member
- Examiner 4 – One University Examiner or one Specialized Knowledge Examiner

Doctoral final exam

- Non-Examining Chair (required)
- Examiner 1 – Supervisor
- Examiner 2 – Supervisory Committee Member (or Co-supervisor if student has two supervisors)
- Examiner 3 – Supervisory Committee Member
- Examiner 4 – One University Examiner or one Specialized Knowledge Examiner
- Examiner 5 – External Examiner

When scheduling an exam please email all necessary information to bmegrad@ualberta.ca following the timelines described in Section 8 above. The information should include the date, time and location (building/room # and/or Zoom link if online or hybrid) as well as the names of all examining committee members including the chair.