Graduate Student Orientation

Welcome to Mechanical Engineering

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Presentation adapted from slides generously supplied by John Doucette (U. Alberta, Mech. Eng.)
Preliminaries

• Every graduate student is responsible for being familiar with regulations and requirements pertaining to their program as described in the University Calendar, the FGSR Graduate Program Manual and the Dept.’s Graduate Program Manual.

• Be aware of major deadlines.
  – e.g., course add/drop deadlines, thesis deadlines, three-year rule for Ph.D. students, scholarship applications, program extension deadlines, etc.

• You’re in charge of your program!
The Role of FGSR

- All graduate students are members of the Faculty of Graduate Studies and Research (FGSR).
  - Formally speaking your “home faculty” is FGSR, not the Faculty of Engineering.
- Located in Triffo Hall next to the GSA offices, FGSR staff can help with registration issues, scholarship forms and other program-related matters.
- FGSR ensures the application of academic standards for admission, progression, and graduation, promotes quality assurance and encourage best practices, and safeguards the interests of both departments and graduate students.
The Role of the Department

- The department provides day-to-day supervision for a graduate student’s program of studies.

- With policy changes adopted by FGSR Council in May 2013, many responsibilities relating to graduate student supervision and administration have been delegated to the department (and some to the Faculty of Engineering).
  - FGSR continues to handle matters of admission, academic standing, program termination, etc., but based on recommendations from the department.
The Role of the Department (2)

- The department:
  - is responsible for ensuring that all thesis-based graduate students receive appropriate supervision.
  - sets course requirements and determines the academic content of your program
  - schedules examinations

- Get to know the folks in the department as they can assist in many ways throughout your studies

- The department liaises with FGSR through the Associate Chair of the Graduate Program

Adapted from: J. Harrington, "Orientation for Graduate Students", August 2014
**The Role of the Associate Chair**

- The Associate Chair of the Graduate Program is the official representative of the department to its graduate students and representative of FGSR to the department.
- Apart from queries that can be answered by staff, and questions for your supervisor, the Associate Chair of the Graduate Program is an important resource for you when queries arise.
The Role of the Associate Chair (2)

- The Associate Chair shall:
  - make recommendations concerning graduate student admission (M.Eng. most especially)
  - act as adviser concerning the appointment of external examiners
  - act as adviser concerning changes to a student’s status or program
  - coordinate financial aid for graduate students
  - monitor the academic progress of graduate students
  - providing advice to graduate students on the rules and procedures of FGSR and the Department
The Role of the Thesis Supervisor

- The University of Alberta Calendar and the FGSR Graduate Program Manual provide a useful summary of the key duties of a supervisor.

  - Both the Calendar and the Graduate Program Manual require the supervisor to “prepare a program of studies for the student, arrange for and attend all supervisory committee meetings and examinations, ensuring that these are scheduled and held in accordance with FGSR regulations, and must review the thesis both in draft and in final form”

  - It is also expected that a supervisor will provide appropriate guidance to the student on the nature of the research to be conducted and the standard expected throughout the program of studies. A supervisor is also expected to be accessible to give constructive feedback and advice
The Role of the Thesis Supervisor (2)

- The supervisor:
  - assists the graduate student in planning a program of studies
  - ensures that the student is aware of all program requirements, degree regulations, and general regulations of the department and FGSR
  - provides counsel on the student’s program of studies
  - ensures that students conduct their research in a manner that is effective, safe, and productive
  - stay informed about the student's research activities and progress
  - treats each student as a “junior colleague” in research
  - promotes student professional development

Adapted from: J. Harrington, “Supervising Graduate Students”, June 2014
The Role of the Thesis Supervisor (3)

- The supervisor cannot:
  - terminate your program
  - modify the terms of your offer letter (e.g. reduction of salary) without due process
  - compel you to work excessive hours or to not take the vacation leave to which you’re entitled
  - interfere in family affairs (e.g. “Should my partner and I seek different childcare arrangements?”, “Should my partner seek employment outside of the home?”)

Adapted from: J. Harrington, “Supervising Graduate Students”, June 2014
The Role of the Capstone Supervisor

- Capstone supervisors provide guidance in the completion of MEC E 910, the “course” associated with the capstone project
- Capstone supervisors:
  - Identify a topic worthy of investigation that can be completed within the appropriate timeframe
  - May provide on-going guidance during the execution of the capstone project
  - Evaluate the capstone report to ensure that expected standards of quality and substance are met
  - Select a second reader who will provide his/her independent judgement of the capstone report

Adapted from: J. Harrington, “Supervising Graduate Students”, June 2014
The Role of the Student

• The student:
  – ensures registration is accurate and does not lapse
  – pays fees and meets administrative deadlines (e.g., scholarship deadlines, registration deadlines, etc.)
  – maintains timely and open communication with the supervisor, supervisory committee and Associate Chair regarding any issues or problems that arise
  – provides regular and timely progress updates to the supervisor
  – remains aware of all rules and regulations regarding his/her program

• **You’re in charge of your program!**
First Formal Meeting with Supervisor

- It is an FGSR requirement that supervisors document an initial meeting with graduate students 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”
- Meeting is supposed to occur within first month in program. If no such meeting has taken place within first six weeks, please contact me
Ethics and Academic Integrity Requirement

• Since 2004, all graduate students must undertake formal ethics and academic integrity training as a requirement for graduation
  – At least 8 hours of structured activity related to ethics and academic integrity is required
• The Faculty of Engineering meets this requirement, in part, with the mandatory ENGG 600 course
  – ENGG 600 is an all-day course, with additional on-line components
**Professional Development Requirement**

- Since 2016, **all graduate students** must complete an individualized professional development plan (IDP) and undertake 8 hours of professional development training.
  - Many employers express increasing emphasis on “soft skills” such as communication and project management.

- To assist you in meeting this requirement, it is now **now mandatory** for Engineering students to complete ENGG 601 and 602
  - ENGG 601 is an all-day course, with additional on-line components

- You will automatically receive emails concerning different PD opportunities on campus
Welcome to Mechanical Engineering

Academic Standing and Time to Completion

- M.Sc. (and M.Eng.) students must maintain a minimum cumulative grade point average of 3.0 on the 4.0 scale
- Ph.D. students must maintain a minimum cumulative grade point average of 3.3 on the 4.0 scale
- M.Sc. students must complete their programs of study within four years, while M.Eng. and Ph.D. students must complete their programs of study within six years.
- For doctoral students, all program requirements, other than the thesis, must be completed within three years!
  - e.g., course requirements, ethics and professional development requirements, candidacy exam, etc.

Adapted from: J. Harrington, "Orientation for Graduate Students", August 2014
Main Components of Your Program

• Courses
• Teaching Assistantship (TA)
  – TA work is more than about earning a paycheque!
• Working with your supervisor
• Professional development
• Supervisory committee (Ph.D. only)
• Candidacy Exam (Ph.D. only)
• Publishing your work
• Thesis and final (oral) defence
Course Requirements for Your Degree

- Courses provide you with the skills and knowledge you will need to carry out your research and meet departmental pedagogical requirements
  - The basic philosophy behind minimum course requirements is to protect the integrity of the core of the degree. The department has a responsibility to ensure that you have attained fundamental knowledge at the graduate level compatible with the chosen program
- The Associate Chair should be consulted before registering in any course not specifically listed as a graduate course (e.g. 500-level MEC E). These are not always credited depending on your program

Adapted from: P. Schiavone, “MEC E Graduate Student Orientation”, September 2014
Course Requirements for Your Degree (2)

- Minimum **does not** equal maximum!
  - Be prepared to take more than the minimum required courses!
  - Additional core courses and specialized courses should be taken to complement the specific research area (and may be required by your supervisory or candidacy exam committees)

- **No reading courses** can be counted as part of your minimum course requirements.
Publication Practices

• Your research is expected to generate data that are publishable in peer-reviewed journals. Publication of research results is one standard by which you will be judged by your peers.
  – Expectations vary with research programs, supervisors, and/or grant/contract restrictions.

• Publish in the top-tier journals in your area
  – 1-2 peer-reviewed publications from an M.Sc
  – 3-5 peer-reviewed publications from a Ph.D.

• Present your research findings at regional, national, and/or international meetings (travel bursaries are available from FGSR and GSA)
Publication Practices (2)

- Manuscript authorship guidelines can be found at
  - http://www.gradstudies.ualberta.ca/gpm/Section10aspx
- A helpful booklet on Intellectual Property Guidelines for Graduate Students and Supervisors can be found at

Adapted from: J. Harrington, “Supervising Graduate Students”, June 2014
**Ph.D. Supervisory Committee**

- All Ph.D. students are expected to meet with their supervisory committee at least once a year.
  - Your supervisory committee consists of your supervisor plus two additional professors (one additional if co-supervised)
  - Although your supervisor is the major source of ideas and advice for you, the other members of your committee can be equally important
  - It is critical to involve them early and often
- Note that it is the role of the supervisor, not the student, to set up supervisory committee meetings (and examinations)
  - If you don’t have a supervisory committee by the end of your first year, insist that your supervisor set one up. If he/she doesn’t, come see me. Likewise if regular meetings with this committee don’t occur
Ph.D. Candidacy Exam

- Ph.D. students must prepare a candidacy exam report (recommended 10 pages) and 20-25 minute presentation to his/her examination committee.
- The department recommends that the Ph.D. candidacy exam be completed within 18-24 months.
- FGSR requires that the candidacy exam (and other non-thesis program requirements) be completed within three years.
Ph.D. Candidacy Exam (2)

- The purpose of the candidacy examination is to assess the student's knowledge "of the discipline and of the subject matter relevant to the thesis" and the student's "ability to pursue and complete original research at an advanced level"
  - Students can be expected to answer questions on a broad range of topics within the scope of mechanical engineering
Defences (i.e., Final Oral Exams)

- Students must submit a final defence-ready thesis to the examining committee well in advance of the defence date
  - M.Sc. students must do so a minimum of three weeks prior to the defence date
  - Ph.D. students must do so a minimum of four weeks prior to the defence date

- **Do not** send revisions of your thesis after it has been sent to the committee
Defences (i.e., Final Oral Exams) (2)

- Students must prepare a presentation for his/her examination committee.
  - The presentation is ~20 minutes for M.Sc. defences.
  - The presentation is ~25 minutes for Ph.D. defences.

- Ph.D. students will also have an External Examiner (i.e. from outside the University) as a member of the examining committee.
  - **DO NOT communicate with the External Examiner in any fashion.** Doing so may result in cancellation of your defence!
Funding

• Your supervisor may be responsible for funding. Every supervisor has different availability of funds
  – Funds are often tied to specific research topics, each with their own specific rules regarding maximum stipend amounts, etc.
  – Graduate student funding often varies from student to student depending on scholarships, experience, etc.
  – Some students will receive a TA, but these are not guaranteed

• Paycheque amounts will fluctuate month-to-month
  – University subtracts fees/tuition in a non-uniform fashion
  – Important to check that your year end pay is as promised, no more, no less
  – Any discrepancies should be brought to the immediate attention of your supervisor/Engineering finance
Tips for Success

• Know the regulations relevant to your program as specified in the Dept.’s Graduate Program Manual

• **Hold regular meetings with your supervisor**, and discuss funding on a regular basis to make sure that the reality and expectations (yours and your supervisor’s) are the same
  – Document those meetings (paper file or email).

• Ask for and provide **regular evaluations** of your progress and academic performance
  – Ask your supervisor to define the terms on which he/she will hold meetings with you for purposes of evaluation and feedback
Tips for Success (2)

• Be honest when progress is under par (and expect your supervisor to be honest about it). Address problems early.
• Develop a plan with realistic milestones and deadlines to ensure completion on a timely basis.
• Discuss the degree of independence expected of you.
  – The typical graduate program requires a substantial amount of independent learning and research.
Staying in Communication

• You have been assigned a “CCID” as well as an “@ualberta.ca” email address. **USE IT!**
  – Various university communications will be sent to this email and so you must check your email frequently (at least once a week, preferably daily).
  – It is recommended that you do NOT forward your university email to non-university accounts such as Hotmail, GMail, etc., as you could miss important communications.

• Failure to receive or read university communications sent to your university email address in a timely manner **does not absolve students** from knowing, responding to or complying with the content of that communication.
Inappropriate Academic Behaviour

- University’s Code of Student Behaviour provides details regarding inappropriate academic behaviour
- Specific topics include cheating, plagiarism, misrepresentation of facts and participation in an offence
- Graduate students are oftentimes in the unique position of having to both enforce (as TAs) and follow (as students) the Code of Student Behaviour
Inappropriate Academic Behaviour (4)

- The following sanctions given in the Code are commonly used for plagiarism, cheating and participating in an offence:
  - A mark of 0 on an assignment
  - Reduction of a grade in a course
  - A grade of F for a course.
  - A remark on a transcript indicating Inappropriate Academic Behaviour (in addition to sanctions above)
  - Suspension
  - Expulsion

- The following sanctions may be used in rare cases:
  - Suspension of a degree already awarded
  - Rescission of a degree already awarded
Campus Resources for Graduate Students

• Resources abound to ensure you’re successful:
  – Student Success Centre
    • Provides workshops as well as one-on-one consultations
  – Centre for Writers
    • Provides resources on improving communication skills (writing)
  – International Centre
    • Provides guidance and resources to newcomers (study permits, etc.)
  – University Wellness Services
    • Provides medical services to graduate students and their families
  – Counselling & Clinical Services
    • Provides guidance on mental health services, dealing with stress, etc.
  – Student Ombud Service
    • Provides services/referrals in the event of disputes with supervisor, disciplinary action, etc.

Adapted from: J. Harrington, “Orientation for Graduate Students”, August 2014
Questions?

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