



GRADUATE PROGRAM MANUAL

for

**MEng, MSc, and PhD in MECHANICAL ENGINEERING and
ENGINEERING MANAGEMENT**

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0. PREAMBLE

0.1 The purpose of this manual is to provide graduate students, staff and faculty members with a statement of the rules and policies for graduate study in the Department of Mechanical Engineering ("the Department"). It is most relevant to graduate students pursuing any of an MEng, MSc or PhD in either Mechanical Engineering or Engineering Management.

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. 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 ("FGPS") and are fully described below. On the other hand, none of the material below is meant to contravene the rules and policies of FGPS 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 within the Department require either a thesis (MSc, PhD) or a capstone project (MEng) 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, Mechanical Engineering ("ADGrad"), formerly Associate Chair Graduate ("ACGrad"). Early resolution of conflicts or misunderstandings is clearly beneficial to all involved. Other sources of assistance are also briefly outlined.

0.4 Included in this document is an overview of Graduate Teaching Assistantships ("GTAs" or "TAs") and Marker positions for MSc and PhD students. For additional information on these positions review the Collective Agreement of the Graduate Students' Association ("GSA"), and the TA and Marker Positions Guide.

0.5 In this manual, information that pertains specifically to the Engineering Management program shall appear in **red** and shall be preceded by the text '[EngM].' Information that pertains specifically to the Mechanical Engineering program shall appear in **blue** and shall be preceded by the text '[MecE].'

0.6 [EngM] The Engineering Management program at the University of Alberta offers a flexible program that allows a graduate engineer to broaden their knowledge of management-related topics. The program can be individually adapted to include a significant number of technical courses as well. The emphasis in the program is on core courses offering a foundation in engineering management, and a flexible selection of additional courses to meet the needs of each individual in the program. The Engineering Management program is open to students from all engineering disciplines. For administrative purposes, the program is housed in the Department of Mechanical Engineering, but it is not limited to students with a mechanical engineering background. Although the ADGrad is the ultimate authority for the program, faculty colleagues whose research/teaching includes topics related to engineering management may provide assistance and advice. Indeed, and from time to time, the ADGrad may delegate responsibility for the administration of the Engineering Management program (admission, course approvals, etc.) to one of these faculty colleagues.

0.7 Graduate students requiring additional information over and above what is presented below are encouraged to read/consult:

- The FGPS Graduate Program Manual,
- The University of Alberta International Education and Enrolment (IEE),
- The Centre for Teaching and Learning (CTL),
- The Collective Agreement of the Graduate Students' Association ("GSA"),
- The TA and Marker Positions Guide,
- The Graduate Student Ombudsperson, and/or
- The Copyright Office.

1. ADMISSION, ACADEMIC STANDING AND LENGTH OF PROGRAM

1.1 Admission

1.1.1 All applicants are expected to hold a Bachelor's Degree in engineering (or a closely aligned field) from a recognized university. Applicants to the graduate program who have not yet received a Bachelor's degree (i.e. they are in the final year of their Bachelor's studies) are welcome to apply, but should expect to provide confirmation of successful graduation from an accredited Bachelor's program to FGPS as soon as that confirmation is available. The minimum Grade Point Average ("GPA") required for admission to any one of our graduate programs is 3.0/4.0. Under exceptional circumstances (e.g. a significant record of high-impact work in industry), applicants with below-minimum GPAs may be considered; however, such cases are expected to be rare. Subject to the approval of the ADGrad and FGPS, MSc and PhD applicants might also be admitted to the Department on a qualifying or probationary basis, e.g., when they can demonstrate the potential to perform at a high level notwithstanding past academic performance. Any students admitted on a qualifying or probationary basis but who fail to meet their admission conditions may be assigned additional coursework by the ADGrad, placed on academic probation or required to withdraw.

1.1.2 For applicants to the PhD program, a thesis-based Master's degree is required for admission. Under exceptional circumstances, admission to the PhD program of students without a Master's degree or those holding a course-based Master's degree may be considered, particularly for scholarship-level students. Such situations will be dealt with on a case-to-case basis and might involve definition of admission conditions by the ADGrad. For students already in the MSc program at the University of Alberta, after one year in the MSc program, a student may be allowed to transfer to the PhD program. This decision is not automatic and requires above-average performance plus a strong written recommendation from the student's supervisor/supervisory committee and the ADGrad. Admission to the PhD program after a Master's degree is obtained only by application.

1.1.3 International applicants for whom the language of instruction of previous degree(s) was not English must also complete either of the TOEFL or IELTS tests. The Department's minimum TOEFL score is 93 (minimum band score of 21), the minimum IELTS score is 6.5 (minimum band score of 6.0). In exceptional cases, an MSc or PhD applicant with a *marginally* inferior score may be considered, but only if the applicant's prospective research supervisor is willing to attest, in writing, that an independent and positive assessment of English-language communication skills has been made. Such an assessment should derive from an in-person or telephone interview (to assess speaking and listening skills), from a reevaluation of the applicant's statement of purpose (to assess writing skills) and/or from a reading comprehension exercise involving a discipline-appropriate journal article or book chapter (to assess reading and writing skills). The onus is on the applicant to request their prospective research supervisor to make such an assessment, which may be denied or may, even if conducted and included, prove insufficient depending on other strengths and weaknesses of the entire application dossier. FGPS determines whether admission is granted.

1.1.4 Admission to either of the MSc or PhD programs does not guarantee that financial support will be available. (Department-based support is not offered to MEng students.)

1.2 Academic Standing

1.2.1 To continue in the graduate program, the minimum cumulative GPA on graduate-level courses is 3.0 for MEng and MSc students and 3.3 for PhD students. The cumulative GPA is typically evaluated at the end of the Winter semester but may be evaluated more frequently in exceptional cases. Students who fail to maintain the GPA requirements will normally be required to withdraw unless the ADGrad (in consultation with a student supervisor(s) for thesis-based students) recommends a plan of remediation for the student to complete within a specified time period. Any such plan must be approved by the Dean of FGPS.

1.2.2 Regardless of degree program, the passing grade for graduate students registered in graduate classes is C+.

1.2.3 Thesis-based students may be required to change the program (e.g., MSc to MEng) or withdraw when they fail to meet satisfactory progress in their research work. Should a student find themselves in such a situation, the supervisor and/or ADGrad will develop a plan that sets out attainable milestones and timelines to ensure the student understands what is required to successfully progress. Such a plan should be set out using the Progress Report.

1.3 Length of Program

1.3.1 FGPS has established the following time limits for degree completion, measured from the time of admission:

- PhD – 6 years
- MSc – 4 years
- MEng – 6 years

The extended time limit in the case of the MEng program is to accommodate the high number of part-time students. In the special case of a Master's student who is reclassified as a PhD student, all degree requirements must be fulfilled within 6 years from when they first registered in the Master's program.

1.3.2 Program extensions may be granted, based on an application by the student to the Dept. as appropriate, with written justification. Note, however, that an extension is not guaranteed. Final decisions on extension requests vest with FGPS. It is the responsibility of the student to request any program extension.

1.3.3 Note, finally, that MSc and PhD financial support in the form of TAs or RAs is not guaranteed for the duration of one's graduate program.

2. REGISTRATION PROCEDURES

2.1 Within 1 month of beginning their programs, all MSc and PhD students must meet with their supervisor(s) and complete the "Supervisor-Student Guidelines" form, which is designed to make new students aware of responsibilities, regulations and expectations. Students enrolled in the MEng program should instead participate in the New Graduate Student Orientation Session organized by the Dept. MSc and PhD students are strongly encouraged to contact their supervisor(s) in advance of such a meeting to discuss graduate course selection. In this respect, note that not all graduate courses listed in the University Calendar are offered every year. It is the responsibility of each student to ensure that their program satisfies the

expectations of their supervisor(s) and the requirements of FGPS and the Department. Note, in particular, that any students receiving financial support from the Department are expected to maintain full-time registration status.

2.2 Students who experience difficulty in a course are encouraged to discuss their concerns with the instructor, the ADGrad and/or their supervisor(s). Withdrawing from a course requires the completion of a course withdrawal form, which must be reviewed and approved by the ADGrad.

3. APPOINTMENT OF SUPERVISOR

3.1 All thesis-based MSc and PhD students must secure a supervisor (or supervisors) at the stage of admission into the program unless otherwise permitted by the Department Chair or designate. MEng students are encouraged to select a supervisor (and capstone project) once their coursework is substantially complete, earlier if possible. The supervisor of the capstone project does not serve as a supervisor of the overall academic program for the student. This role is filled by the ADGrad or the M.Eng. Advisor. Regardless of program type and unless permission is obtained from the ADGrad, at least one of the supervisors should reside in the Department.

3.2 It is the responsibility of the supervisor or supervisors to notify the Graduate Academic Advisor once a supervisory arrangement has been made so that the appropriate FGPS documentation may be completed. Students shall consult with the Graduate Academic Advisor to ensure all documentation is complete. If a supervisor has not been officially appointed to a full-time MSc or PhD student by the appropriate time, the student in question will be required to meet with the ADGrad. If a supervisor cannot be found within the Department, the ADGrad may recommend a change of degree program and/or a termination of applicable funding.

3.3 A complete supervisory committee must be established for PhD students within their first year in the program.

4. DEGREE REQUIREMENTS

4.1 Course Requirements

4.1.1 A "graduate course" is one that is listed in the graduate section of the University Calendar. The Department offers a limited number of introductory graduate courses (MEC E 5XX and ENG M 5XX) as well as specialized graduate courses at the 600- (MEC E and ENG M) and 700- (MEC E) levels. The ADGrad should be consulted before registering in any course not specifically listed as a graduate course. Courses at or below the 400-level are not recognized for credit in graduate programs. Course substitution (i.e., to receive credit from a normally ineligible course) or program modification requires the prior written approval of the ADGrad.

4.1.2 ENG M 5XX courses are considered to be bona-fide graduate courses, however, MEC E 5XX courses are more typically subscribed by senior undergraduate students. As such, there are restrictions (listed below) as to the number of MEC E 5XX courses that may be credited in the MEng, MSc and PhD programs.

4.1.3 MEng Program

4.1.3.1 Students must complete a minimum of eight three-credit courses or equivalent, i.e. 24 credits of coursework. They must also complete INT D 710, professional development training and a capstone project (MEC E 910), approximately equivalent to three credits. To avoid the payment of additional fees, students are encouraged to enroll in MEC E 910 only in the academic term in which they plan to formally submit their capstone project.

4.1.3.2 The ADGrad and/or project supervisor can, upon review of the student's transcripts, experience and performance, require additional courses in excess of the 24 credit minimum. These additional requirements can include courses at the undergraduate or graduate level.

4.1.3.3 A maximum of three courses can be taken in any combination from MEC E 5XX and MEC E 7XX.

4.1.3.4a [MecE] At least five of the courses must be MEC E courses.

4.1.3.4b [EngM] At least five of the courses must be ENG M courses.

4.1.3.4c The following courses are designed specifically for MEng students and are highly recommended by the department:

- MEC E 590 Statistics and Data Management for Engineers
- MEC E 594 Applied Machine Learning for Engineers
- MEC E 595 Advanced Solid Modeling for Design
- ENG M 690 Technical Communications for Engineers (also offered as ENGG 700)

4.1.3.5 No reading courses can be credited towards the degree requirements.

4.1.3.6 Students wishing to enroll in any course that is part of the MBA program offered through the School of Business must apply to do so through the ADGrad.

4.1.3.7 A capstone project, approximately equivalent to one three-credit course, is required for the MEng degree. Students are responsible for securing a capstone supervisor and should do so based on common research interests. Working with this supervisor, a capstone topic must be identified. The M.Eng. advisor may be consulted for assistance in identifying an appropriate capstone supervisor.

4.1.4 [MecE] MBA/MEng - Joint Program

4.1.4.1 The Faculty of Business and the Faculty of Engineering offer a program of joint study, which enables students to earn both the Master of Business Administration (MBA) and MEng degrees after two calendar years of full-time study.

4.1.4.2 The requirements for the MBA/MEng joint degree are laid out in the University Calendar. In brief, students are required to take a minimum of five three-credit graduate courses in Engineering (excluding ENGM courses). Of these, at least three must be MEC E courses; the remaining two courses must be acceptable to the Department. At most two of the five courses can be 500-level MECE courses. No reading courses may be credited toward the minimum course requirements for the MEng program. Students are required to complete a capstone project as summarized above.

4.1.5 MSc program

4.1.5.1 Students must complete a minimum of five three-credit courses, i.e. 15 credits of coursework. They must also complete INT D 710, professional development training, then complete and orally defend a thesis deemed acceptable to the Department and FGPS.

4.1.5.2 The ADGrad and/or thesis supervisor(s) can, upon review of the student's transcripts, experience and performance, require additional courses in excess of the 15 credit minimum. These additional requirements can include courses at the undergraduate or graduate level.

4.1.5.3a [MecE] At least three of the courses must be MECE courses. Either a maximum of one MECE 7XX-level course and one MECE 5XX-level course, or two MECE 7XX-level (and no MECE 5XX-level) courses can be credited. Finally, one of the courses must be a "foundational" course selected from the following list: MECE 614, 630, 640, 639, 651, 653, 655, 663, 671, 673, 680, 681, 683, 690, 692.

4.1.5.3b [EngM] At least three of the courses must be ENGM courses.

4.1.5.4 No reading courses can be credited towards the degree requirements.

4.1.5.5 Students wishing to enroll in any course that is part of the MBA program offered through the School of Business must apply to do so through the ADGrad.

4.1.6 PhD Program

4.1.6.1 Students already holding an MSc must complete a minimum of four three-credit courses, i.e. 12 credits of course work.

4.1.6.2 Students who do not hold an MSc degree complete a minimum of nine three-credit courses, i.e. 27 credits of course work. In exceptional cases, i.e. with the written support of the supervisory committee and where the student's cumulative GPA meets or exceeds 3.5, the student may petition the ADGrad to reduce this course requirement from nine to seven. Any reduction of course load must respect the regulations outlined below, e.g. PhD students specializing in mechanical engineering are never exempt from having to complete MECE 680.

4.1.6.3 Students must also complete INT D 710, INT D 720, professional development training then complete and orally defend a thesis deemed acceptable to the Department and FGPS. (As described below, completion of a PhD thesis also requires successful completion of a candidacy exam.)

4.1.6.4 The ADGrad, thesis supervisor(s), supervisory committee and/or candidacy exam committee can, upon review of the student's transcripts, experience and performance, require additional courses in excess of the minimums specified above. These additional requirements can include courses at the undergraduate or graduate level.

4.1.6.5a [MecE] At least three courses must be MEC E courses.

4.1.6.5b [MecE] One course must be MECE 680.

4.1.6.5c [MecE] For students already holding an MSc, a maximum of one MECE course can be credited at the 7XX-level; no MECE courses at the 5XX-level can be credited. For students who

do not hold an MSc, the following restrictions apply: (i) a maximum of two 7XX-level MECE courses plus one 5XX-level MECE course, or, (ii) three 7XX-level MECE courses and no 5XX-level MECE courses.

4.1.6.5d [EngM] At least two of the courses must be ENG M courses. There are no additional specific course requirements; however, students are expected to select courses, in consultation with their supervisor(s), that are sufficiently rigorous academically to provide a firm foundation for the research to be undertaken.

4.1.6.6 No reading courses can be credited towards the degree requirements.

4.1.6.7 Students wishing to enroll in any course that is part of the MBA program offered through the School of Business must apply to do so through the ADGrad.

4.1.7 All of the programs described above require the successful completion of INT D 710 and professional development training. Students are encouraged to complete these mandatory requirements as early as possible within their program of study.

4.2 Full-Time vs. Part-Time Enrolment

4.2.1 Students who are admitted to any thesis-based program and who initially register full-time must maintain full-time registration for the duration of their program. Students with full-time status will have increased access to scholarships, bursaries, student loans, and travel funds.

4.2.2 The University defines "full-time" as enrolment with a total of 9 credits of course weight. A typical course has a weight of 3 credits. Any total number of credits less than 9 units per term defines the student as "part-time". See the sub-section "THES 90X Courses" below for information on using THES 90X courses to maintain full-time enrolment.

4.2.3 Part-time registration is usually reserved for students who cannot spend the majority of their time on thesis research due to job commitments or some other exceptional circumstances. The students in question are usually ineligible to receive TA and RA funding. Any student wishing to enroll as a part-time student must inform their supervisors and the ADGrad prior to beginning their graduate program.

4.3 Residency Requirements

The MEng has no residency requirement. The MSc requires two four-month academic terms of full-time attendance at the University. The PhD requires [EngM] one and [MecE] two academic years of full-time attendance, respectively, for degrees in Engineering Management and Mechanical Engineering.

4.4 Continuous Enrolment

All students, whether full-time or part-time, are required to register at least once in any academic year, i.e., September-August period. Students in thesis-based programs, whether full-time or part-time, must register in a course each term, THES 90X or otherwise. Failure to register in any academic year will be interpreted by FGPS as a withdrawal from the program; the student will then have to apply for readmission and pay an FGPS readmission fee. FGPS has a continuous registration fee that will allow registered students to maintain their academic privileges when not taking any other courses.

4.5 THES 90X Courses

4.5.1 Students in thesis-based programs will often take fewer than three courses per term but will be required to maintain full-time registration status. Such students should register in THES 90X where X = 3, 4, 5 ... 9 is the weighting unit. For example, THES 909 carries a credit weight of nine and should be selected when the student is not enrolled in any other courses for the academic term in question (as is typical for students who have completed course requirements for their program: e.g. 5 technical courses associated with an MSc). Note also that FGPS requires a minimum quantum of THES 90X registration. For instance, the MSc program requires a minimum enrolment of 24 credits in courses and THES 90X weight. Hence, an MSc student taking six three-credit courses would require six credits of THES 90X registration. Note finally that students must be registered in THES 90X for the term in which they submit their thesis.

4.5.2 MEng students cannot register in THES 90X.

4.6 Transfer and Advanced Credit

Requests for transfer and/or advanced credit must be approved by FGPS. For thesis-based and course-based programs, respectively, a maximum of two and three courses can be applied. Recall, however, that the student may be required to take more than the minimum number of courses as outlined above.

4.7 Program change from MSc to PhD

Students who have completed at least one term in their MSc program and have a cumulative GPA of at least 3.3 may apply to transfer to a PhD program. The transfer must be initiated within two years of the MSc start date and must be requested by the supervisor on the student's behalf.

To initiate the request, two letters must be submitted to the graduate advisors:

1. A letter from the student, briefly explaining their reasons for transfer to the PhD program.
2. A letter from the supervisor, addressing the following required elements:
 - Rationale for supporting the program change, including an assessment of the student's research potential
 - Proposed supervisory committee members
 - Coursework plan, including completed courses and planned future coursework (see Section 4.1.6 detailing course requirements)
 - Timeline to the Candidacy Examination
 - Financial support plan consistent with the GPS minimum funding commitment
 - For MecE students, confirmation that MEC E 680 has been completed, or a plan for its completion if it remains outstanding
 - If applicable, the supervisor, on behalf of the supervisory committee, may request a course reduction in accordance with Section 4.1.6.2.

A template for the supervisor's letter is available from the graduate advisors.

The request will be reviewed by the ADGrad. If approved, it will be submitted to the FGPS for further consideration and final approval.

5 EXAMINATION REQUIREMENTS

5.1 MEng Program

Completion of the capstone project requires submission of a capstone report. Guidelines on report preparation are available from the Faculty of Engineering (i.e. see the document titled "Faculty of Engineering Master of Engineering Capstone or Project Report Guidelines"). Two readers, including the capstone supervisor, must approve the MEng project report (typically by signing a report completion form). There is no oral defense. One copy of the project report reviewed and approved by two readers must be provided to the Graduate Academic Advisor prior to graduation for retention by the Department. Report approval is generally recorded on a designated form that the student can obtain from the Department.

5.2 MSc Program

An oral defense of the thesis is a program requirement. The purpose of the oral defense is to ensure that the thesis research is of high quality, that the student carried out the work, that the student understands and can interpret the results and that the thesis is written in a clear and concise manner. For examination procedures, including scheduling, examination committee composition, exam procedures and outcomes, please refer to the [Examination Handbook](#).

5.3 PhD Program

PhD students must pass an oral candidacy examination and an oral thesis defense. The main features of these exams are as follows:

- For full-time students, the candidacy exam will normally be scheduled between 18 and 24 months (but no more than 24 months) after the student begins their program of study. (For part-time students, the candidacy exam must be completed within the first 36 months.) The exam should occur after the coursework is substantially complete and some progress has been made on the topic of research. The purpose of the candidacy exam is to ensure that the student is adequately prepared to proceed with thesis research.
- The purpose of the oral defense is to ensure that the thesis research is of high quality, that the student carried out the work, that the student understands and can interpret the results and that the thesis is written in a clear and concise manner.

For examination procedures, including scheduling, examination committee composition, exam procedures and outcomes, please refer to the [Examination Handbook](#).

6. OTHER REQUIREMENTS

6.1 Supervisor-Student Guidelines

All students registered in a thesis-based program are required to meet with their supervisor to complete the Supervisor-Student Guidelines as soon as possible after registration in the first academic term but no later than the submission of the first Progress Report, which is due in FGPS within 12 months from the student's program start date. A PDF copy of the submitted form will be retained by the Graduate Program Staff. The purpose of this meeting is to discuss "program requirements, academic integrity requirements, the role of the supervisor, the preferred means of communication, the availability or non-availability of funding, and scholarly practices and outputs." If there is a change in supervisor at any point in a student's program of study, the guidelines will be completed anew in accordance with the timeline noted.

6.2 Ethics and Academic Citizenship Requirement

6.2.1 Ethics and Academic Citizenship Requirement outlined by FGPS is mandatory for all graduate students. It is the student's responsibility to complete all training and keep track of any policy changes or changes in requirements or training delivery modes. Students are required to successfully complete a University-wide online courses (INT D 710 for students in all programs plus INT D 720 for PhD students only). The courses carry zero weight. The registration is through BearTracks.

6.2.2 MSc students must complete the above requirements before thesis submission; PhD students must complete these requirements within the first 36 months of their program and **before** the candidacy exam.

6.3 Professional Development

FGPS and the Faculty of Engineering recognize the importance of professional development (PD) as one part of a multifaceted approach to preparing graduate students for their future successful careers. Engineering students are required to complete FGPS's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of professional development activities inspired by their career plan ([link](#)).

6.4 Progress Reports

All students in a thesis-based program are required by the FGPS to complete the progress reports at least once annually using the standardized Progress Report form. Progress reports are due in GPS at a minimum of once every 12 months from the student's original program start date. The progress report form should be filled out during the annual meeting required for all PhD students. Master's thesis-based students also require at least one progress report completed within a full academic year.

A student who receives two (2) consecutive evaluations of "in need of improvement" or one (1) "unsatisfactory" rating will normally be required to withdraw from their program and FGPS on the recommendation of the ADGrad within their academic department and/or the Department Chair to the Dean of FGPS.

7. GUIDELINES FOR THESIS SUPERVISORS AND MSc AND PhD STUDENTS

7.1 Supervisors

A supervisor's primary tasks are to provide supervision of the overall academic program and to provide an environment for the student that is conducive to research and in which the student can grow intellectually. This includes the following:

- (a) Provide appropriate guidance to the student on the nature of research and the standard expected, and be accessible to give advice and constructive criticism. At the beginning of the supervisory relationship, the student should be made aware of the normal expectations held by the supervisor and the department.
- (b) With the student, establish a realistic timetable for completion of various phases of the program, including ethics and professional development training.

- (c) Consider a graduate student as a "junior colleague in research".
- (d) Ensure that there are sufficient material and supervisory resources for each graduate student under supervision.
- (e) For doctoral students, work with the student to establish the supervisory committee within 1 year after the start of the program and ensure that it maintains contact and formally meets with the student at least once per year.
- (f) When going on leave or an extended period of absence, ensure that the student is adequately supervised by the provision of an acting supervisor (who should be a member of the supervisory committee).
- (g) Ensure that the student is aware of guidelines (as listed below) and, when necessary, assist the student in meeting these.
- (h) Set up committee meetings and examinations after consultation and with full knowledge of the student. Students must be given sufficient advance knowledge of oral examinations.
- (i) In case of PhD students preparing for their final defense, provide suitable recommendations to the ADGrad for the selection of an External examiner.

7.2 Graduate Students

All graduate students should make themselves aware of the contents of the graduate portions of the University Calendar. Graduate students take full responsibility for their own programs (course and program requirements, meeting program milestones, etc.). In addition:

- a) All thesis-based graduate students must meet with their supervisory committee at least once per year. One of these meetings will be designated by the supervisory committee as the 'main meeting.' Immediately following such a 'main meeting,' a brief report summarizing the contents of the meeting and the progress of the student should be submitted to the Graduate Academic Advisor. At least one 'main meeting' must be held before the candidacy exam.
- b) All graduate students must maintain open communication with their supervisor and ADGrad concerning any problem either real or perceived.
- c) All graduate students must maintain regular meetings with the supervisor and ensure that the supervisor is kept regularly apprised of all progress made and/or any concerns with the program.
- d) All graduate students should strive to make research results accessible (beyond their reproduction in a thesis) to an appropriate audience.
- e) All graduate students should remain informed of all relevant deadlines for possible scholarship applications and seek advice and assistance, from the Department, as appropriate.
- f) All department keys and related resources must be returned upon completion of the degree.

7.3 Thesis Requirements

7.3.1 It is the responsibility of the student to follow the requirements of the FGPS for thesis preparation and submission. Arrangements and expenses for thesis preparation, including typing, production of photographs and tables, and duplicating are the responsibility of the student. Instructions regarding thesis format and methods of thesis reproduction are found on the FGPS website ([Thesis Preparation, Requirements + Deadlines](#)). The FGPS requirements regarding content and quality of the thesis are found in the Calendar (Thesis Requirements).

7.3.2 Students are expected to make themselves aware of the University's policies concerning plagiarism before submitting a thesis for review. Note, in particular, that the reproduction within the thesis of any figure or graphic from another source requires the written permission of the copyright holder.

8. GRADUATE TEACHING ASSISTANTSHIPS AND MARKER POSITIONS

8.1 Eligibility Requirements and Training Required for TA and Marker Positions

8.1.1 All MSc and PhD students applying for Graduate Teaching Assistant (GTA or TA) positions must complete Department-approved TA training. This training is typically offered twice per year in the Fall and Spring/Summer semesters and is only available for students enrolled in the program. This TA training is not required to hold a marker position.

8.1.2 All MSc and PhD students must complete a specified number of academic terms where they are enrolled in courses (excluding Thesis courses: THES 901, 902, etc.) before they will be assigned a TA or Marker position as specified below:

- a) One (1) academic term for Marker positions, and
- b) Two (2) academic terms for TA Positions.

8.1.3 The eligibility requirements common to Marker and TA positions are as follows.

The student must be:

- a) Enrolled in a thesis-based program (MSc and PhD),
- b) In good academic standing and maintain a GPA greater than or equal to the program minimum requirement,
- c) Available for the entire academic term corresponding to the appointment (note that defending a thesis prior to the tuition refund deadline for a given term would make a graduate student ineligible for a TA or Marker position),
- d) Eligible for employment on the University of Alberta campus,
- e) Ensure that the combined total weekly hours for TA/Marker positions and Graduate Research Assistantship (GRA) appointments do not exceed the maximum recommended hours as outlined in the Collective Agreement of the Graduate Students' Association (GSA).

- f) Willing to complete any additional training required for the position (Safety, Supervisory, Course Specific or any training that is required by the course instructor regardless of the student's prior experience etc.)
- g) Receive written approval from the Thesis Supervisor in cases where research progress has been assessed as unsatisfactory.

8.1.4 Students are encouraged to attend some of the training seminars offered regularly on campus. These include seminars offered by the Center for Teaching and Learning or FGPS.

8.2 The Function of a TA and Marker

8.2.1 The fundamental purpose of assigning TAs and Marker positions to graduate students is to enhance the quality of the undergraduate learning experience. TA or Marker positions are not allocated according to financial need or for purposes of supplementing a graduate student's income.

8.2.2 The TA and Marker provide assistance to the faculty in a way that makes a significant contribution to the faculty member's teaching efforts and that makes an optimum contribution to the education of undergraduate students.

8.2.3 To accomplish this purpose, the TA should be given the maximum reasonable authority and responsibility that can be associated with their duties. Duties will be outlined in the time-use guidelines section of the TA contract which are agreed upon by the course instructor and the student. TA duties typically may include, but are not limited to: proctoring, marking, laboratory supervision, seminar instruction, occasional lecturing, compilation of student statistics and other duties that are needed for the course. Note that guidelines related to marking of final examination are provided in Section 23.5.3 of University Regulations.

8.3 Basis for Assigning TAs and Markers

TA and marker positions are assigned by the Department Chair (or designate) in the following manner:

- a) Each term the number of assistantships and marker positions are decided based on teaching requirements and departmental resources.
- b) Students in the first two semesters of their graduate program at the University of Alberta will not normally be provided with a TA position. The Department makes an exception for PhD students who have completed an MSc in Mechanical Engineering or Engineering Management from the University of Alberta.
- c) Academic qualifications, relevant experience/training, and past TA performance constitute the primary selection criteria, where possible, a mix of experienced and new TAs will be assigned. Financial need is not taken into consideration during the TA selection process.
- d) TA assignments are made on a term-by-term basis.

9. FINANCIAL SUPPORT

9.1 Eligibility, Sources and Duration

9.1.1 Except in rare and exceptional circumstances, MEng and part-time students of any program do not receive financial support. Sources of funding for MSc and PhD students typically include TAs and RAs. RA positions are derived from research grants and contracts held by individual faculty members. Students should not expect more financial support beyond what is outlined in their Financial Offer Letter. Note, moreover, that financial support may be adjusted in the event that (i) student changes their supervisor, (ii) they change programs e.g. from a PhD to an MSc or MEng. Also, a supervisor may reduce the amount of an RA if the student in question receives a major scholarship. In this case, however, the student shall not receive an amount less than what is indicated in the Financial Offer Letter.

9.1.2 The GSA negotiates the pay scale for university-sponsored teaching and research assistantships. Individual faculties and faculty members attempt to follow these rates subject to the availability of funding. Additional funding may be secured in the form of

- a) Research Travel Support from FGPS, and
- b) Scholarships.

9.1.3 The scholarships available to graduate students are listed in the Awards section of the Calendar. Students are encouraged to communicate with the Graduate Academic Advisor to ensure timely and accurate submission of any internal scholarship applications.

9.1.4 For MSc students, supervisor(s) and the Department typically limit the total time over which a student can expect to receive financial support to 24 months following entry to the MSc program. For PhD students, the associated limit is 4 years.