

# MTRL PhD Journey

Last rev. Mar 13<sup>th</sup>, 2024

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# Document Goals

This public facing document is intended to provide information and support for faculty, staff, and current students. *(Note: Prospective students may find this interesting.)*

- Capture the key milestones & administration of the PhD journey
- Identify key individuals involved for each step
- Support generation of a check list of milestones/ processes
- Help outline where the culture and policies of our program originate, and support transparent operation of the program

# Policy and Document Hierarchy

This document helps support top level UBC policies and Departmental Guidelines.

- If there are conflicts:
  - The UBC policies provide the overarching PhD processes that we must follow – with care and regards to the specific and careful use of language in these policies. Broadly we view these as the ‘must’ and ‘minimum standards’ of the processes.
  - The MTRL guidelines provide the next layer of guidelines/rules which are specific to our program. These guidelines underpin the culture and practices of the Department and unit.
- Care has been taken to echo and link to the specific policy and guidelines where appropriate.
- If you are uncertain of the language here, please contact a Graduate Advisor for advice.

*Note: G+PS maintain a list of relevant policies; Senate maintains policy abstracts*

# Glossary of Terms - People

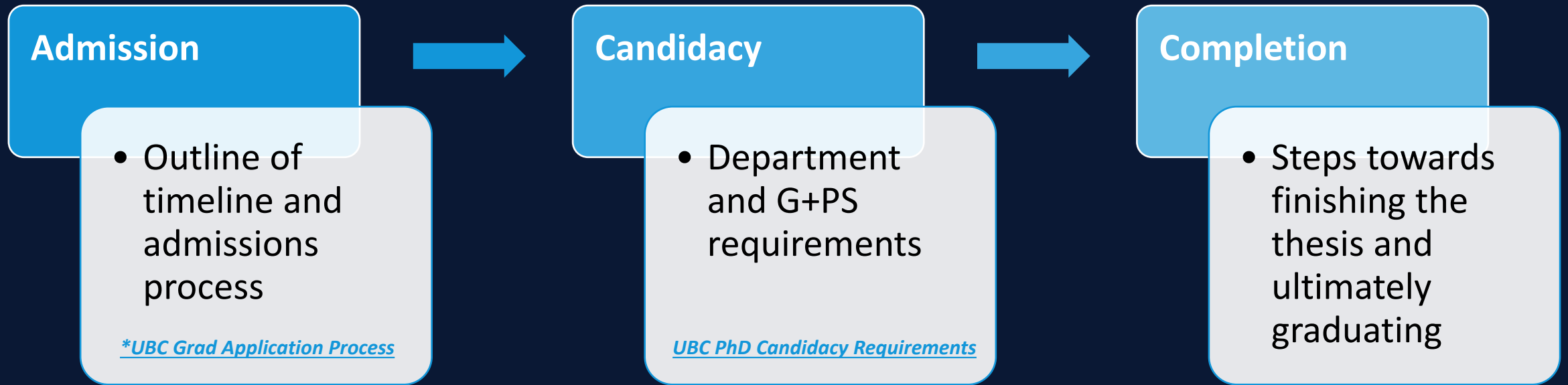
<b>PhD Student</b>	An individual who is studying with the goal of receiving a PhD from UBC.
<b>PhD Candidate</b>	A student formally admitted into Candidacy after completing key milestones (comprehensive and proposal, <i>typically year completed by end of year 2</i> ).
<b>Supervisor</b>	A member of the Faculty of Graduate and Postdoctoral Studies who is a member of the MTRL unit (i.e. Assistant, Associate, or Full Professor)* or an Associate Member of the Department (a Faculty member with G+PS membership from another unit at UBC, who has been admitted as an Associate Faculty Member by the MTRL Faculty).
<b>Co-Supervisor</b>	An individual who has supervisory rights, as per G+PS policies, typically at UBC who is providing active and regular supervision of the PhD Student/Candidate.
<b>Supervisory team</b>	The Supervisor and Co-Supervisors of the student/ candidate.
<b>(Supervisory) Committee Member</b>	An individual who is a member of the team of individuals providing regular, but less frequent, guidance to the Candidate and Supervisor/Co-Supervisor as to the progression of the (PhD) Candidate (The supervisory committee includes the Supervisory team).
<b>Chair</b>	A member of the Faculty in MTRL who acts to oversee a particular exam or milestone. To provide consistency, Chair duties will be shared by the Head of Department and the Graduate Advisors. In the event that an exam or milestone needs to be assessed on a particular date that a regular Chair is unavailable, former Heads of Department or Graduate Advisors may be asked to Chair.
<b>Graduate Advisor (GA)</b>	A Faculty member who helps administer the MTRL Graduate Program and has specific roles and duties with regards to the Faculty of Graduate and Postdoctoral Studies. Graduate advisors have both an administrative role, and may be consulted for advice by members of the Department on all matters with relation to graduate studies.
<b>Graduate Program Assistant/Officer (GPO)</b>	a Staff member who helps administer the MTRL Graduate Program and has specific roles and duties with regards to the Faculty of Graduate and Postdoctoral Studies.
<b>Head of Department (HoD)</b>	The Faculty member who is currently Head of Department. The GAs and GPOs will consult with the HoD on issues where needed, and the GAs and GPOs typically act on behalf of the HoD in the running of the Graduate Program.

# Glossary of Terms

<b>Faculty of Graduate and Postdoctoral Studies (G+PS)</b>	Administrative arm of the University that provides support throughout the Graduate Training Journey (and for Postdoctoral Fellows), as well as managing the policy and providing advice for Graduate studies.
<b>Good Standing</b>	UBC-speak to confirm that the student is enrolled properly, has paid fees, and has completed all of the milestones in an appropriate and reasonable manner, according to our records.
<b>Leave of Absence (LoA)</b>	A formal process to provide a period where the PhD progress is paused for a specific duration (typically one or more academic terms) for several reasons (e.g. health, parental leave, academic leave – <a href="#">LoA details</a> ).
<b>Program Extension</b>	Required when your full time studies extend beyond 5 years (if a LoA is requested, then it's the total LoA + full time enrollment time). If you do not submit a program extension, then you will no longer be in good standing and will not have status with the University – this can affect your study permit and immigration status - <a href="#">program extensions details</a> ).
<b>Comprehensive Exam</b>	An examination of prior knowledge, similar to 'qualifying exam' in other institutions.
<b>Proposal</b>	A PhD student presents their idea for their research thesis to the Supervisory Committee.
<b>eVision</b>	Software application portal used by UBC members to process graduate applicants.
<b>SISC, IRP/ Workday Student</b>	Software and the associated databases hosted by UBC that hold student records.

\* [UBC MTRL Academic Overview](#)

# Overview



This broad pipeline identifies the top-level processes that are involved to progress in the MTRL PhD program at UBC. There is continual monitoring and other processes that support these milestones.

# Timeline

*“This program has a graduation rate of 91% based on 56 students admitted between 2010 - 2013. Based on 23 graduations between 2019 - 2022 the minimum time to completion is 3.3 years and the maximum time is 8.2 years with an average of 5.61 years of study. All calculations exclude leave times.”*

- A PhD at UBC ideally should be completed in 4 years – this is the minimum funding package typically included within a GRA letter. It is important that you communicate your expectations on your timeline with your supervisor(s).
- By the end of:
  - Year 1: Comp exam should be completed, ideally 6-9 months into program
  - Year 2: Proposal completed, ideally 6 months after proposal, candidacy reached
  - Year 4: PhD written up, or at least a PhD thesis outline has been constructed
- Due to a variety of factors, many students completed in a longer timeline than this proposed timeline (e.g., COVID-19 pandemic, funding, research taking longer, other priorities)

[\\*MTRL PhD Program at UBC](#)



# i. Admissions – Application

*[\\*UBC Grad Application Process](#)*

- Prospective students may (and are encouraged) to reach out to Faculty informally prior to making an application. The UBC application form is quite onerous on the student, and it costs a significant amount of money (\$112/ \$170 for domestic/ int'l students).

*Note: a candidate may apply to more than 1 school/ program/ university.*

- Once a formal application is made and it is completed, the GPOs will review the file and verify it for completeness, and then share it with the prospective members of Faculty by the GPOs.
  - The program operates a process of 'first refusal' – a student will highlight a list of academics from the Program who they would like to work with, and each in turn are asked if they would like to admit the student
  - The application must meet the minimum standards of the University and Department: [MTRL PhD Program at UBC](#).

*Note: A case must be made if a prospective student is below the minimum standard required. It is increasingly difficult to justify exceptions to the minimum admission standard.*

- If a Faculty member would like to admit the student and become a Supervisor of this student, then the Faculty member will confirm funding for the student as per the minimum funding policy with the GPO.
  - This funding step is important – in confirming this in writing, the Faculty member is committing to maintain at least the minimum GRA for the minimum duration (4 years) of funding. You may wish to consider inflation in your budgeting of this GRA, and consider the implications of a student taking longer to complete their studies than the 4 year minimum commitment.



## ii. Admissions – Making an offer

- Once the supervisor has confirmed funding, the file is forwarded to the GA to verify the documents and approve an offer being made.
- UBC will prepare and issue an offer to the prospective student of behalf of G+PS, and concurrently the Head of Department will issue a letter with information that includes our commitment towards supervision and the Graduate Research Assistantship (GRA).

# iii. Admissions – Timelines

- Students are usually admitted to join UBC at the beginning of each term
  - Winter 1 – September, Winter 2 – January, and Summer – May
- Admissions has a series of rolling deadlines, and within reason we can transfer a student between the admission windows as needed.
- The admission timeline will depend on:
  - The Graduation Date of the student from their current program
  - When the supervisor wants to start supervising and funding the student
  - When the student can move to Vancouver (inc. any study permits for int'l students)

## iv. Admissions – Application fees

- UBC, the Faculty of Applied Science, the Program/Department, or the Supervisor can issue an application fee waiver as required.
- Each supervisor can issue a waiver for a student as they wish, and the supervisor will need to provide an account to cover the fee from their funds.
- The Program/APSC may have specific schemes for students who match certain criteria
  - Ideally these waivers should be used for cases where a student has a reasonable chance of admission and funding
- UBC has an overarching waiver program.

# v. Admissions – Funding

- UBC has a minimum funding policy. The G+PS website has more information on funding.
- The Department concurrently has a related minimum funding policy for the GRA contributions (and/or established scholarship/3<sup>rd</sup> party funding schemes) and this guides the written offer letter – any changes to the provision of GRA funding for a student must be agreed with the Head of Department (typically consult a grad advisor first).
- Eligible students may receive additional funds from other sources as appropriate, including the following UBC-based awards:
  - The Graduate Student Initiative (GSI): Faculty of Applied Science Graduate Award
  - President's Academic Excellence Initiative PhD Awards: PAEIPA
  - The International Tuition Award: ITA
- Typically, students will have to pay tuition fees and other associated costs.

# i. Starting up on the program

- Students will typically start at the beginning of an academic term.
- Due to the challenges of accommodation at UBC/ in Vancouver, it can take some time for Graduate students to settle – but it is often helpful to provide them some structured onboarding to encourage them to engage with the Department and wider University.
- Students should be encouraged to connect with other students in their research groups, in the Department, and the wider University – it is good, and important, to support a student in fostering their social and professional networks.

## ii. Starting up on the program

- It is the responsibility of the Supervisor to identify any resources the student may need, which may include:
  - A desk for the student to study
  - Any computer resources (e.g. laptop, desktop, shared computing resource)
  - Access and provision of suitable lab space
  - Identification and access to appropriate research equipment
  - Any (accessibility) accommodation requirements (the student may need to work with the Centre for Accessibility once they are enrolled to provide the appropriate materials)
  - Appropriate training requirements (especially relevant Safety training)
- It is recommended that these issues are resolved/identified prior to the student onboarding.

# iii. Starting up on the program

- The Department is mostly housed in the Frank Forward building, and AMPEL (Brimacombe).
- The Student should engage in the appropriate safety training and onboarding (overseen by the Supervisor).
- At UBC:
  - Each building has its own safety protocols and processes.
  - Each lab will have its own safety protocols that are appropriate for the nature of work being undertaken in this space.
  - The protocols and processes may be updated.
- MTRL has a subsite on safety that all members of the Department should be familiar with (Forms and orientation documents).
- AMPEL has a subsite on safety.
- UBC Safety and Risk Services oversees UBC research safety provision, incl. chemical safety training.

# Student-Supervisor Expectations

- Students and supervisor(s) should discuss their expectations, and revisit these expectations periodically throughout the program of study.
- G+PS provides a guidance document that can support this discussion.

UBC Policy SC6 on Scholarly Integrity stipulates that the principal investigator is responsible for –

*“Ensuring that the research conditions applicable to the research project, including compensation and practices around supervision, authorship and recording data, are properly articulated in writing and disseminated to all members of the research team prior to engagement in the project”.*

“The student/supervisor expectations document may also assist faculty members in meeting this important University requirement.” – G+PS



# Hours and Place of Study

- Expectations should be discussed between supervisor(s) and students:
  - Regular communication between both parties may be helpful to understand and manage expectations.
  - Culture will vary between research groups in the Department, and elsewhere at UBC.
- UBC's guidance on full-time status – *“full-time students typically devote a minimum of 35-40 hours per week to academic activities (e.g., research, teaching or research assistantship, and professional development) related to their studies.”*
  - Note: The GRA (Graduate Research Assistant) funding has UBC guidance and info in the UBC calendar:**
    - *The entire stipend of a research assistantship is considered a scholarship, the conditions of which may be specified by the granting agency.*
    - *A research assistantship is a form of financial support for a period of graduate study and is therefore not covered by a collective agreement.*
- There are specific tax (all students) and immigration implications (int'l students) for your GRA and study permit (int'l students) –consult with the int'l student advising office (int'l students) and refer to the Calendar for more information.

# Academic Milestones

## Comprehensive Exam

- In Year 1 – testing prior knowledge in Materials Engineering.

## Proposal Exam

- Ideally 6 months after comp. exam, and no later than 2 years into program.
- Confirming that your proposed study area/focus is reasonable and well put together.

## Candidacy

- Formal status update with UBC, and the Supervisory Committee is formed: [UBC PhD Candidacy Requirements](#).

## University Examination

- The UBC-wide doctoral examination process.

## Internal Examination

- A Departmental process where the Supervisory Committee, in the presence of an Independent Chair, examine the candidate. This mimics the University Exam.

## Annual Supervisory Committee Meetings

- Senate requirement. Annual milestones and progress management, and can seek external feedback (beyond the Supervisor(s)) to guide the Candidate.

## Graduation

- The formal graduation process, which has specific requirements to enable you to participate in.

# Process for Booking an Examination

- To expedite the process and maximize the chance of success for booking examinations (especially for those that require an Independent Chair), please follow this procedure:
  - The Supervisor (not the student) should gather names and commitments for all attendees for the exam (excluding an Independent Chair, if that is required by the exam).
  - The student can provide the list to the supervisor for verification prior to submission to the General Office.

*Note: The requirements and the guidelines for each examination in the following slides.*
- The Supervisor emails the general office\* with request book a room, provide the list of all attendees.
- The general office will facilitate securing an independent Chair, if there is availability for the proposed date(s) and times(s).

*Note: It is useful to provide several dates/times because the potential Chairs are usually busy and it might a challenge to find a Chair for only one date/time provided.*
- Once the date/time is finalized and Chair designated, the General Office will email all attendees and send Outlook invitations, including the location (and if requested the Zoom link for a virtual exam).

\* As of March 2024, please contact [Vendula Ralkova](#)

# i. Comprehensive Examination – Outline

- This is an oral examination, comprised of:
  - Independent Chair
    - Graduate Advisor/Former Grad Advisor/HoD/Former HoD
  - Supervisor(s)
  - Two other MTRL research faculty members (one of which must be Assoc./Full Prof.)
    - List of MTRL Faculty
    - MTRL Faculty for the PhD processes also include an Associate Faculty Members - Faculty from another UBC unit, approved at a MTRL Faculty meeting – speak to the HoD for this process

*Note: No audience is permitted during this exam.*

## ii. Comprehensive Examination – Format

- At least 1 week prior to the exam, an outline of the selected topics (refer to next slide) and a brief 1-page summary of the PhD thesis is provided to the Chair, Supervisor(s) and Examiners.
- The exam is two hours in duration, with the following features:
  - A 5-minute presentation on thesis area, followed by two rounds of questions.
  - Each member of the examining committee (each examiner, and the supervisor(s)) ask questions for up to 15 minutes each, in two rounds on the topics.
- There is an *in camera* discussion (the candidate is asked to leave):
  - The Supervisor(s) are asked for comment on the candidate, then the examiners provide feedback to the Chair, and the Examiners and Supervisor(s) make a recommendation to the Chair.
  - Candidate is invited back, and the Chair provides feedback and the outcome of the exam.

# iii. Comprehensive Examination – Topics

- The Supervisor and Candidate agree to 6-8 topics from the agreed list:
  - At least two topics must be taken from Themes 1-3, and at least two from Themes 4-11.
- The Exam can explore all the topics, but does not have to.
  - The Chair should ensure that a balance is met in the exam, and that there is sufficient depth is covered.
  - The Supervisor(s) are encouraged to support the Chair in this.
- Typically, at least 3-4 topics are explored in depth and up to the full list of topics that were agreed prior to the exam.

## Topics for Comprehensive Exam for PhD Students in the Materials Engineering Programme

1. Structure of materials
  - a. Atomic structure and interatomic bonding
  - b. Structure of crystalline solids
  - c. Imperfections in solids
  - d. Electron theory and band structure
  - e. Glasses/amorphous
  - f. Molecular structures ← **One topic**
2. Thermodynamics
  - a. Thermodynamic laws, functions and relations
  - b. Electrochemical thermodynamics
  - c. Solution thermodynamics & Phase diagrams
3. Kinetics/Transport
  - a. Heat flow
  - b. Mass flow (liquid/gas)
  - c. Diffusion (solid state)
  - d. Fluid flow
4. Mechanical Properties
  - a. Elasticity
  - b. Plasticity (Crystalline/ Non-crystalline)
  - c. Viscoelasticity
  - d. Fracture
5. Metals
  - a. Phase transformations in metals
  - b. Thermal processing of metals
  - c. Solidification
  - d. Alloys

# iv. Comprehensive Examination – Outcomes

- As per the Departmental Regulations:
  - “Based on the performance of the candidate at the oral examination, the Examining Committee may:
    - (a) pass the candidate;
    - (b) require the candidate to repeat the examination within 4-6 weeks;
    - (c) advise the candidate to withdraw.”
- In a case that the student does not pass the exam,
  - If this is the first exam, typically the candidate is offered a second attempt at the Comprehensive Examination and a formal letter is issued to the Candidate regarding progressing.
  - In this circumstance, the Supervisor(s) are asked to seek advice from the Graduate Advisors, and to investigate the formal process for a re-examination.

# i. Proposal Exam – Overview

- The goal of the Proposal exam is to demonstrate to a committee that the candidate has the potential to conduct a new area of research at an appropriate standard to earn a PhD, and that they have adequate support and resources to do within the duration of the program.
  - The Proposal must be defended within two years of enrolling in the program
  - The Exam includes evaluation a written proposal and an oral exam
- The Proposal is usually chaired by the Supervisor. For a second proposal defense, an Independent Chair (GA/former GA/HoD/former HoD) is required.
- The Proposal is evaluated by a team of research faculty who will usually become the Supervisory Committee once the PhD student reaches candidacy.
  - At least one of the non-supervisor(s) member proposal committee should be from the team who conducted the Comp. Exam.
  - Typically the same team who conduct the comprehensive conduct the proposal (excluding the Chair), or a member of the comp committee is swapped out to enable a G+PS Faculty member from a different Unit/Department to join the Supervisory Committee.
  - If exceptions are requested, they should be discussed in advance of the exam with the Graduate Advisor(s) and/or Head of Department and a written memo must be provided. In these exceptional cases, at least one of the Supervisory Committee needs to be at 'arms length' and Associate/Full Professor rank in MTRL.



## ii. Proposal Exam – Written document

- A written research proposal that outlines the idea for the thesis, and provides sufficient context for the work, as well as an outline of the proposed method of study:
  - Not to exceed 24 pages of double-spaced typewritten pages in total length, plus 2 pages of references.
  - Typical font: Calibri (or equivalent), size 11, 1-inch margins, letter page size.
  - If the written proposal is too long, the examining committee can (and should) send it back and ask for the proposal to be rewritten, before conducting the exam – a new date of the exam can be set.
  - Candidates can include extra material within an appendix if they require.
  - If the proposal document is not within the formatting guidelines, the committee can reject the proposal and ask the candidate to reformulate this prior to a proposal defense.

*“The research proposal will normally include a thorough literature survey in the field selected for study, and will also include a critical evaluation of previous work, a clear delineation between what is known and unknown, and the selection of a well defined problem area for investigation. It should also include the methods to be used in solving the problem, as well as a justification of the research as a potentially significant contribution to knowledge. The editing and literary style of the proposal is the candidate’s responsibility.”*

# iii. Proposal Exam – Oral exam

*“The proposal defense will include a 20-25 minute oral presentation of the research proposal followed by two rounds of questioning. Questions will focus on assessing the candidate’s knowledge specifically related to the research proposal. The overall objective of the examination is to demonstrate to the Committee that the candidate has the ability and background necessary to pursue the proposed research.”*

- Attendees:
  - Candidate, Supervisor(s) - acting as Chair\*, Supervisory Committee, and an audience is welcomed.  
\*If this is a second Proposal exam, then an Independent Chair is required.
- Format:
  - 20-25 minute oral presentation
  - Two rounds of questions, by the examining committee and supervisor(s), each person can ask questions for up to 15 minutes, followed by questions from the audience
  - *In camera* in the absence of the student and audience

## iv. Proposal Exam – Outcomes

- Based on the written proposal and on the performance of the candidate at the oral examination, the Examining Committee may:
  - (a) accept the proposal;
  - (b) suggest changes to the research plan;
  - (c) require the candidate to repeat the proposal defense;
  - (d) advise the candidate to withdraw.
- The repeat of the proposal defense will normally occur 6-8 weeks after the initial examination. Note that (d) is usually only opted after a second examination, and in the presence of an Independent Chair.

# Candidacy

- This is a formal status at UBC.
- Key notes:
  - After Comp. and Proposal are passed.
  - Supervisory committee is formed.
  - UBC rules note that this **MUST** be achieved before end of year 3 of the program, and expected to be completed before end of year 2 of the program.
  - The Departmental Guidelines expect you to complete this before end of year 2 to show good academic progression in the program.
- Candidacy is achieved once a form is submitted to G+PS, and the form is processed via the GPOs.
  - If it has yet to be done, the supervisory committee is formally established at this point (refer to next slide).

# Supervisory Committee

- The Supervisory Committee provide guidance and advice to the Candidate and Supervisor(s), and they advise whether the Candidate can pass the Internal (Departmental) Examination.
  - Advice from G+PS on the Supervisory Committee structure can be found [here](#).
- For the PhD program in Materials – the supervisory committee usually is the same group who conduct the Proposal Exam.
- Membership of the supervisory committee is a formal UBC status, as per G+PS guidelines:
  - The majority of supervisory committee members must be members of G+PS.
  - Any supervisory committee members who are not members of G+PS must be approved by G+PS (via a recommendation of the Program).
  - The full guidance of membership can be found [here](#).
- The Candidate has to call a meeting of the Supervisory Committee every year (as per Senate guidelines), and may meet on an ad hoc or formal basis more frequently with the committee/members of the committee.
- When an annual meeting of the Supervisory Committee has happened, the supervisor should issue a note to the graduate advising team (via [MTRL Graduate Office](#)) that the meeting has occurred.
- In addition to the Supervisor (and Co-supervisor, if appropriate) the Supervisory Committee must have one ‘arms length’ member of Materials Engineering who is of Associate or Full Professor rank AND a member of G+PS.

# Department Presentation (MERC)

- All graduate students must present a talk on their research. This is usually completed towards the end of their program, and in the term before they expect to write up their thesis.
- The goal of the MERC is to provide a forum for you to disseminate your research to the Department, wider community and for you to practice your presentation skills.
- This can either be via a Departmentally Organized 'Materials Engineering Research Colloquium' (MERC)
  - May be a dedicated session, or part of another activity (e.g., the Research Showcase).
  - Special MERC seminars can be organized if required, the Supervisor(s) should check with the GAs for advice.

# Thesis write-up and preparing for exams

- The PhD program of study is established to provide a student with a training journey, and the discovery of new facts/know-how or the synthesis of knowledge to come up with something novel.
- This is communicated to others via the PhD thesis, and defended via an oral examination.
- In the Department, there is a process to support these final stages:
  - (a) Preparation of your thesis, with guidance of your Supervisor(s), and where appropriate input from you supervisory committee.
  - (b) Defending your thesis via the internal (Departmental) exam, where the Supervisory Committee provide formal recommendations on whether the thesis and candidate are ready for the University Examination.
  - (c) Defending your thesis via the UBC Final Doctoral Examination.

# Timeline of writing up

- Many candidates will take 3-12 months to write up a thesis, and this may be conducted concurrently with final pieces of primary research.
- Your supervisor(s) will likely provide feedback on drafts of your thesis. It is worth discussing in advance how this feedback will be delivered, and the structure of your writing up process.
- Once the thesis is prepared, you will prepare an oral presentation on your work that provides a short summary of the thesis and highlights the major findings/ideas of the work, and positions it within the wider context of field at the time of the examination.
  - This can be done relatively quickly once the thesis is formed as a complete first draft, but it's important that it reflects the final thesis for the examination.
- The Departmental exam will be scheduled.



# i. Departmental (Internal) Exam

- This is a practice for the University exam. You MUST pass the Departmental exam before your thesis can be examined at the University.
- The Departmental Exam is conducted by the Supervisory Committee, and serves as the final supervisory committee meeting where the committee agrees that the thesis is ready to be defended at the University.
- The exam is comprised of:
  - Independent Chair (i.e., Graduate Advisor/Former Grad Advisor/HoD/Former HoD)
  - Supervisor(s) – the lead supervisor must be present
  - Supervisory committee
  - Members of the Department may attend in the audience
- In cases where there is more than 1 supervisor and/or a larger supervisory committee:
  - The primary supervisor needs to be present
  - Two representatives from the supervisory committee should be present, at least 1 of which should be from MTRL and at Assoc/Full Prof rank
  - The Q&A time allocations are ideally facilitated to enable these three people to ask a reasonable number of questions (typically 15 mins per round per person)
  - For students with more than 1 supervisor (e.g. a co-supervisor), then the supervisory team get up to 15 minutes to ask questions in the same grouping

*Note: If there is more available time, additional questions can be asked together with the audience questions*

## ii. Departmental (Internal) Exam

- Rules and guidelines:
  - Scheduled for 2 hrs.
  - Thesis submission must occur at least 10 days prior to the exam.
  - Usually in person, but hybrid and virtual can be arranged.
  - Not recorded.
  - Supervisor takes notes on behalf of Candidate (Candidate may take notes as well).
- Exam Format:
  - 25-30 min presentation from the Candidate.
  - 2 rounds of questioning, up to 15 mins per person per round.
  - Questions from the audience, if time permitting.
  - Candidate leaves, and then *in camera* discussion of supervisory committee + Independent Chair.
  - Candidate invited back and Chair provides feedback.

# iii. Departmental (Internal) Exam

- Outcomes:

- (a) Pass and progress to University exam (subject to good standing check, completion of all MTRL doctoral program requirements, and completion of relevant forms)
- (b) Candidates may be advised of small modifications to the thesis, that can be agreed with the supervisor
- (c) Major revisions are required, as the thesis or oral defense is not satisfactory

*Note: The candidate is recommended to discuss this with the supervisory committee, prior to another exam being scheduled.*

- (d) Fail

*Note: Concerns regarding satisfactory academic progress are noted. If this is a second attempt for the Departmental defense then the candidate may be asked to withdraw from the program.*

# Doctoral Timeline – Forms

- Forms can be found on the G+PS website.
- In the first instance, forms for departmental consideration should be sent to the GPOs (via MTRL Graduate Office) – this enables the forms to be checked for completeness, and whether the student is in good standing.
- For regular progression major forms include:
  - Candidacy (after passing proposal exam);
  - Leaves of absence (if required – discuss with supervisor and/or a Graduate Advisor);
  - External Examiner form (>8 weeks prior to submission of dissertation for University exam);
  - University Examiner Approval form (>4 weeks prior to defense);
  - Oral Defense Booking form (>4 weeks prior to defense);
  - Doctoral dissertation approval form (after your defense, submitted by the program).

# Doctoral Defense

- When you are coming up to the end of your PhD, you should discuss the timeline for completion with your supervisor(s).
- Ideally you should call a supervisory committee meeting to inform them of your intent and your timeline.
- The G+PS website contains significant amounts of up-to-date information and guidelines of this process.
- In addition to the UBC-wide requirements for this process, the Department guidelines provide supplemental requirements (e.g. Internal defense and the MERC requirement).
- To facilitate this process, we strongly recommend you fill out the checklist supplied by G+PS.

# Resources – Committees memberships

## Comprehensive exam

Very important that it's all G+PS eligible MTRL Faculty involved: supervisor(s), two examiners (one of assoc./full prof), and independent chair. No audience present.

## First proposal exam (varies if it is a repeat)

Chaired by supervisor(s), can swap out one examiner from the comp exam for anyone else who is G+PS eligible. Audience may be present.

## Supervisory committee

Must have a G+PS status:

- Typically the team who do the proposal. It can vary if required, and that can be discussed with a GA.
- Can form informally early in the program, but is only formally approved & entered into UBC systems (SISC) from our program once a student enters candidacy.
- Should include (at least) “arms length” MTRL engagement, preferably at least one Faculty member of Associate/Full Prof rank.

Levels of G+PS eligibility

- MTRL Faculty = Calendar list + Associate Members (research faculty rank with G+PS membership);
- Other G+PS eligibility (e.g., proposal + supervisory committee) = Any member of a UBC unit – as listed on the calendar for their host unit, or on our list of people (we can request confirmation from G+PS for these exceptions as required, typically new requests for G+PS supervision will be given associated with an individual student, rather than blanket for the program). Refer to the [senate policy](#).

The supervisory committee consists of ‘at least two other individuals for doctoral students’ so it can be made larger (this may be the case for students who are working across Departments/Institutes) – but students/supervisors should reach out to GAs for advice in cases where they wish to expand the committee.

If there is any uncertainty about the constitution of a committee, please discuss this in advance of the exam with a Graduate Advisor and obtain written consent for any proposed exceptions. *Note that in cases where the exam is inqorate the exam may have to be re-taken before it is passed.*

# Resources – PhD studies at UBC

- Professional Development:
  - G+PS programs
  - MITACS
- Wellbeing:
  - Consult the green folder
  - UBC health and well being
  - G+PS guidance
- If issues arise (resources for both students & supervisors):
  - Your supervisor(s) and your supervisory committee
  - The Graduate Advisors or Graduate Program Officers
  - Materials Engineering Head of Department
  - Graduate Student Society (GSS)
  - APSC Embedded Counsellor
  - G+PS
  - Ombud's office

# Resources – Departmental contacts (Dec '23)

- MTRL Graduate Office
  - Point of contact for general enquiries, forms, etc.
  - Should be copied on all emails re: formal graduate processes.
- Faculty and staff listings in MTRL
- Graduate Advisors: Dr Ben Britton, Dr Matthias Militzer
- Head of Department: Dr Daan Maijer
- Student Office Team: Lydia Lyu, Sharen Mangat