MCDB&G Grad Program Handbook

Molecular, Cellular, Developmental Biology & Genetics (MCDB&G) Grad Program Handbook

Policies apply to all students, courses updated 2025.
The information in this handbook and other University catalogs, publications, or announcements is subject to change without notice. University offices can provide current information about possible changes.

MCDB&G Graduate Program Contacts

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I. MCDB&G Graduate Program

MCDB&G Graduate Program Overview

Welcome to the Graduate Program in Molecular, Cellular, Developmental Biology and Genetics (MCDB&G). This handbook is designed to provide you with important information regarding course requirements, registration details, preliminary written and oral examinations, degree requirements, and health and dental insurance.

While graduate programs are officially distinct from departments, in practice programs rely on departments for financial assistance, office staffing, and space. The MCDB&G program is within the Department of Genetics, Cell Biology and Development (GCD).

MCDB&G Graduate Program College Information

Both the MCDB&G and BMBB Graduate Programs are part of two distinct colleges at the University of Minnesota Twin Cities; the UMN Medical School and the College of Biological Sciences (CBS). The College of Biological Sciences is our Administrative home.

The Medical School Contact Information

- **Dean:** Jakub Tolar, MD, PhD
- Associate Dean for Graduate Education: Lorene Lanier, PhD
- Office of Graduate & Postdoctoral Studies - Associate Director: Brenda Davies, PhD
- Administrative Associate for Graduate Education - Genne Fritts

The College of Biological Sciences Contact Information

- **Dean:** Saara DeWalt, PhD
- Associate Dean for Graduate Education: Meg Titus, PhD
- College Coordinator: Sara Eliason

MCDB&G Grad Program Objective

The objective of the MCDB&G PhD Program is to train a cohort of highly skilled and innovative researchers equipped with advanced knowledge and expertise in the interdisciplinary field of biomedical sciences. This program is designed to impart students with a comprehensive understanding of fundamental biological processes (with a focus on genetics, cell biology, and development), training in cutting-edge research methodologies, and the application of advanced analytic approaches to address complex challenges in human health. Our goal is to foster critical thinking, creativity, and collaborative skills, empowering graduates to make significant contributions to the advancement of biomedical knowledge, the development of novel therapeutic approaches, and the improvement of global healthcare outcomes.

MCDB&G Grad Program Learning Outcomes

1. Advanced Knowledge Acquisition
   Advanced Knowledge Acquisition: Demonstrate a deep and comprehensive understanding of the fundamental principles and current advances in biomedical sciences.

2. Critical Thinking and Problem-Solving
   Critical Thinking and Problem-Solving: Develop and apply critical thinking skills to analyze complex biological problems and propose innovative solutions.

3. Research Design and Methodology
   Research Design and Methodology: Design and implement rigorous and ethical experimental approaches, utilizing state-of-the-art methodologies and technologies in biomedical research.

4. Data Analysis and Interpretation
   Data Analysis and Interpretation: Proficiently analyze large datasets, interpret experimental results, and draw meaningful conclusions using statistical and computational tools.

5. Effective Communication
   Effective Communication: Communicate scientific ideas and research findings clearly and effectively through written manuscripts, oral presentations, and scientific discussions.

6. Interdisciplinary Collaboration
   Interdisciplinary Collaboration: Collaborate effectively with professionals from diverse disciplines, fostering a multidisciplinary approach to biomedical research.

7. Ethical Conduct and Integrity
   Ethical Conduct and Integrity: Adhere to the highest ethical standards in research practices, including the responsible conduct of research and the proper handling of data and information.

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8. Grant Writing and Funding Acquisition
   Grant Writing and Funding Acquisition: Develop the skills necessary to write competitive research proposals and secure funding to support independent research endeavors.

9. Teaching and Mentoring
   Teaching and Mentoring: Demonstrate proficiency in teaching and mentoring, effectively conveying complex scientific concepts to students and providing guidance to junior researchers.

10. Scientific Leadership
    Scientific Leadership: Develop leadership skills to initiate and lead research projects, contribute to scientific discourse, and positively impact the broader biomedical community.

11. Innovation and Translation
    Innovation and Translation: Foster the ability to innovate and translate research discoveries into practical applications for improving human health, including the development of novel therapies and diagnostic tools.

12. Global Awareness
    Global Awareness: Understand and appreciate the global implications of biomedical research, including cultural, societal, and ethical considerations, and contribute to the international scientific community.

MCDB&G Grad Program Assessment

Assessment of student learning: Student learning is assessed through completion of required and elective coursework, passing oral and written preliminary exams, annual progress reports, and passing written and oral parts of the doctoral thesis defense. Faculty (in their roles as advisors, committee members, and course instructors) are involved in every aspect of student learning assessment. The MCDB&G Executive Committee regularly reviews student learning outcomes (e.g., student review of teaching [SRT], median time to defense, number of publications per student, etc.) and makes recommendations for program changes as appropriate.

MCDB&G Grad Program Review

Academic Program Review: Program quality is assessed by an external panel of evaluators on an *ad hoc* basis. The review panel prepares a report on the current status of the program and their recommendations.

Safety Training

Safety Training: Federal, state and local regulations require all graduate students to

undergo safety training. Requisite training forms can be found at the Department of Environmental Health and Safety website: Department of Environmental Health & Safety (DEHS)

Lab Access Trainings

Prior to being granted building access, the following need to be completed:

1. Employee/Student Access form: Completed by the individual needing building access. They will need their U Card to complete this step.
2. Required training: All training must be complete to gain access to RFSS buildings.
   a. Radiation Safety Orientation Training
   b. Bloodborne Pathogens Training
3. Supervisor Approval form: To be completed by Faculty or Principal Investigator (PI), lab manager, program director, Department Administrator, or a designated approver.

These specific courses must be completed, not a similar course in the same category. Once completed, please forward the email confirmations or provide physical proof of completion (screenshot of final page, etc.) to one of our information desks. Access will not be granted until you provide us with proof that the training has been completed.

Laboratory Training

Laboratory training and other mandatory regulatory and oversight requirements Attendance at training sessions (e.g., research ethics, laboratory safety) is mandatory. These requirements are defined by the Graduate School and by Federal agencies. Failure to satisfy these requirements may negatively impact the student's ability to graduate.

II. Graduate Program Degree Requirements

Overall MCDB&G Degree Requirements

As a member of the MCDB&G graduate program, you are expected to follow the Student Academic Conduct Code as well as:

- Complete three rotations in year 1
- Find a lab home by the end of year 1 (May)
- Present at student seminar once a year
- Attend at least one regular departmental (GCD) seminar series
- Fill out the Annual Progress Report and meet annually with your committee
- Maintain active status with the Grad School by registering every Fall and Spring
- Complete all course requirements, maintain at least a GPA of 3.0
- Pass both the written and oral preliminary exams
- Actively pursue thesis research with adequate and timely progress
- Fulfill TA requirements (at least 1 semester for all students (MD, PhD)
- Attend and present a poster at the annual MCDB&G retreat
- Participate and present a poster at MCSB joint recruiting activities
- Actively pursue thesis research with adequate and timely progress
- Publication of at least 1 paper
- Thesis Defense & Graduation (5-7 years)

UMN Itasca Biological Station

Required Course: MCDG 8920 - The purpose of the workshop is to acquaint you with some of the fundamental techniques you will be learning about in your first year courses and using during your laboratory rotations. Holding this course in the North Woods provides an informal environment with few distractions. You will get to know

the faculty and other students while being immersed in science. The Itasca Workshop will be held at the University of Minnesota Biological Station at Itasca State Park in northern Minnesota. Itasca State Park is 220 miles from the Twin Cities; the trip takes about 4 1/2 hours one way.

Life at the Station
Station policies, code of conduct
Station health & safety

Rotations/Joining a Lab

Students must complete rotations and join a lab by the end of their first year and before the fiscal year ends (typically late June).

Contracts will be sent out prior to the new fiscal year starting (May/June). Financial approval is required for an advisor to take a graduate student.

Grad Student Seminar

All MCDB&G students are **required** to give a Student Research Seminar presentation in the weekly MCDB&G student seminar series annually, beginning in year two through year five. The aim of this seminar is to give each student the opportunity to present a formal seminar on their research and to give their thesis committee the opportunity to assess their progress towards completion of the PhD degree. Regular attendance at the student seminar series is also expected.

***New Requirement:** **3-Minute Synopsis** All presentations must now begin with a 3-minute synopsis of your thesis work, supported by one static slide. This change serves two key purposes: (1) To introduce your topic and prepare the audience for your full presentation and (2) to help you practice communicating your research to broad, non-specialist audiences (valuable for networking events and public engagement).

Optional 3-Minute Thesis (3MT) Competition This synopsis format is intentionally aligned with the 3-Minute Thesis competition. If you're interested, you can volunteer to have your synopsis recorded, making you eligible for our program-wide 3MT competition. In the spring semester, all program students, faculty, and staff will vote to select our candidate for the CBS-wide 3MT competition.

To Summarize: The 3-minute synopsis is **required** for all presentations; having it

recorded for the 3MT competition is **optional**.

GCD Departmental Seminars

As graduate students, one of the best ways to learn about a broad array of scientific topics and techniques is by attending weekly seminar series. The MCDB&G Graduate Program strongly encourages all students to attend GCD seminars and take advantage of opportunities to meet with invited speakers.

GCD/MCDB&G Annual Retreat

The GCD/MCDB&G annual retreat is held every Fall (depending on budget). First and second-year students are required to attend, and second-year students are encouraged to present a poster. Third and fourth-year students are required to present a poster.

During the Annual Retreat, the MCDB&G program has been holding a 3MT competition. The winner then goes on to the CBS/CFANs larger 3MT competition. The winner of that competition will compete in the larger UMN Graduate School 3MT.

Preliminary Exams

Students must complete their Written and Oral Preliminary Exams in their second year. The Written Preliminary Exam is administered by the MCDB&G Student Review committee during the fall semester (after completing the Writing Analysis course 8171 in the Summer). Following favorable review by the student's Preliminary Exam committee, students may schedule their Oral Preliminary Exam. Both exams must be completed by the end of the Spring semester of the student's second year in order to proceed in the graduate program. If students pass both preliminary exams before the Fall semester of their 3rd year, they should be eligible for low fringe.

English Proficiency

All international students at the University of Minnesota must meet the University's English language proficiency for teaching assistants requirement before serving as teaching assistants. All nonnative English-speaking students must demonstrate proficiency in spoken English appropriate to the demands of their teaching assistantship. **Students are required to have an English Language Proficiency (ELP) rating of 1**. All MCDB&G international students who do not meet the University's English language proficiency for teaching assistants requirement through their TOEFL iBT or IELTS score must take the SETTA after their first semester but

before they request a teaching assistantship.

Proficiency is assessed in **one of three ways**:

1. English proficiency exam speaking sub-score (TOEFL iBT or IELTS);
2. Spoken English Test for Teaching Assistants (SETTA) at the UMN; or
3. Final exam taken after coursework in the UMN international TA program

Teaching Assistant (TA) Requirements

Training sessions: All students are required to take these two training sessions.

1. Online CBS TA Training: https://training.umn.edu/courses/20146
2. Writing specific TA training: This workshop is designed to help TAs respond to student writing, create rubrics, and evaluate writing assignments. This is usually offered twice in a year, one in fall and another scheduled for spring. **Note:** Completion of either the fall or spring workshop will suffice to complete this training. You only need to complete it once.

TA duties: Meet with the instructor of your assigned course before the course begins to discuss duties and expectations. Instructors will be sent an evaluation form at the end of the semester regarding your performance. If your TA evaluation does not give you satisfactory remarks, then your TA pay may be held or you may have to do an additional teaching assignment.

Teaching Assistant

All PhD students will teach one semester. **The teaching requirement is intended to ensure that all students in the program have, as part of their graduate training, experience as instructors.** This requirement provides an important opportunity for students to improve their communication skills through interacting with a range of diverse students, gain experience in organizing and presenting materials in an accessible way, and to acquire deeper knowledge in core areas of MCDB&G.

The DGSs and GPC will ask for your preferences for GCD/BIOL course assignments, although we may not be able to accommodate your choices. You may also need to TA a BMBB or BTL course if there is a shortage of GCD spots funded for graduate students.

Annual Progress Report

Annual progress reports and committee meetings are an important way for the thesis committee and MCDB&G program to keep up with student progress and serve as a cumulative record. The program would like to ensure that students are having a successful training experience and are on track to graduate in a timely manner and be made aware of any issues or problems so that we can provide support and assistance if needed.

Annual progress report and meeting with thesis committee

Prior to the meeting, the student must submit an annual progress report to be discussed by the thesis committee. The progress report should be completed and submitted to the Student Review committee, GPC and DGSs by the committee chair following the meeting.

Canvas Course: Currently this is a trial run with the 2025-26 cohort.

Thesis Committee Meeting

Annual progress report and meeting with thesis committee: Beginning in the second year, **each student is required to meet at least once a year with their Thesis Committee**, including their advisor, to discuss their academic and research progress and plans. After year five, students should meet with their committee every six months.

Committee meetings are also opportunities to discuss the student's goals, career development, and additional training opportunities (meetings, internships, courses, workshops). The progress report should be completed and submitted to the DGSs and GPC by the committee chair following the meeting.

It is strongly recommended that this meeting be held immediately after the student's yearly student seminar. Committee members should be notified immediately about the assigned date of the seminar and asked to attend a meeting following the talk. If scheduling conflicts prevent a majority of committee members from attending, the meeting should be scheduled for no later than one month after the talk.

III. MCDB&G PhD Degree Course Requirements

- MCDB&G Course Credits for Degree
- MCDB&G Required Core Courses
- MCDB&G Approved Elective Courses
- MCDB&G Schedule Planning

MCDB&G Course Credits for Degree

Total credits for PhD: *Complete all 48 credits by the end of the 2nd year

- **24 or more Total Credits:**
  - 16 of your total credits must be graded A-F
- **24 Thesis Credits** (MCDG 8888)

Register for EXACTLY 14 credits each semester. The number of thesis credits to register for should be adjusted based on your core/elective courses. If you register for more than 14 credits, you will be responsible for the excess tuition charge.

MCDB&G Required Core Courses

MCDB&G PhD program must take the following courses: (15-18 credits total)

- **MCDG 8920** - Itasca, 1 credits, taken as (S/N)
- **MCDG 8900** - Student Seminar, 1 credit, taken as (S/N)
- **MCDG 8994** - Directed Research, 1 credit, taken as (A-F)
- **GCD 8131** - 3 credits, taken (A-F)
- **GCD 8151** - 4 credits, taken (A-F)
- **GCD 5005** or **CSCI 5465** (Fall) or **GCD 8141** -(Spring) - 3 credits, taken (A-F)
- **GCD 8161** - 2 credits, taken (A-F)
- **GCD 8401** - 1 credit, taken as (S/N)
- XXXX - approved elective(s)
- **MCDG 8888** - Thesis credits (used to get to 14 total credits)

MCDB&G Approved Elective Courses

Elective courses make up the remainder of your total credits so that you achieve a minimum of 24 Total Credits. **Out of the 24 course credits, 16 of them should be taken as A-F**. As you might finish your 24 course and 24 thesis credits at the end of your second year, plan your elective courses carefully.

If you need to take a course in your third year, discuss it with your advisor and DGS. Your goal, however, is to register for 1 credit starting your third year. Additional courses will be charged tuition at the expense of the student/advisor.

If there is a course you would like to take that is not on the list, please email an updated syllabus to the Curriculum Committee for their review.

MCDB&G Schedule Planning

During your first year, you take the required core courses and some Elective Courses. It is important to make sure that you are on track for the Total Course Credits required for the PhD. You must also pay attention to the ratio of graded (i.e. A-F) vs. non-graded (i.e. S/N) courses. A table of the required courses is in the table below, separated by semester.

Fall Semester - Year One

Course Number	Course Name	Credits
MCDG 8920	Itasca	1 credit
MCDG 8900	Student Seminar	1 credit
MCDG 8994	Directed Research (rotations)	1 credit
GCD 8131	Advanced Molecular Genetics & Genomics	3 credits
GCD 8151	Cellular Biochemistry & Cell Biology	4 credits
GCD 5005 (computation option #1)	Computer Programming for Cell & Developmental Biology	3 credits
CSCI 5465 (computation option #2)	Introduction to Computing for Biologists	3 credits
MCDG 8888	Thesis credits	Use to get to 14 total

Spring Semester - Year One

Course Number	Course Name	Credits
GCD 8161	Advanced Cell Biology & Genetics	2 credits
GCD 8401	Ethics, Public Policy & Career in MCB	1 credit
GCD 8141 (computation option #3)	Computational Genomics	3 credits
MCDG 8900	Student Seminar	1 credit
MCDG 8994	Directed Research (rotations)	1 credit
GCD 8171	Literature Analysis/Grant Proposal Writing	2 credits (taken in Summer, register in Fall)
MCDG 8888	Thesis credits	Use to get to 14 total

After Year One…

- Taken GCD 8920 - Itasca course
- Completed 3 rotations
- Selected a final research lab by the end of the Academic Year
- Completed coursework requirements
- Determined whether to add on a BICB Master's
- Attended student seminar weekly

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- Attended GCD departmental seminars
- Attended the GCD/MCDB&G Retreat
- Participated in Recruitment events
- Taken GCD 8171 in the Summer (between Year 1 & Year 2)
- Submitted your preliminary committee member list to the GPC & DGSs

Grant Writing Proposal/Literature Analysis Course

All MCDB&G students must participate in the Proposal Writing Course (GCD 8171) during the summer following year one. The course will be under your Fall (year two) registration. The goal of this course is to provide students with practical experience in developing a research proposal that addresses a novel hypothesis.

1. Students must choose a Preliminary Examination Committee composed of 5 faculty (which includes the advisor) and get approval by the DGS. The list of potential committee members must be submitted by the first week of the Fall semester of the second year.
2. The Written Preliminary Examination will be taken in the Fall semester of year two.
3. The Oral Preliminary Examination must be taken by the end of the Spring semester in year two.

Students will register for **GCD 8171 in the Fall of year two, but you will take the course in the summer of your first year. Students will not register for the Summer Session.

Fall Semester - Year Two

Course Number	Course Name	Credits
MCDG 8900	Student Seminar	1 credit
GCD 8171	Grant Writing/Literature Analysis	2 credits
XXXX electives	Choose from this list of approved elective(s)	varied
MCDG 8888	Thesis credits	Use to get to 14 total

Spring Semester - Year Two

Course Number	Course Name	Credits
MCDG 8900	Student Seminar	1 credit
XXXX electives	Choose from this list of approved elective(s)	varied
MCDG 8888	Thesis credits	Use to get to 14 total

After Year Two…

- Passed your written preliminary exam

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- Passed your oral preliminary exam
- Given a longer presentation at student seminar
- Held your first full committee meeting
- Created and filled out your annual progress report on Canvas
- Completed all requirement coursework by the end of year two

Year Three*

You should have completed all the required course credits. ***If you need to take a course for a grant or for your research, you need approval.** Your advisor will need to cover the cost of the additional tuition unless it's covered under the grant.

****If you have passed both your written and oral preliminary exams**, you will register for **1 credit of MCDG 8444 FTE** Doctoral credit each Fall and Spring semester until completion of your degree. (FTE = full time equivalent student). If you haven't passed your preliminary exams before the start of year 3, please contact the Graduate Program Coordinator.

IV. Rotations

Rotation Requirement - Year One

Students are required to complete three 7-week rotations in an MCSB lab (faculty in either BMBB or MCDB&G) their first year in the program. Students are welcome to rotate in and join the lab of any faculty within the MCSB umbrella program. This gives students an opportunity to learn about the research focus and get to know the lab members of each lab before deciding which lab to join for their PhD thesis. **Students will register for MCDG 8994 Directed Research for 1 credit in both Fall and Spring semesters of their first year.**

Rotation Dates

1. Rotation #1 - late August/early September (Fall Semester)
2. Rotation #2 - mid October (Fall Semester)
3. Rotation #3 - mid January (Spring Semester)

Graded Rotations

Directed Studies Course MCDG 8994 - Year 1 only

Effort required: 20 hours per week.

Grading and evaluation. This course is graded on the A – F scale, with one letter grade assigned for each rotation. Final course grades will be the average across the two fall semester rotations and will be determined by the instructor of record in consultation with faculty rotation mentors. Grades are based on four categories

of performance:

1. **Active Research Engagement – 40%**
    - Demonstrates consistent and meaningful involvement in lab activities (~15–20 hours per week). Shows initiative, problem-solving, and responsiveness to feedback. Contributes constructively to lab discussions and collaborations. Maintains a positive and professional presence in the lab.
2. **Oral Presentation – 40%**
    - Presentation delivered to the lab group at the end of each rotation. Effectively communicates research objectives, activities, and lessons learned. Demonstrates poise, clarity, and responsiveness during Q&A.
3. **Mentor Evaluation – 10%**
    - Each faculty mentor will complete a standardized rubric assessing the student's
        - preparation and engagement, technical progress, scientific curiosity, professionalism and communication.
    - This evaluation will be submitted to the GPC and factored into the rotation grade.
4. **Professional Conduct and Documentation – 10%**
    - Completion of all required documents and forms. Adherence to lab safety protocols, research ethics, and professional norms. Demonstrated responsibility in communication and time management

Rotation Exceptions

After rotations have been completed, the student must find a lab to join. Students will be officially assigned to the lab by the end of May of their first year when contracts are sent out to the student and the faculty member. This is in conjunction with the Summer appointments and the new fiscal year.

Exceptions

If a student can't find a lab after their third rotation, it is possible for them to do a fourth rotation. However, a fourth rotation should be an agreement between the DGSs and the faculty member with the assumption that a student will join the lab after a successful rotation.

V. Committee Assignments

- Building Your Committee
- Final Thesis Defense Committee
- Thesis Defense Reviewer Assignments

Building Your Committee

Consult with your advisor about which faculty would be appropriate choices for committee members. Check the grad school faculty role list for which graduate programs faculty are members of. **All committee members must be graduate faculty members within another graduate program at the University of**

Minnesota. (ie: IBP, MiCab, BMBB, etc.) The GPC will ask for your potential list of committee members in the Summer (end of July/August).
Prior to submitting your list of potential committee members to the GPC, you **must contact each faculty member and obtain their written agreement to serve on your preliminary committee**.

Preliminary Committee Guidelines

You need to have a **5-member examination committee** (this includes your advisor). If you have a co-advisor, your committee will be 6 members. **Current list** of MCDBG/BMBB Graduate Faculty.

- **Three (3) members**, one of which is your advisor, must be a MCDB&G faculty member (major field)
- **Two (2) members** must be graduate faculty members in another graduate program
    - 1 minor (outside MCDBG, note that MCDBG have a BMBB appointment as well which would satisfy this requirement)
    - 1 external (primary appointment in graduate program outside MCDBG and BMBB)
- **Co-Advisors** – If you have a co-advisor, at least one of your advisors must represent the major field. The other advisor may represent the major or minor field. Both must be on your committee and must be readers of your thesis.
- The committee must include representation from at least two different genders

Prelim Committee Recap:

Prior to submitting your list of potential committee members, you **must contact each faculty member and obtain their written agreement to serve on your preliminary committee**.

- The DGSs and Graduate Program Coordinator will ask for preferred committee member names in the Summer before your 2nd year
- **External (outside MCDB&G) committee members have to be a part of another Graduate Program at the University**
- Your written exam committee will be assigned by the DGSs and the Preliminary Exam Director
- The committee must include representation from at least two different genders
- **The DGSs will assign your chair**

External Committee Members

If there is a faculty member that you would like to serve on your committee that is outside of the University of Minnesota, please reach out to the GPC/DGS. There is a separate process for getting approval for an external committee member. Request an external committee member.
Please note: The DGS will review the proposed committee membership for conflicts of interest (i.e. close collaborators) and diversity.
Prior to submitting your list of potential committee members, you **must contact each faculty member and obtain their written agreement to serve on your preliminary committee**.

Final Thesis Defense Committee

Thesis Defense Committee Members

You must have approval from all your committee members for inclusion on the Thesis committee (even if they were a member on your Prelim Committee). Once the DGS, College Coordinator and GSSP has approved your Thesis Committee, go online to assign your Thesis Committee. Examination committees | Twin Cities One Stop Student Services.

Thesis Defense Reviewer Assignments

A 5-member examination committee (this includes your advisor) is required. If you have a co-advisor, your committee will be 6 members. **Current list** of MCDBG/BMBB Graduate Faculty.

- **Three (3) members**, one of which is your advisor, must be a MCDB&G faculty member (major field)
- **Two (2) members** must be graduate faculty members in another graduate program
    - 1 minor (outside MCDBG, note that MCDBG have a BMBB appointment as well which would satisfy this requirement
    - 1 external (primary appointment in graduate program outside MCDBG and BMBB)
- **Co-Advisors** – If you have a co-advisor, at least one of your advisors must represent the major field. The other advisor may represent the major or minor field. Both must be on your committee and must be readers of your thesis.
- The committee must include representation from at least two different genders

Example: Consult your PI regarding Reviewer/Reader choices.

- Advisor/co-Advisor: Reviewer/Reader
- Major field (both members): Reviewer/Reader
- Minor **or** external: Reviewer/Reader

VI. Preliminary Exams/GPAS Submission, Year Two

General Information About Preliminary Exams

Preliminary exams consist of a written and an oral component and are taken during the student's second year. The written examination is typically assigned during the fall semester. Once students have passed their written examination, they are eligible to

schedule their oral examination. The oral examination must be completed by the end of the Spring semester of the student's second year.

Written Preliminary Exam

Students will be asked to write a research proposal based on one of three papers that cover topics in the major fields represented by the MCDB&G program. The proposal should describe a novel hypothesis that addresses a previously unanswered question of biological significance and should outline a research plan that tests the hypothesis. The scope should be sufficiently narrow that it represents a 3–4-year project that can be completed by an individual, not a broad NIH grant to support 5-10 people.

The papers will be posted two days before the official start of the exam. Each student will select one of these papers as the basis for their proposal and submit their choice to the Chair of the examination committee within 48 hours of the exam papers being posted. The completed proposal must be submitted two weeks after that.

The proposal must be of the student's own creation. Students *may not* consult with another student, colleagues or their advisor during the preparation of the exam or ask anyone to read/edit their proposal prior to submission. Students have complete freedom to take the problem in any direction they wish, but the hypothesis and proposed experiments must be grounded in the exam paper. Note that proposals that simply describe the same studies of a molecule (or closely related molecule) using a different model organism are not acceptable.

Important Note: It is critically important that you focus on your writing during the exam period and not on planning to go into the lab to do any experiments. You should plan to suspend all lab/thesis work during the exam period so you can focus on doing your best. Over the years we have seen a direct correlation between poor performance on the written and time spent trying to do lab/thesis work while working in the prelim.

Written Prelim Goals

The goal of the Preliminary Written Examination is to test the student's ability to independently -

1. Develop a novel hypothesis that addresses a significant problem,
2. Develop a set of well-crafted experiments to test their hypothesis
3. Interpret data,
4. Anticipate difficulties and devise alternative strategies, and
5. Draw conclusions based on predicted experimental outcomes. The goal of the written preliminary exam is to evaluate the student's ability to perform these tasks on their own.

Written Prelim Format

The proposal should include an NIH-formatted ***Specific Aims page*** (1 page, single-spaced). The ***Research Strategy*** (8-10 pages, double-spaced) a ***Background & Significance*** section (1-2 pages) and a ***Research Plan*** (6-8 pages). The *Research Plan* should consist of one or two specific aims. The length restriction includes figures plus legends but does not include references. The entire proposal must have 1-inch margins all around and use an 11 or 12 pt Arial or Helvetica font.

Written Prelim Evaluation

The Preliminary Exam committee will evaluate the proposal within two weeks of submission. Each proposal will be read and scored by three committee members, two of whom will provide detailed critiques. Reviewer assignments will be made by the chair of the Student Review Committee and communicated directly to each reader.

Each reviewer will submit a score for the following components: Specific Aims (20 points), Significance (20 points), Innovation (10 points), and Research Plan (50 points). The final score will be determined by summing the individual component scores from each reviewer and calculating the average of the three reviewers' total scores. The final score will determine if the student earns a Pass with Distinction (95 or higher), **Pass (90 or above), Pass with Revisions (70-90)**, **Fail (69 or lower)**. The exam results will be reviewed and summarized by the head of the Student Review Committee who will notify the student and examiners of the outcome.

***Students will have ten days to revise and re-submit their proposals*.** The original three reviewers will evaluate the revised proposal within two weeks. The revised proposal must be rated Pass or Fail. A score of "Fail" from two or more reviewers means an overall failure. If the revised examination is rated as a Fail, the MCDB&G Student Review Committee will review the student's performance on the examination, their academic record and consult with the Chair of the Exam Committee, the student's advisor and the Directors of Graduate Studies. They will then determine if the student cannot continue in the program or if they may have a final opportunity to pass the Written Preliminary Examination. **Note:** that you may seek help with your grammar and writing style at the Center for Writing, swsdesk@umn.edu.

Individualized Development Plan (IDP)

The Individual Development Plan is an ongoing exercise designed to guide your thinking about your long-term and short-term career plans. The Medical School and a graduate student committee have developed the IDP to be used by graduate trainees as part of their career development strategy. **This plan is required by NIH for fellowship applications**.

Optional: After you have submitted and passed your written preliminary exam, take some time to think about your career goals by working on an Individual Development Plan.

- Create an account and fill out assessments at myIDP. For the assessments, do your best to use the whole range of scores.

- **Schedule a time to meet with someone from the Office of Graduate & Postdoctoral Studies (gps_office@umn.edu) to go over your IDP - this is optional.**

Graduate Planning & Audit System (GPAS)

Year Two (Fall, December): Submit your (GPAS) planner

- Submit at least one semester prior to your preliminary oral exam (usually Fall semester), done after you have passed your written prelim (December-February).
- Submit your GPAS: https://onestop.umn.edu/academics/gpas. You do not need to add any courses to your GPAS, it should automatically pull all of the courses you've taken for the past two years. **Simply just select submit.**

Year Two Directions - all steps need to be done in order.

- **Once your GPAS is approved**, you'll need to submit your oral exam committee members (can substitute some committee members from the written exam if approved by DGS): Examination committees | Twin Cities One Stop Student Services.
- **When your oral exam committee is approved**, you can schedule your preliminary oral exam date: Schedule online at least one week in advance, sooner is always better for your committee members.
- Once you schedule the exam date, you will be notified by GSSP **to send your electronic form to your committee chair.**

Preliminary Oral Exam Overview

Once students have passed their Written Examination, they are eligible to schedule their Oral Examination. However, students must submit their GPAS before they can schedule their Oral Exam. The oral preliminary exam is designed for students to engage in a constructive scientific discussion with their faculty committee. The oral exam should take place before the Summer semester.

Goal of the Preliminary Oral Examination: is to examine a student's overall ability to think and formulate ideas independently as defined by the following two criteria -

1. The student's ability to state and explain their hypothesis and research strategy with regard to the written exam topic and use their knowledge-base of subject matter in MCDB&G to reason through their hypothesis and research strategy.
2. The student's knowledge of general subject matter in the core areas of the MCDB&G program, as gained through the required core courses taken by the student during their first two years in the MCDB&G graduate program, and in the general area of the student's own research.

Oral Exam Materials for Examining Committee

One week before the Oral exam students must send their committee members a **SINGLE PDF**

consisting of:

- Final Written Preliminary Exam
- All of the Written Exam Reviews
- A list of courses taken, indicating if they were required or elective
- The Specific Aims page from your thesis proposal written for GCD 8171 (this page may be updated to reflect any changes in the project, if necessary)

Prepared Materials for the Oral Exam

Students should prepare a 20 min slide presentation outlining the proposal they wrote for their written preliminary exam (background, major question being addressed, experimental aims, likely outcomes and significance).

Preliminary Oral Exam Format

The exam consists of **two parts:**

1. **Presentation and examination** of the Written Prelim, and
2. **Questions on general knowledge**. The exam will only focus on the written preliminary exam and the student's knowledge of general subject matter related to the preliminary topic, coursework, and their thesis research area. The exam is expected to last approximately 2 hours, but this is only a general guide and the examiners will determine the timing.

Oral Exam Assessment

Students are not expected to have highly expert knowledge in the area of their written proposal or in the methods being proposed. The preliminary exam is not intended to be a comprehensive assessment of a student's knowledge. Evaluation of a student's knowledge should take into consideration the student's education, coursework, and the subject area pertaining to their proposal and thesis research.

The areas of assessment that the committee will consider when evaluating a student's performance on the oral exam are:

1. **Critical thinking**
2. **Scientific Premise**
3. **Feasibility**
4. **Rigor, reproducibility, and interpretation**
5. **Knowledge**
6. **Overall presentation**

Oral Exam Questions to Consider:

Do you show evidence of the ability to reason through a problem, including evaluating, examining, and interpreting information and ideas describing likely outcomes and reasonable solutions?

1. Is the hypothesis or project goal proposed by you grounded on good evidence from the literature or current knowledge in the field? Will addressing the hypothesis or project goal make a significant contribution to the field? Do the proposed specific aims address the central

hypothesis or objective?

2. Is the experimental design appropriate and justified? Do you exhibit a clear understanding of the strengths and limitations of the approaches, techniques, and technologies that you propose to implement? Have you considered reasons why a particular approach might not succeed, and can you propose viable alternative methods? Is the scope of the proposed project appropriate for a graduate student thesis project that could result in a first author paper in a good journal in the field?
3. Are the experiments properly designed with appropriate controls? Have you considered sources of variability and error, appropriate means of replication, and statistical analysis? Have you considered what the resulting data will look like and how it will be analyzed? Do you describe a framework to interpret the results of your proposed experiments in terms of your stated hypothesis? Have you considered other possible outcomes and how these might be interpreted?
4. Do you demonstrate appropriate conceptual and technical knowledge in the area of your research proposal? Do you demonstrate broader knowledge in your field of study relevant for your thesis research?
5. Do you demonstrate organization, logical flow, clarity, and accuracy of ideas during your presentation? Do your slides or illustrations effectively convey a good understanding of your proposed research? Were you able to articulate and defend your ideas to the committee? Do you accurately respond to questions, can you incorporate new ideas or information into your answers?

Oral Exam Outcome

Based on the six criteria mentioned, the committee will determine if the student's performance

1. Exceeds expectations,
2. Is sufficient,
3. Is approaching sufficiency, or
4. Is insufficient in each category

A rating of 'exceeds expectations' or 'is sufficient' in each category is required for a full 'Pass'. Satisfactory student performance in the exam is reflected in either an outcome of ‘Pass’ or ‘Pass with Reservations’. Both of these are reflective of a successful prelim exam.

A **‘Pass with Reservations’** indicates that there are one or more areas being evaluated by the committee where the student could use some additional mentoring or support. The committee will work together to provide constructive avenues for a student to complete any reservations within a 3-month period. Examples of activities that support student development include writing a brief report (1 page) on a specific topic, engaging in journal club/seminars, and auditing/enrolling in a course. The required activity must be appropriate for specifically addressing the deficiencies identified by the examiners.

Poor performance on the Oral Examination will result in a 'Fail'. The committee will discuss the basis for this outcome and then vote on whether or not the student may retake the Oral Exam. The committee must clearly define the basis for the 'Fail' and what the student should do to address the

problems identified by the committee if a retake is granted.

Oral Exam Report

The Committee Chair will prepare a report summarizing the outcome of the Oral Exam and the basis for the decision should be sent to the DGS and Chair of the Student Review Committee.

If the decision is 'Pass' then a brief report highlighting the areas of the exam where the student performed particularly well and indicating any remaining areas where the student could benefit from improvement.

When the decision is 'Pass with Revision' or 'Fail' a concise, focussed report that describes the main deficiencies and steps needed to remediate the problems identified by the committee should be submitted. In the case of a 'Fail' the document should indicate whether or not the Committee approves a re-take. If not then the reasons for this decision should be carefully detailed. **This report must be read and approved by all committee members.**

VII. Progress Towards Degree & Graduation

Student Progress Towards Degree

The MCDB&G degree program expects that students will complete the research needed for the Ph.D. within 5 years. Students who have not completed their degrees after five years may petition the program to continue on, for up to the graduate school limit of 8 years after entry to the program, providing the advisor agrees to provide funding and supplies and the committee agrees that the additional time is required for satisfactorily completing the necessary work. **The MCDB&G program does not guarantee stipend support after the Academic Year of their 1st year in the program** and official, unpaid leaves of absence will not be included when the student's time in the program is calculated.

What Does Progress Towards Degree Look Like?

Progress to degree involves the completion of the following requirements:

- Successful rotations/Joining a lab by the end of May in year 1
- Presenting at student seminar
- Completing all required core courses, and thesis credits (24, 24)
- Maintaining 3.0 GPA or higher
- Passing Preliminary (written and oral) Exams
- Completing 1 Teaching Assistantships
- Filling out and completing an Annual progress report on Canvas
- Meeting with your thesis committee at least once per year
- Laboratory training and other mandatory regulatory and oversight requirements. Attendance at training sessions (e.g., research ethics, laboratory safety) is mandatory.
- Continued progress towards research and degree
- At least one first author paper accepted for publication
- Thesis defense

Annual Progress Report

Annual progress report and meeting with thesis committee

Prior to the meeting, the student must submit an annual progress report to be discussed by the thesis committee. The progress report should be completed and submitted to the Student Review committee, GPC and DGSs by the committee chair following the meeting.

Please be sure your Chair understands they need to fill in their section and send it to the committee members for their approval following the meeting. It is then signed by the chair, student and DGS.

Why a Progress Report and Committee Meeting?

Please know that your annual progress report and committee meetings are an important way for all of us to keep up with your progress. The program would like to ensure that students are having a successful training experience and are on track to graduate in a timely manner, or be aware of any issues or problems so that we can provide support and assistance if needed.

Annual Progress Reports are also required by the UMN Graduate School in addition to the MCDB&G Program. Annual Graduate Student Reviews

After five years in the program…

Students are expected to defend a thesis within 5 years after matriculating into the program. Continued support beyond the student's fifth year is contingent upon satisfactory progress, as evaluated by the thesis committee. Continuation in the MCDB&G program after year 5 may be granted according to the following procedures:

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1. If all of the laboratory research for the Ph.D. is completed within the 5 year limit, the Director of Graduate Studies may grant a single 3 month writing extension for thesis preparation.
2. An extension for additional laboratory research totaling a maximum of one year may be granted to a student who is making satisfactory progress toward his/her Ph.D. degree as determined by the student's Thesis Committee.

Program Requirements for students after five years+

Mandatory Committee Meetings:

You are now required to meet with your Thesis Committee every 6 months starting in your 6th year. These meetings are essential for monitoring your progress and ensuring you remain on track for degree completion. I believe your last committee meeting was in June 2024, so you should schedule your next committee meeting in the near future (ideally, within the next four weeks before the Fall term starts).

Graduation Plan Approval:

At the next meeting, you must present a detailed graduation plan to your committee chair for their approval. This plan should demonstrate a clear path to completing your Ph.D. within the extended timeframe. Please be aware that an extension will not be granted if the Thesis Committee determines that the student is unlikely to complete a body of work sufficient for a Ph.D. thesis by the end of their sixth year.

Maximum Extension Period:

Any extension for additional laboratory research is limited to a maximum of one year beyond the standard 5-year program timeline.

After five years - your specific responsibilities

For You: Update your Annual Progress Report prior to the committee meeting, highlighting all work that remains to be completed

- Present your research progress to the Thesis Committee
- Provide a detailed outline of work to be completed
- Present a realistic timeline for experiments, research paper writing, and thesis completion

For your advisor:

- Participate in the committee evaluation process
- Collaborate with you and committee to agree on the final plan and timeline
- Support your progress toward degree completion

For your thesis committee chair:

- Evaluate your presented plan and recommend any necessary changes
- Facilitate discussion between all parties to reach agreement on the final plan and timeline
- Summarize the meeting outcomes and agreed-upon plan
- Submit a formal response (using the link below) to the Director of Graduate Studies (DGS) documenting the committee's decision

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- Update the student's Annual Progress Report with meeting information

After five years, required action:

Please notify the DGS within the next week or so for when the next committee meeting is scheduled.

After the next committee meeting, each party (student, advisor, and committee chair) must complete the appropriate questionnaire linked below within **2 days of the committee meeting**. The questionnaires are designed to assess readiness for the extension and ensure all parties are aligned on expectations and timelines. I can then sign off on an extension. **Please complete your questionnaire here.**

MCDB&G Graduate Requirement: Publication

Publication of thesis research: It is required that a student's Ph.D. Thesis encompasses substantial and novel research of high significance. To meet this requirement, students are expected to have **at least one first author paper accepted for publication** in a peer-reviewed journal within their research field, ***before*** being allowed to defend their work at the Final Oral Exam.

Note: In most cases at least 40 hours of thesis research per week, excluding coursework, will be required to make adequate progress towards the PhD degree.

Are you ready to defend?

Determine with your committee whether or not you are ready to defend. Your chair/advisor should fill out the following and send it to the DGSs. Are you ready to defend? **Notify the GPC about your timeline.**

Thesis Formatting

Follow both the UMN Thesis formatting guidelines and MCDB&G Guidelines. **Your thesis should be a manuscript preprint**.

Review the checklists to ensure that you have met all requirements and have completed all tasks.

- MCDB&G Master's checklist
- MCDB&G PhD checklist

Graduation Steps/Apply to Graduate

All Graduation steps need to be completed in order.

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1. Submit your final thesis exam committee. Once processed and approved, move to step #2.
2. Apply to graduate
3. Initiate Reviewer's Report form
4. Initiate Final Exam form
5. Submit final exam form (your chair must submit before the last business day of the month you plan to graduate)
6. Initiate Thesis/Dissertation Approval & Deposit Agreement
7. Submit your dissertation to ProQuest

Final Oral Exam & Thesis Defense

The Final Examination is primarily the thesis defense, although the questions and discussion may cover related areas as well. The first portion of all final oral examinations is a one-hour seminar given by the student covering the thesis research. This seminar must be publicly announced and all interested faculty and students are invited. Following a brief period of questions from the audience, the second portion of the examination will consist of additional questions to the candidate from the members of the examination committee. The second section of the examination is not open to the public.
Your written thesis is a showcase and the culmination of your PhD work.

Your thesis should be complete at the time you submit it to your committee for review. The program doesn't allow submission of "partial drafts" with sections missing. Think of it as submitting a preprint to bioRxiv; all parts are there and only minor details may get edited before final publication.

3. Notify GPC and HR about your plans
4. **All Graduation steps need to be completed in order.**
5. Submit your dissertation. Submit your dissertation to ProQuest no later than the last business day of the anticipated month of graduation. **The dissertation must be submitted and approved before the last working day of applied graduation month.**

Commencement

The College of Biological Sciences and the Medical School holds a commencement ceremony for graduate students each year in May. The ceremony is open to graduates who have completed or nearly completed their degree. Students with pending degrees

also may participate if they meet their program's criteria for commencement attendance.

Note: *Attending the commencement ceremony does not imply that you have officially graduated. Commencement is a separate process from submitting the graduate school application for a degree. Please inform the GPC if you will be attending the commencement ceremony.*

VIII. Other MCDB&G Components

- Switching from PhD to Master's
- MCDB&G Minor
- Other: Minor/MS Degree or Joint Programs

Switching from PhD to Master's

1. Pick which Master's Plan is right for you (in consultation with your committee chair and the DGSs). **Plan A or Plan B**
2. **Fill out the change of status form** which can be found on the Graduate School page here.
3. After the change of status form has been processed, the GPC will need to update your advisor in the Master's track.
4. Make sure your Master's GPAS has been submitted.
5. Once processed, add committee members/apply to Graduate.

Master's Plan A Program Components

Master's Plan A (with thesis) - Degree Completion Steps: Master's Plan A
The Plan A option is intended for students who have completed a body of work of sufficient breadth and depth to warrant a Master's thesis. This does not need to rise to the level of a PhD thesis, but should represent a significant contribution to the field. Degree completion steps and instructions for preparing a Plan A Master's Thesis can be found at:

Credit requirements for Plan A

- 20 or more course credits plus 10 Thesis Credits (MCDG 8777). Need to convert PhD thesis credits (8888) to Master's thesis credits (8777).
- 16 of total course credits must be graded A-F

Master's Plan B Program Components

Master's Plan B (without thesis) - Degree Completion Steps: Master's Plan B
In the plan B option, the student needs to write a scholarly, original report on the subject of their choice. Usually, students select a topic directly or closely related to the project they have worked on

in graduate school, either during a rotation or during their time spent in the laboratory they selected for their thesis work. The report should be approximately 15 pages in length.

Credit requirements for Plan B:

- 30 or more course credits. Ten credits are chosen at the discretion of the student and advisor. *May need to convert some thesis credits to course credits (i.e. MCDG 8994 or MCDG 8993)
- 16 total course credits must be graded A-F

MCDB&G Minor Program Course Components

For a minor in MCDB&G, students need to take 12 credits in the program, graded A-F, and obtain a GPA not below 3.0 from these classes. The following courses are required, but substitutions may be allowed for these courses with the approval of the DGS. Please consult with the MCDB&G DGS for admission approval. Obtain a student contract from the Graduate Program Coordinator.

- **GCD 8131** Advanced Genetics and Genomics
- **GCD 8151** Cellular Biochemistry and Cell Biology
- **GCD 8161** Advanced Cell Biology and Development
- **GCD 8141** Computational Genomics OR **GCD 5005** Computer Programming Biology

Other: Minor/MS Degree or Joint Programs

If a MCDB&G PhD student wishes to obtain a minor or MS degree in another graduate program, you need approval from your advisor and DGS.

MSTP/MD PhD Program

The mission of the University of Minnesota (UMN) Medical Scientist Training Program (MD/PhD) is to train and support a diverse community of dedicated students to become physician scientists who are able to integrate their scientific, clinical, and leadership skills to promote human health. The UMN MSTP recruits a diverse group of scholars with the highest caliber intellectual skills and character traits to pursue a rigorous, supportive physician scientist training sequence that results in the awarding of both an MD and PhD in 8 years or less.

MSTP students complete a minimum of two laboratory rotations during the first two years of medical school prior to their entry into the MCDB&G program. They enter the PhD phase having already chosen a PhD advisor in MCDB&G.

MSTP MD/PhD Phase 1

Phase 1 (years 1-2): Pre-clinical coursework. Students take extensive pre-clinical coursework, select an area of basic biomedical research, and choose an advisor to supervise the PhD dissertation. Three laboratory rotations are completed in Phase 1. MD/PhD students who choose to enter the MCDB&G Graduate Program are invited to participate in the MCSB Program Retreat at Itasca (in August of year 2). MD/PhD students who enter an MCDB&G laboratory for their dissertation research must do so no later than the fall semester of their 3rd year.

MSTP MD/PhD Phase 2

Phase 2 (years 3-6): The student becomes a member of the MCDB&G program, functioning in every respect identically to those MCDB&G students admitted in the PhD Program. This includes attending MCDB&G retreats, laboratory meetings, research reviews, seminars, national and international meetings, and authoring original scientific papers. MD/PhD students are also eligible to hold elected office within the MCDB&G student governance system and represent the MCDB&G Program on University or College committees. MD/PhD students are financially supported through a combination of fellowships, training grants and individual research grants. MD/PhD students are paid the stipend and have benefits identical to those MCDB&G students in the PhD Program. The MD/PhD program requires the student to commit 4h/week over a 36-week period to clinic time with a physician scientist. Fulfillment of the PhD component of the MD/PhD Program with a degree in MCDB&G requires completion of specialty coursework, dissertation research culminating in the writing of a thesis, and satisfactory completion of both the Preliminary and Final Exams.

MSTP MD/PhD Coursework

Coursework

For the PhD degree, the Graduate School requires 24 credits. 16 of the credits must be A/F. This requirement is only partially met by Medical school credits. MCDB&G requires that MD/PhD students complete a minimum of 12 credits of coursework in the program, which will be taken over the 1st and 2nd years of Phase 2, (years 3-4 of the MD/PhD program). These 12 credits will consist of several common required courses and 1-2 specialty elective course(s). MD/PhD students should plan their MCDB&G coursework in consultation with their advisor and then relay a plan to the DGS before entering the program.
Some students may need to transfer credits into the MCDB&G Grad Program. Use this form to transfer credits between MD and PhD.

MSTP MD/PhD Prelims & TA

Preliminary Exams & TA

Based on the student's background and after consultation with the advisor and DGS, the student will complete the requirements for the Written and Oral Preliminary Exams in the spring of either year 1 or year 2 of Phase 2. Following satisfactory completion of the Preliminary Exams, students will continue with full-time research, typically 3-4 years. During this time MD/PhD students will serve as a teaching assistant (TA) in a MCDB&G course for 1 semester during Phase 2. The TA assignment is determined by the DGS and may be either a laboratory- or lecture-based experience.

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Final Oral Exam

At the end of Phase 2, students will complete their Final Oral Exam with Thesis Defense and be granted their PhD.

JD/PhD Dual Degree Program

Dual Degrees | University of Minnesota Law School
The PhD requirements for the JD/PhD are the same as those for students pursuing a PhD, with the important exception that some courses can be "cross counted" for credit in both programs. At least 12 credits must be taken with MCDB&G courses. The application deadline is December 1st.

For PhD students, the written and oral prelim exams are generally taken late in their spring semester of the first year in the PhD portion of the program.

Bioinformatics & Computational Biology (BICB Master's - Optional)

The mission of the Bioinformatics and Computational Biology (BICB) graduate program is to provide interdisciplinary education in the area of biomedical informatics and computational biology at the interface of quantitative sciences, medicine, and biology. The graduate program trains graduate students in the development and applications of computational methods and to work in interdisciplinary teams of life scientists and computational scientists. The program offers industrial and clinical internships and training in business leadership, technology management, and ethics to prepare students for the workplace. Faculty provide education through formal coursework, research seminars, and one-on-one advising. In addition, the program provides a mentoring program for students and junior faculty that will serve as a model for interdisciplinary graduate education.

- BICB Program Contacts
- All BICB courses taken for the MS, must be completed within your first two years. Many of your MCDB&G PhD courses can count towards your MS. Work with the DGSs to figure out a schedule that works for you.
- Sample BICB schedules of previous students.

Preparing Future Faculty (PFF)

Must be taken during the 1st or 2nd year. Preparing Future Faculty (PFF) welcomes graduate and postdoctoral participants from all disciplines. PFF helps participants: acquire information about the teaching and learning process and the faculty role at a variety of institutions of higher education, gain a realistic perspective on the skills required for success as a faculty member, examine their fit with a teaching career in higher education, work with a faculty mentor in a teaching opportunity at a local college or university, demonstrate, document, and reflect on their teaching skills, and market themselves for faculty or other professional positions. To receive a letter of recognition and certificate of program participation from the Graduate School, participants must complete both courses.

- GRAD 8101: Teaching in Higher Education (3 cr. Fall)
- GRAD 8200: Practicum for Future Faculty (1 cr. Spring)

Three Minute Thesis Competition (3MT)

The 3-Minute Thesis (3MT®) is a research communication competition that challenges students to communicate the significance of their projects without the use of props or industry jargon, in just three minutes. Originally established by the University of Queensland (UQ) in 2008 the competition challenges research students to communicate the significance of their projects in just three minutes, with the aid of a single, static slide.

3MT develops academic, presentation, and research communication skills and supports the development of research students' capacity to quickly explain their research in a language appropriate to a non-specialist audience leaving them wanting to know more. UMN Three-Minute Thesis, 3MT Rules/Guidelines

IX. MCDB&G Graduate Program Policies

- Generative Artificial Intelligence (AI)
- CBS Academic Probation and Suspension
- Insufficient Progress Towards Degree
- Scholarly Progress Agreement
- Addressing Student-Advisor Conflicts
- Leave of Absence
- Active Student Status - GRAD 999
- Readmission to Program
- Transfer Credits
- Code of Conduct
- Board of Regents Policies & University Policy Library

Generative Artificial Intelligence (AI) - Guidelines for Grad Students

Generative artificial intelligence (AI) is artificial intelligence capable of generating text, images, or other media, using generative models. Generative AI models learn the patterns and structure of their input training data and then generate new data that has similar characteristics. Generative AI programs, such as ChatGPT, are becoming more common in both research and teaching applications. Examples of generative AI program applications include generating code, translating code between programming languages, synthesizing known literature to generate research questions and ideas, drafting text, grammatical correction of writing, and translating between human languages.

The MCDB&G graduate program encourages students to explore and use all tools available to them to conduct high quality research and scholarship. However, as with

any tool, **it is the responsibility of the user to ensure the quality and evaluate the accuracy of the results that are generated.** For example, users should not assume that the code generated by generative AI programs to be affirmed, and careful validation of the code and output of the code is still needed. It is also the responsibility of the user to ensure that they are not plagiarizing the work of others. Plagiarism is broadly defined as the fraudulent representation of another person's language, thoughts, ideas, or expressions as their own original work.

When generative AI is applied to synthesize new ideas and draft text it is the responsibility of the user to identify and properly cite and acknowledge previously documented ideas and studies that were drawn upon by the program. Students are required to document in their final thesis any applications of generative AI towards their graduate thesis research, including but not limited to the generation of ideas, analysis of data, and drafting and editing of thesis text.

1. Within the classroom: students are expected to follow the generative AI policies outlined in individual course syllabi and current University of Minnesota policies.
2. When considering when, how, and to what extent to use generative AI tools, it is important to remember that research and scholarship need to demonstrate originality and creativity. Students need to demonstrate sufficient knowledge and critical thinking through not only written formats (e.g. written thesis proposal and thesis), but also oral formats (e.g. oral preliminary exam and final exam) during which the use of generative AI tools is not allowed.

CBS Academic Probation and Suspension

Students must follow the MCDB&G program's guidelines for academic standards in order to remain in good standing as a student in the program. If a student fails to make satisfactory progress towards their degree, funding support from their thesis lab may be terminated, and the student may be dismissed from the MCDB&G graduate program. The MCDB&G DGSs and Student Review Committee will be the ultimate arbiters of student progress. **Possible reasons for dismissal from the MCDB&G program include, but are not limited to:**

- Failure to join a thesis lab by the end of the student's first year
- Failure to maintain a cumulative GPA that meets the minimum of 3.0
- Failure to successfully complete the preliminary exams by the end of the second year
- Failure to meet expectations outlined in a Scholarly Progress Agreement or other probationary contract approved by the MCDB&G program

- Academic misconduct such as cheating, plagiarism, falsification, etc.
- Code of conduct violations

Appeals Process for Dismissals

A student who has been dismissed from the MCDB&G graduate program has the right to appeal the decision. Upon the student notifying the DGSs of the intent to appeal, the program will create a timeline and give direction for the appeals process.

Insufficient Student Progress Towards Degree

If a student fails to make satisfactory progress, support may be terminated. An advisor who wishes to terminate the relationship with a student because of poor progress or other issues must first consult with the student's thesis committee.

The thesis committee plays a crucial role in:

1. Documenting the student's progress,
2. guiding the formulation of a plan to help the student get back on track, and
3. holding the student accountable to such a plan. The committee chair MUST let the DGSs know immediately if they feel a student is making poor progress towards their degree.
4. In these situations, the following procedure will take place: the student, advisor, thesis committee and DGSs will meet to discuss the student's progress.

Scholarly Progress Agreement

The student will be required to devise a detailed 3-month plan with concrete goals and milestones for getting back on track. The student will share the plan with their advisor for feedback.

Once the advisor and student are in agreement, the plan will be shared with the committee for approval. Once approved by the committee, the plan will be formalized in a Scholarly Progress Agreement to be signed by the student, advisor and DGS.

The student will document their progress within the Scholarly Work Agreement document. The thesis committee chair will track the student's progress each week over the course of the 3-month period.

Following the 3-month period, the student, advisor, thesis committee and DGSs will

meet to reassess the student's progress.

Addressing Student - Advisor Conflicts

Should a conflict arise between a student and advisor, the following steps should be taken:

1. The student and advisor should discuss the issue and attempt to resolve their differences.
2. If an agreement cannot be reached, the student and/or advisor should consult the student's thesis committee chair.
    a. The thesis committee chair may choose to schedule a thesis committee meeting to discuss the issue. This is the chair's prerogative and does not require agreement of the advisor.
    b. Following any thesis committee meeting, the chair is expected to document the discussion, including any proposed steps intended to remedy the situation.
    c. In cases of disagreement regarding the timing of a student's graduation, the student and committee chair should complete the MCDB&G Thesis Defense Approval Form.
    d. In cases of insufficient progress towards a degree, the committee chair should employ a Scholarly Progress Agreement to outline the steps the student should take to get back on track.
        i. Scholarly Work Agreements are intended to facilitate outlining of clear and appropriate expectations for progress and to provide an accountability mechanism for students.
        ii. This document must include a deadline for the completion of each step, outline the outcomes associated with either success or failure to complete the work, and must be signed by the student, advisor, and DGS. The student is expected to document their progress by regularly updating the Scholarly Work Agreement. This progress will be tracked by the committee chair.
3. If a committee meeting is not called and the student and/or advisor would like additional input on the issue, they may choose to consult with additional members of the student's thesis committee on an individual basis.
    a. Conversations with committee members must be documented and reported to the committee chair. No action to resolve the issue may be taken without the involvement and approval of the committee chair.
4. The student, advisor, and committee chair must report the issue and outcomes of any discussions or committee meetings to the DGS in writing.

    a. If the situation remains unresolved, the DGS will meet separately with each individual to further document the concerns.
    b. When appropriate, the DGS may recommend consultation with the CBS and Medical School Associate Deans for Graduate Education.
5. If the ultimate solution is a lab change, temporary bridge funds may be requested from CBS and/or the Medical School by the DGS to support the student during the process of finding a new lab. Requests for bridge funding are made before a student leaves their lab.
    a. Bridge funds are discretionary and are not guaranteed by CBS or the Medical School.
    b. Each situation is evaluated on a case-by-case basis in consultation with the CBS and Medical School Associate Deans for Graduate Education.
    c. Once a student joins a new lab, their new advisor must immediately assume full financial responsibility for the student.

**At any point during this process, students and faculty are encouraged to contact the Office for Conflict Resolution and/or the Student Conflict Resource Center for assistance.

If a student is in good academic standing* and must change their thesis lab, the graduate program will:

- Document the reason why the student is leaving the lab
- Provide the student with an updated list of faculty who are looking for students
- Clearly communicate to the student the steps involved in transferring labs
- Ensure transparency in communications with potential new advisors regarding the reason the student has left their lab
- Instruct international students to consult with ISSS immediately regarding the implications for their visa status if a new lab cannot be found

*Students maintain their good academic standing by meeting the academic requirements of the MCDB&G program. These requirements include working towards completion of required and elective courses pre-candidacy, maintaining a minimum G.P.A. of 3.0, successfully joining a lab by the end of the first year in the program, passing of preliminary exams, and making progress towards the PhD as assessed annually by the student's thesis committee.

Leave of Absence

Graduate Student Leave of Absence Policy: Graduate students who experience

circumstances that prevent them from maintaining active status through continuous registration (excluding summer term), and who, through consultation with their Director of Graduate Studies (DGS), advisor(s), and relevant offices determine that a leave of absence (LOA) is appropriate, must request a LOA from their college office. A leave may last up to two years.

To request a leave of absence:

- Consult with your faculty advisor and DGS.
- Check the guidance for leaves of absence on the CBS LOA request form and consult with your grad program coordinator.
- Develop a plan for your leave of absence: when your leave will start, when it will end, checkpoints along the way, what a return to the program and lab will entail.
- The DGS writes a letter outlining this plan.
- Submit the DGS letter along with the CBS LOA request form to Sara Eliason, seliason@umn.edu.
- If your leave of absence is precipitated by a persistent medical condition that needs your attention, you may be eligible for a medical leave of absence with health care benefits.

Return from a Leave of Absence

To return from a leave of absence:

- Consult with your faculty advisor and DGS.
- Revisit your leave of absence plan. Revise and solidify this plan, as appropriate, including
- Check the guidance for leaves of absence on the leave of absence reinstatement request form or consult with your program coordinator.
- The DGS writes a letter outlining your return from leave of absence plan.
- Submit the DGS letter along with the leave of absence reinstatement request form to Sara Eliason, seliason@umn.edu.

Active Student Status - GRAD 999

GRAD 999 is a zero-credit, zero-tuition registration option intended for graduate students who have completed all coursework and (if applicable) thesis credit requirements, and who must maintain registration to meet the registration requirement. **GRAD 999 enrollment serves only to maintain active student status**. **Students with GRAD 999 enrollment are not eligible for financial aid, and this status cannot be used for student loan deferment. Students may not hold graduate assistantships while enrolled in GRAD 999**. Find more information on how GRAD 999 may affect you: Special registration categories for graduate and professional students.

International students requesting to take GRAD 999: Please consult with ISSS about reducing your course load prior to enrolling. This affects F-1 students.

***New for AY 2026** - International students will still be charged ISSS student fees on GRAD 999.

Limits

- Master's students may register for GRAD 999 once (one semester) without requesting college permission.
- Doctoral students may register for GRAD 999 twice (two semesters) without requesting college permission.
- For these initial GRAD 999 registrations, consult with your graduate program coordinator for access to register for GRAD 999.

Readmission to the Program

Readmission | The Graduate School
Students whose active student status has lapsed and who wish to resume graduate work must seek readmission to their graduate program. Readmission is not guaranteed, and colleges and programs may add conditions to the readmission (e.g., course grades older than a specified number of years may not be included in the degree plan). Current Student Toolkit | The Graduate School

Transfer Credits

Students may request from the program and Graduate School transfer of graduate level course credits. Generally, MCDB&G will only allow transfer of 4 credits towards the degree but may allow more under the discretion of the DGS. Transfer of graduate credit is not allowed for courses taken before the awarding of a baccalaureate degree. At least 12 credits must be taken with MCDB&G courses. Policy | Application of Credits for Students Earning Graduate Degrees

Code of Conduct

The MCDB&G Graduate Program is committed to fostering the education of students and postdocs in a welcoming and supportive environment. All students, postdocs, fellows, staff and faculty are expected to treat each other in a respectful, professional manner. We are all responsible for holding our student, postdoc, staff and faculty community to professional and respectful standards, both on and off campus (e.g. at University field stations, or during travel for conferences, meetings or field work). UMN Student Code of Conduct.

Last revised 8/28/2025

In addition to following University policies, we ask all members of CBS to support and adhere to our community norms of respectful and responsible conduct. CBS Code of Conduct.

Board of Regents Policies & University Policy Library

1. Conflict Resolution Process for Student Academic Complaints
2. Academic Freedom & Responsibility
3. Disability Services
4. Diversity, Equity, Inclusion, and Equal Opportunity
5. Student Conduct Code
6. Using Email as Official Student Communication
7. Social Media Policy for Students, Residents and Fellows in the Health Sciences
8. Medical School: Student Compliance Requirements

X. Employment & Health Insurance

- UMN Graduate Labor Union - GLU:UE Local 1105
- Equal Opportunity & Title IX
- Stipend Support
- Tuition
- Student Fees
- Graduate Assistant Appointments
- Fellowships
- Fellow vs. Graduate Assistant
- Paychecks
- Paid Leave
- Parental Leave
- Health & Dental Benefits

UMN Graduate Labor Union - GLU:UE 1105

The Contract is effective January 21, 2025 through June 30, 2027
An agreement between the University of Minnesota and United Electrical, Radio and Machine Workers of America, Local 1105

Equal Opportunity & Title IX

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation. Equal Opportunity & Title IX, contact: eot@umn.edu.

Review EOT Resource Guides:

- Resource Guide - Sexual Misconduct and Related Retaliation. Sexual misconduct includes sexual assault, stalking, relationship violence, and sexual harassment (including harassment based on gender identity, gender expression, sexual orientation, and pregnancy-related conditions).

- Resource Guide - Discrimination and Related Retaliation. Discrimination is prohibited based on race, religion, national origin, gender, age, marital status, familial status, disability, veteran status, sexual orientation, gender identity, gender expression, and other protected characteristics.

Stipend Support

Our program offers competitive scholarships for first-year students. For graduate assistants working at the University of Minnesota, the minimum hourly rate is $27.00. Our program rates for research assistants and teaching assistants average over $35,000 annually, and these appointments come with tuition, healthcare, and student fee coverage.

The financial support for graduate students comes from a variety of sources, with a general commitment to provide similar annual stipends for students at similar stages of their PhD career. Frequently, a student's stipend comes from two or more sources in a given year, and the sources may change from year to year. The most common source for the stipend is the student's thesis advisor, who will supply funds from a grant or other non-sponsored account to cover the student's stipend.

Tuition

Graduate School tuition is paid as part of a graduate appointment and should automatically be applied to your account. However, if a student withdraws from the program in the middle of a semester, they will become personally responsible for reimbursement of the tuition for that semester.

Last revised 8/28/2025

If students are on a fellowship, the award letter needs to be sent to your GPC so that they can submit it to the fellowship office in order to receive the tuition benefit since it's not automatically applied.

First year; tuition is covered by the program either as a Research/Graduate Assistant or a first year fellowship. Core courses and program-approved electives up to 14 credits per semester.

Second year; once you join a lab, it is the advisor's responsibility to pay for the student's stipend, fringe and student fees. Tuition benefit is covered if the student is a Research/Graduate Assistant. If the student is on a fellowship, the award letter needs to be sent to your GPC so that they can submit it to the fellowship office in order to receive the tuition benefit since it's not automatically applied. Core courses and program-approved electives up to 14 credits per semester. All course and thesis credits should be completed by the end of year two.

Third year and above; after passing your Preliminary Oral Exam, you become an Advanced Doctoral Candidate. Students register for only 1 credit of MCDG 8444, which is considered full time by the government. The tuition benefit is covered if the student is a Research/Graduate Assistant. If the student is on a fellowship, the award letter needs to be sent to your GPC so that they can submit it to the fellowship office in order to receive the tuition benefit since it's not automatically applied. Advisors and their home departments are responsible for the student's stipend, fringe and student fees. Continued financial support of the student is subject to satisfactory academic progress and reappointment for each academic term (Fall, Spring, Summer).

Student Fees

First year fees; student fees are covered by the program your first year as a graduate student unless you are a direct admit into a lab.

List of student fees include:

- Capital Enhancement fee
- Academic Records fee (first year only)
- Transportation fee
- Safety fee
- Gopher Athletics Facilities Fee
- Stadium Fee
- Student Services Fee
- COGS - Council of Graduate Students
- ISSS (international students only)
- ISSS Engagement (international students only)

Second year fees; student fees are covered by your advisor.

Third year and above fees; after passing your Preliminary Oral Exam, you become an Advanced Doctoral Candidate. Student fees are reduced and are covered by your advisor.

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Graduate Assistant Appointment

The terms and conditions of GA appointments are not covered in this handbook and will come in a separate and distinct GA appointment letter if you are appointed each semester. GA terms and conditions including pay, benefits, leave provisions, and other matters of employment can also be found in the collective bargaining agreement with GLU-UE by clicking on the link below and looking under "Graduate Assistant." *Active Contracts and Negotiations | University of Minnesota Office of Human Resources*.

The graduate appointment in the UMN payroll system is typically 50 percent of a "full time equivalent" (FTE). This designation is largely driven by federal and state tax designation and includes the student's work as a graduate research assistant. The remaining hours (*no less than a formal FTE total of 40 hours per week*) are spent on time in class, working on class requirements, working on other program requirements such as the prelim exam and program-required TA time, and on meeting the goals of their thesis research. As such, **a graduate student in training is anticipated to focus solely on their class, thesis research and TA responsibilities and have no other employment**. Exceptions to this may be made under certain circumstances (e.g. serving as a course instructor at the UMN or nearby educational institution) and require the approval of the thesis advisor and DGS.

Graduate assistants play an important role in the University community by:

- Helping the University meet critical teaching and research needs
- Providing financial assistance to graduate students while they pursue their degree
- Providing valuable teaching and research experience for graduate students to help them grow in their career.
- Part of the GLU-UE union

Fellowships

1. Fellowships are not employment
2. Fellowship are subject to tax
3. Taxes are not taken out of bi-weekly; it is your responsibility to plan ahead
4. Recommendation: work with an accountant or this non-profit for free tax assistanceYour Fellowship is not employment so it will be treated differently in regards to taxes. The information below can also be found on your fellowship terms & conditions that you signed.

See additional information on taxation of UMN non-compensatory payment to students here. I recommend working with an accountant, and this local non-profit offers free tax assistance.

NoRTH (the local nonprofit) will provide free tax assistance for anyone with a school, government, or nonprofit email address--both international students and U.S. citizens and permanent residents.

Do I have to pay taxes on my University-administered fellowship?
University-administered fellowships are subject to federal and state taxes. The University does not automatically withhold federal and state taxes from fellowship awards. The Office of Human Resources website provides *additional information and resources on taxable graduate fellowships.*

Fellow vs. Graduate Assistant

Fellow
Job code - 9561 (year 1)

- Not considered employment (as of now)
- Taxes **can not** be taken out of your bi-weekly payments
- Fellowship management (GCD department/GPC) is responsible for submitting payments for tuition benefits and GAHP *(first year fellowships only)*. ***Depending on the fellowship, other administrators may be responsible for submitting the payments and information to GAHP/internal billing.**

Research/Graduate Assistant
Job codes - 9521, 9529

- Receive a Graduate Assistant letter every semester that you are eligible
- Considered an employee
- Can choose to join the GLU-UE union
- Taxes are taken out in your bi-weekly payments
- Receives tuition benefit as long as registered full-time
- Eligible for GAHP health insurance

Paychecks

For any paycheck related questions, please contact HR: hrgradprog-msbs@umn.edu. The pay cycle is 14 days in length and you will be paid bi-weekly (every other Wednesday). **Direct deposit is required**. To authorize direct deposit, go to your MyU account under My Pay. For pay calendar information, visit payroll and HRMS calendars.

Graduate Assistant students:

For the academic year during periods of enrollment, you are considered a student. During the summer with no enrollment, you are like any other employee and pay **FICA tax**. Students are charged FICA tax in the Summer because they are not registered for classes. This may decrease the amount on your paycheck. Find more information on income tax reductions. ***International students living in the US for 1-5 years will not be charged FICA tax. However, after 5 years it will be applied during Summer.**

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Graduate Fellows:

Graduate Student Fellow appointments are for persons receiving a fellowship or training award granting a stipend and allowing for study and research. This is an award, and is not payment for work provided to the University.

A Graduate Fellowship does not have taxes withheld from paychecks due to the nature of the award. You may want to talk to a financial advisor about your tax situation, and you can get free tax advice. This service is available to international and domestic students and scholars at the University. To learn more please review the Taxable Graduate Fellowship information on the website. You can also read instructions on how to calculate potential federal taxes owed, and pay them quarterly to the IRS, Estimated Taxes, IRS. Additionally, you can visit Estimated Tax Minnesota to learn about calculating and paying MN state taxes.

Paid Leave

Important Note for Medical Leave (including Mental Health):

Healthcare coverage can be extended to students during an approved Leave of Absence with approval by the Associate Dean & Medical School.

Graduate/Research Assistant Paid Leave

GAs who receive a **fall or spring semester appointment may request up to three (3) days of paid personal leave each semester.** GAs who have a summer appointment may request up to three (3) personal days over the summer term.

Personal days may be used for any purpose and supervisors shall not unreasonably deny the use of personal days. Supervisors shall endeavor to provide flexibility with unpaid time and/or remote work before and after personal days. Only GAs who hold an active appointment during the applicable academic year, semester, or summer term are eligible to use personal days. The number of hours in a day are based on standard hours meaning a personal day is a calendar day regardless of the number of hours and cannot be split across multiple days.

GAs shall use their best efforts to use planned personal time off during regularly scheduled academic breaks. When a GA is not able to schedule planned personal time off during regularly scheduled academic breaks, the GA shall request such leave from their supervisor at least two weeks in advance of the requested time off, or as soon as possible if two weeks' notice is not possible. The use of personal days requires supervisory approval. Requests to use personal days shall not be unreasonably denied.

Upon separation from employment, any unused personal days will not be paid out to the GA. Unused personal days will not carry over to a subsequent semester or summer term. The tracking of such time should be coordinated between the GA and their supervisor. **During rotations, be sure to notify your DGS and rotation advisor.**

Fellows

Time will be your own to manage. You can take time off within reason and as long as you are making academic progress. If you plan to take time off you'll need to ask the PI you rotate with. However, the U is typically closed on all of the official holidays, so it wouldn't make sense to come in, unless you have experiments running that need attention.

Paid Leave Table - Fellows vs. Graduate Assistants

Job Title	Personal Days	Sick Time	Parental Leave
Fellow	Dependent your on Advisor	Dependent on your Advisor	Dependent on your Advisor

Job Title	Personal Days	Sick Time	Parental Leave
Graduate or Research Assistant	3 days per semester (they don't roll forward)	Up to 10 days in the Academic Year	With a 50% appointment or more, 6 weeks for parental leave

Parental Leave

The University provides parental leave for eligible employees related to the birth, adoption, or gestational surrogacy of children in accordance with Minnesota statutes and the provisions of this policy. Parental leave provided by this policy is available to an employee on 50% appointment or greater and is becoming a parent through birth, adoption, or gestational surrogacy or to an employee who is a gestational carrier.

Upon request, **eligible employees may take six weeks paid leave related to the birth, adoption, or gestational surrogacy of a child.**

Parental Support Services are available at the University, including the Student Parent Help Center, which offers support for graduate students. Parental Leave for Employees, Employee Work Life

Immigration Leave

A GA will be eligible for up to a total of five (5) days of paid leave each academic year including the summer if they have an active appointment to attend to visa and immigration proceedings. The number of hours in a day are based on standard hours meaning a day is a calendar day regardless of the number of hours and cannot

be split across multiple days. Only GAs who hold an active appointment during the applicable semester or summer term are eligible to use immigration leave. When foreseeable, a GA will provide reasonable advance notice of their request to use immigration leave preferably no later than fourteen (14) calendar days in advance.

Upon separation from employment, any unused immigration leave will not be paid out to the GA and unused time does not carry over to subsequent AYs. The tracking of such time should be coordinated between the GA and their supervisor.

A Supervisor may request supporting documentation in determining whether or not to approve immigration leave. All requests for immigration leave shall be given reasonable consideration.

Health & Dental Benefits

Health insurance is required for all students at the University of Minnesota.

- Receive information from Office of Student Health Benefits
- Students should waive the Student Health Benefit Plan which is for undergraduate students or if they are on other insurance.
- **Do not sign up for SHBP - that plan is for Undergraduates**
- Graduate students are covered on the Graduate Assistant Health Plan (GAHP)
- Medical coverage covered by the program (year 1) and your advisor (year 2+)
- **Students responsible for healthcare premiums and all co-pays**

A student with a 50% RA/GA appointment will receive a 95% subsidy of premium for his or her own coverage. Students will be billed their portion of the premium costs once each term. Outside insurance - If you already have insurance through your parents or spouse and you don't want to participate in the Graduate Assistant Health Plan, you will need to waive the insurance requirement.

Fellowship management (GCD department/GPC) is responsible for submitting payments for tuition benefits and GAHP.

Graduate Assistant Health Plan (GAHP)

- Applications for next Academic Year open in June
- Students are responsible for paying the premium each semester (unless otherwise noted)
- Students should waive the Student Health Benefit Plan which is for undergraduate students.

Summer Coverage:

If you're enrolled in the University-sponsored GAHP through the spring semester, you will automatically remain enrolled through the summer unless you complete and submit an **Enrollment and Change Form** indicating you would like to cancel your plan.

Boynton Health

Boynton Health serves the University of Minnesota Twin Cities, providing comprehensive health care with a public health approach to campus well-being.

Our goal is to provide the highest quality of care for you in a culture that supports equity, inclusion and respect. Our mission is to improve the health and wellbeing of University of Minnesota students and the campus community. Our vision is to be the healthiest campus in the nation.

Boynton Mental Health: Whether you've been dealing with a mental health diagnosis for a while or are just struggling with being away from home for the first time, we're here to help you navigate the changes that college brings.

Dental Clinic at Boynton

Here's a reason to smile, the Graduate Assistant Health Plan (GAHP) includes a dental benefit. You and your dependent children, up to age 19, may receive preventive services such as routine exams, X-rays, and cleanings at no out-of-pocket cost once every six (6) months at the dental clinic designated for your campus.
GAHP Dental Benefits also pays 80% of basic restorative services and 50% of major restorative services up to $1,000 per academic year. Dependents receive preventive and other covered restorative dental services at a 20-30% discount.

XI. MCDB&G Student Awards/Funding Resources

- MCDB&G Student Awards
- Other Awards
- Graduate School Awards
- College of Biological Sciences
- Medical School

MCDB&G Student Awards

All MCDB&G Student Awards with descriptions. A number of competitive student awards (typically $1,000 each) are awarded in the MCDB&G Program for the best performance, publications, and presentations etc. The recipients of these awards are announced at the GCD/MCDB&G Retreat. A fellowship award is a valuable addition to a student's resume. These awards are granted annually through a nomination process in which thesis advisors must prepare a brief letter of recommendation and the

students must provide a short research statement (1 page max). Information sent from the DGS in the summer regarding these awards.

The first four competitive student awards listed below are granted in the MCDB&G Program for the best performance, publications, and presentations, etc. Student applicants will be evaluated based on their performances throughout their graduate career (not last single year). In addition, one award will be granted to a postdoctoral fellow who made a significant scientific contribution. You have to be an MCDB&G student (or a GCD postdoc) to be eligible.

Robert K. Herman Award - $1000
The Robert K. Herman Award is given annually to an MCDB&G student in recognition of high quality research and the best performance in the field of genetics. Sponsored by the Department of Genetics, Cell Biology and Development.

Margaret A. Titus Award - $1000
The Margaret A. Titus Award is given annually to an MCDB&G student in recognition of high quality research and the best performance in the field of cell biology. Sponsored by the Department of Genetics, Cell Biology and Development.

Edward B. Lewis Award - $1000
The Edward B. Lewis Award is given annually to an MCDB&G student in recognition of high quality research and the best performance in the field of developmental biology. Sponsored by the Developmental Biology Center, will be awarded.

Perry B. Hackett Award - $1000
The Perry B. Hackett Award is given annually to an MCDB&G student in recognition of high quality research and the best performance in the field of genome engineering. Sponsored by the Center for Genome Engineering, the Center for Precision Plant Genomics, and the Hackett Royalty Fund, will be awarded.

Michael B. O'Connor Postdoctoral Award - $1000
The Michael B. O'Connor Award is given annually to a postdoctoral fellow in a GCD lab in recognition of high quality research. Sponsored by the Department of Genetics, Cell Biology and Development, will be awarded.

Other MCDB&G Awards

Bryant Keller Travel Scholarship - $1000 used for travel
The Bryant Keller scholarship is a fund that was established in 2020 by the University of Minnesota Medical School and members of the Keller family in honor of Bryant Keller, a Ph.D. student who passed away suddenly in 2019. Bryant was a mentor to many younger scientists, a tireless advocate, and a generous team member. This scholarship encourages graduate students to excel

academically, as mentors, and as ambassadors for biomedical research. This scholarship is designed to be used for travel.

Van Ness Grad Student Translational Research Award

Research in the MCDB&G Program is quite diverse and focused on basic discoveries. However, research that has translational value should be recognized. The Van Ness Translational Research Award is designed to reward graduate students who have made a research contribution that demonstrates a translational application (clinical or commercial). Graduate students are encouraged to apply for the Award by June 30 of each year, with the following application documents and noted priorities:

- Authored paper published, in press, or submitted. (First author given priority)
- Any additional evidence of application of the research (e.g., patent application, clinical trial proposal, new diagnostic, IND (Investigational New Drug) application, License agreement, new product)
- A statement from the student about how the results are being applied or have the potential for translational applications,and their role in the project (1-2 pages).
- A letter of recommendation from the thesis advisor, specifically addressing the student's contribution to the translational research and paper.

Ray C. Anderson Fellowship

This graduate research fellowship is intended for EEB and MCDBG graduate students conducting research in genetics (broadly defined) as part of their thesis/dissertation. The fellowship amount varies per year, but will be paid out as a fellowship through payroll. The committee will consider proposals from students at any stage of their graduate work. The recipient will be selected on the basis of scientific merit of the student's work and the qualifications of the student. New projects that lack preliminary data will have an equal chance of funding as ones at a more advanced stage.

Graduate School Awards

Doctoral Dissertation Fellowship (DDF)

The Doctoral Dissertation Fellowship (DDF) gives the University's most accomplished Ph.D. candidates an opportunity to devote full-time effort to an outstanding research project by providing time to finalize and write their dissertation during the fellowship year. Applications due in February.

DOVE Fellowship

The Diversity of Views and Experiences (DOVE) Fellowship Program seeks to assist graduate research programs to promote a diversity of views, experiences, and ideas in the pursuit of research, scholarship, and creative excellence. This is promoted through the recruitment and support of academically excellent students who are looking to positively impact their graduate program, and whose representations of diversity are expressed in its many forms – including, but not limited to, thought, geography, faith, experiences, background, ethnicity, gender and interests. The DOVE Fellowship Program is administered jointly by the Graduate School Fellowship Office (GSFO) and the Graduate School Diversity Office (GSDO).

National Science Foundation (NSF) Graduate Research Fellowship

The purpose of the National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) is to help ensure the quality, vitality, and diversity of the scientific and engineering workforce of the United States. The program recognizes and supports outstanding graduate students who are pursuing full-time research-based master's and doctoral degrees in science, technology, engineering, and mathematics (STEM) or in STEM education. Students apply directly through the GRFP Application Module.

College of Biological Sciences

Pletcher Fellowship

The Carol H. and Wayne A. Pletcher Graduate Fellowship awards are supported by an endowment established through a generous contribution from Carol H. and Wayne A. Pletcher. The intent of the fellowship is to “support a graduate student, with preference given to women, pursuing Ph.D. research in the College of Biological Sciences.” Awards will be given directly to students and are intended to supplement, not replace, other funding.

Medical School

Dr. Marvin and Hadassah Bacaner Research Awards

The Dr. Marvin and Hadassah Bacaner Research Awards in the basic medical sciences recognize creative research. The $1,000 award is offered annually to graduate students in the basic science fields of biochemistry, molecular biology, and biophysics; genetics, cell biology, and development; microbiology, immunology, and cancer biology (MICaB); pharmacology; and integrative biology & physiology. An award is also offered annually in cardiology.

The Dr. Marvin and Hadassah Bacaner Research Awards program encourages intellectual achievement by graduate students and is underwritten by a gift to the Foundation in memory of Jacob and Minnie Bacaner. Nominations due annually in February.

Beatrice Z. Milne and Theodore Brandenburg Award

The Beatrice Z. Milne and Theodore Brandenburg Award recognizes exceptional thesis research by graduate students in the basic biomedical sciences. The award reflects the thoughtfulness and generosity of Ms. Beatrice Z. Milne and serves as a lasting expression of her commitment to improving the health of the people of Minnesota, the nation, and the world. The award is given annually to up to six currently enrolled graduate students in one of the following graduate programs: Biochemistry, Molecular Biology & Biophysics (BMBB), Integrative Biology and Physiology (IBP), Microbiology, Immunology & Cancer Biology (MICaB), **Molecular, Cellular, Developmental Biology & Genetics (MCDB&G)**, Neuroscience, Pharmacology, and Rehabilitation Science.

The Biomedical Sciences Ph.D. Graduate Programs Council in the Medical School will coordinate the selection process. The award will be presented in the spring and each award will include a $6,000 award.

XII. MCDB&G Graduate Program Faculty

- Graduate Faculty in GCD
- Graduate Faculty in BMBB
- MCDB&G Graduate Faculty Committees

Graduate Faculty in GCD

Faculty in GCD	Faculty in GCD
Adamala, Kate	Kikyo, Nobuaki
Albert, Frank	Kletzien, Heidi
Blythe, Emily	Koepp, Deanna
Cetera, Maureen	Lun, Xiaokang
Chen, Lihsia	McIvor, Scott
Clarke, Duncan	Nakato, Hiroshi
Conner, Sean	Neufeld, Thomas
Courtemanche, Naomi	Rougvie, Ann
Dong, Xiao	Schmidt, Daniel
Engelhart, Aaron	Shima, Naoko
Gammill, Laura	Simon, Jeffrey
Gardner, Melissa	Sivaramakrishnan, Sivaraj
Gill, Matthew	Somia, Nikunj
Greenstein, David	Titus, Margaret
Hackett, Perry	von Diezmann, Lexy
Hays, Thomas	Voytas, Daniel
Hsieh, PingHsun (Benson)	Zaidi, Arslan A
Isabella, Adam	Zierhut, Heather
Kawakami, Yasuhiko	

Graduate Faculty in BMBB

Faculty in BMBB Department	Faculty in BMBB Department
Aihara, Hideki	Mansky, Lou
Camell, Christina	Mashek, Doug
Chen, Yue	Mendonca, Luiza
Clarke, Robert	Murphy, Sharon
Crawford, Peter	Niedernhofer, Laura
Elias, Mikael	Parker, Laurie
Ervasti, James	Rivera Mulia, Juan Carlos
Freeman, Mike	Robbins, Paul
Goldstrohm, Aaron	Schmidt-Dannert, Claudia
Gordon, Wendy	Seelig, Burckhard
Griffin, Tim	Smanski, Mike

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Hafenstein, Susan Hauck, Amy Jain, Kanishk Kazlauskas, Romas Kim, Do-Hyung Latham, Mike	Thomas, Dave Truong, Thu Wackett, Larry Xu, Ming Yong, Jeongsik Zhang, Lei

MCDB&G Graduate Faculty Committees

MCDB&G Admissions Committee

- Sean Conner, chair
- Maureen Cetera
- Nobu Kikyo
- Xiao Dong
- Aaron Engelhart
- Lexy von Diezmann
- Daniel Garry (external to GCD)
- Mike Koob (external to GCD)

Recruitment Committee

- Adam Isabella, co-chair
- PingHsun Hsieh (Benson,) co-chair
- Emily Blythe
- Heidi Kletzien
- Sarah Wernimont (external to GCD)

MCDB&G Faculty Review

- Yasu Kawakami, chair
- Naoko Shima
- Frank Albert
- Anna Selmecki (external to GCD)
- Kristin Artinger (external to GCD)

MCDB&G Student Review (prelims, annual progress reports)

- Meg Titus
- Duncan Clarke
- Matt Gill
- Scott McIvor

XIII. Additional Resources

- Housing
- Transportation
- Parking
- COGS
- Med School CGS
- Office of Graduate and Postdoctoral Studies (GPS)
- Graduate Student Resources

Housing

Do not send deposit money until you have seen the apartment or house yourself or have had a trusted friend view it. There are scammers who try to swindle students. The UMN maintains a website where you can review potential locations and landlords. University Student Legal Service is a free legal service for students that can answer questions or review your housing lease (contract) before you sign. They provide a tenant housing resource guide and answer any questions about how to work with your landlord.

Off Campus Housing that is not managed by the UMN: Off Campus Living. Off Campus Housing through UMN.

Graduate Student Housing:

There are two housing cooperatives that are operated by the UMN. They are among the lowest cost options. There is typically a waiting list to get into one of their apartments, so apply long before you will need to move in.

- **Como Student Community Cooperative**: Como Student Community Co-op, Como Student Community Cooperative | Housing & Residential Life
- **Commonwealth Terrace Cooperative**: Commonwealth Terrace Cooperative, Commonwealth Terrace Cooperative | Housing & Residential Life
- Graduate Student Housing

Other Housing Options for Graduate Students:

- West Bank Townhouses
- UMN Apartment Marketplace
- Renting Off Campus - Roommate Finder
- **UMN Housing Facebook Page:** There is a UMN Housing Facebook page that has lots of resources for finding subleases, roommates, and more.

Temporary/Early Arrival Housing

Before the start of the fall semester, **new international students** can stay in the International Early Arrival Housing. This temporary on-campus housing is an affordable option for new students

needing somewhere to stay before they can move into their permanent on- or off-campus housing. For costs and reservations, review the International Early Arrival Housing website. Find Housing | ISSS. Please note:

- Before the start of the spring/summer semesters, temporary housing is not available on campus.
- **Only international students can stay in International Early Arrival Housing.** Individuals traveling with family will need to find another housing option.

Transportation

The Transportation and Safety Fee gives students unlimited access to the regional transit system in the Twin Cities metro area (rides on the NorthStar require a small supplemental fare for each ride). **The Transportation & Safety fee is covered by the program or your advisor each semester.**

UMN Parking & Transportation Services

- Gopher Way - tunnels & skyways
- Light rail
- Campus Connectors/Campus Circulators
- Walking/biking
- Use the FREE Campus SafeWalk Service. Available 24/7 by calling 612-624-WALK (9255)
- **Universal Travel Pass** - Metro Transit access
  Use the FREE Campus SafeWalk Service

Parking

Graduate professional student workers with a 95xx job code can choose one of the following parking contract options:

- Quarterly-Billed Staff/Faculty Contracts
  - Provide access to faculty/staff parking locations. Some locations have wait lists.
  - Remain active until canceled, no renewal required.
  - Contact us for the initial contract setup.
- Student Parking Contracts
- Part-Time Parking Program
- Graduate Student Worker Contracts

COGS

The Council of Graduate Students (COGS) is the Recognized Student Governance Association (RSGA) at the University of Minnesota - Twin Cities campus that represents, advocates for, informs, facilitates communications among, and supports

Twin Cities graduate students (students who are seeking a research degree: a Ph.D. or a Master's that is associated with a Ph.D. program). There is also CIGS for international students.

Medical School CGS

Medical School Council of Graduate Students - CGS

The Council of Graduate Students advises the dean on any issues relevant to graduate students and serves as the official liaison between the graduate students and all other official Medical School entities. The responsibilities of the CGS include:

- establishing mechanisms that allow graduate students to communicate and exchange information;
- accumulating information representative of the views of graduate students and presenting those views to the dean; and
- selecting representatives to the Medical School standing committees and subcommittees as described in the bylaws.

Office of Graduate & Postdoctoral Studies

The Office of Graduate and Postdoctoral Studies (GPS) was formed in the Fall of 2023. The principal aim was to concertedly and uniformly support both our graduate students and postdoctoral scholar trainees within the Medical School at the University of Minnesota.

This newly created office combines all services and resources offered by our prior offices Biomedical Graduate Research Education and Training (BGREAT), Office of Diversity, Inclusion and Outreach (ODIO) and the Office of Professional Development (OPD). Furthermore, the GPS Office newly incorporates dedicated services to support our postdoctoral scholars.

Collectively, the GPS Office now has dedicated program managers to support each graduate student and postdoctoral scholar trainees, as well as a dedicated program coordinator for career development services and an office associate staff member to handle backend operations essential to facilitating the services, resources and program offerings to our learners.

Career Development Services

The Office of Graduate & Postdoctoral Studies (GPS) equips biomedical graduate students and postdocs to thrive in careers across academia, industry, government, and the nonprofit sector. Using our approach can keep you moving from exploration to action: Explore, Reflect, Prepare.

Last revised 8/28/2025

Graduate Student Resources

- Graduate Student Resource Guide
- International Students and Scholar Services (ISSS)
- One Stop Contacts
- One Stop Student Services
- Center for Writing
- UMN Libraries