



Fall 2020 Orientation
Academic Year
2020-2021

Graduate Student Handbook

Department of Molecular, Cellular &
Developmental Biology

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First-Year MCDB Doctoral Students, Fall 2020

Azhar, AnatiAlyaa*	anati@umich.edu	University of Michigan	B.S.
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Zang, Juliana	zangjul@umich.edu	University of Michigan	B.S.

*Deferred Winter '21

**Deferred Fall' 21

PIBS MCDB Primary

Navarette, Hannah	hnava@umich.edu	Univ. of California	B.S.
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New MCDB Masters Students

Erba, Jake	erbjake@umich.edu	Univ. of Michigan	B.S.
Orozco, Michelle	miorozco@umich.edu	Univ. of California	B.S.

New Pathways Masters Students

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Simon, Alexander	lexsimon@umich.edu	Arizona State University	B.S.
Zientko, John	jzientko@umich.edu	Central Michigan Univ.	B.S.

MCDB Doctoral Students, Fall 2020

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MCDB Current Masters Students

Carrillo, Paola	pcarrill@umich.edu	Aurora University	B.S.
Garg, Shipra	srgarg@umich.edu	Jaypee Univ. Info Technology	B.S./M.S.
Jenkins , Martin Jamal	jenkijam@umich.edu	University of Michigan	B.S.
McLean, Emma	emkate@umich.edu	University of Michigan	B.S.
Obeid, Jowana	obeidj@umich.edu	American Univ, of Beirut	B.S.
Taylor, Annie	annietay@umich.edu	Cornell University	B. S.
VanDiepenbos, Sarah	sevandi@umich.edu	University of Michigan	B.S.
Woodard, Lewis	lewoodar@umich.edu	Chowan College	B.S. .
Zhang, Yi (Ivy)	pikachu@umich.edu	Michigan State University	B.S

MCDB Current Masters Pathways Students

Dudley, Claire	dudleyc@umich.edu	St. Lawrence University	B.S.
Gregg, Heather	hmgregg@umich.edu	Lake Superior State Univ.	B.S.
Mladenovic, Timothy	mladenov@umich.edu	University of Michigan	B.S.



MCDB Mentor Faculty

Name	Phone	Office	Uniqname	Research Area
Akaaboune, Mohammed	647-8512	4160 BSB	makaabou	Neurobiology development; synaptic plasticity
Aton, Sara	615-1576	4268 BSB	satou	Systems and sleep neurobiology, nervous system plasticity
Bardwell, Jim	764-8028	5018 BSB	jbardwel	Protein folding
Buttitta, Laura	764-2802	5218 BSB	buttitta	Cell cycle regulation in <i>Drosophila</i>
Cadigan, Ken	936-3246	5210 BSB	cadigan	<i>Drosophila</i> development and signal transduction
Chang, Amy	647-7963	3218 BSB	amychang	Yeast cell biology
Chapman, Matt	764-7592	5268 BSB	chapmanm	Molecular physiology
Clowney, Eleanor "Josie"	763-6036	4218 BSB	jclowney	Neural circuits of the olfactory System of <i>Drosophila melanogaster</i>
Collins, Catherine	764-4363	5214 BSB	collinca	Structural plasticity of neurons
Cone, Roger	615-9787	3145 LSI	rcone	Regulation of energy storage by the nervous system
Csankovszki, Gyorgyi	764-3412	5214 BSB	gyorgyi	Dual roles of condensin complexes in <i>C. elegans</i>
DeSantis, Morgan	615-0610	4210 BSB	mdesant	Mechanisms of how microtubule associated motor proteins transport cellular cargo
Duan, Bo	647-4359	4260 BSB	bduan	Neural circuits underlying sensory modalities
Duan, Cunming	763-4710	3268 BSB	cduan	Molecular animal physiology
Dus, Monica	763-4511	4214 BSB	mdus	Response of the brain in regulating feeding behavior
Huffnagle, Gary	936-7934	3232 BSB	ghuff	Microbiology and microbiomes
Jakob, Ursula	615-1286	5014 BSB	ujakob	Biochemistry and molecular cell biology
Klionsky, Dan	615-6556	6036 LSI	klionsky	Protein targeting
Kumar, Anuj	647-8060	3210 BSB	anujk	Functional genomics/proteomics in yeast and <i>C. albicans</i>

Kwon, Sam	764-3558	4264BSB	samkwon	Cellular, molecular and circuit mechanisms underlying the plasticity in mammalian brain
Li, Jianming	763-4253	5142 BSB	jian	Molecular physiology of <i>Arabidopsis</i>
Li, Ming	647-7264	3214 BSB	mlium	Regulation of lysosomal function and protein quality control
MacAlister, Cora	647-8384	5118 BSB	macalist	Flower development and pollen tube formation
Maddock, Janine	736-8068	5242 BSB	maddock	Microbial development
Miller, Ann	764-9732	5264 BSB	annlm	Cytokinesis regulation by Rho small GTPases
Nandakumar, J.K.	647-9152	5064 BSB	jknanda	Telomerase assembly/function
Nielsen, Erik	764-1324	5114 BSB	nielsene	Proper deposition of plant cell wall components
Pichersky, Eran	936-3522	5168 BSB	lelx	Plant molecular biology and evolution
Schiefelbein, John	764-3580	5110 BSB	schiefel	Molecular genetics of <i>Arabidopsis</i> development
Simmons, Lyle	647-2016	5068 BSB	lasimm	DNA repair, mutagenesis, and cell responses to DNA damage
Stockbridge, Randy	764-3631	3242 BSB	stockbr	Molecular mechanism of anion export
Vecchiarelli, Anthony	647-7251	5260 BSB	ave	Mechanisms of subcellular organization
Wang, Yanzhuang	936-2134	4110 BSB	yzwang	Molecular organization of Golgi apparatus
Wierzbicki, Andrzej	647-6841	5164 BSB	wierzbic	Mechanisms of ncRNA function in transcriptional gene silencing
Wittkopp, Patricia	763-1548	4010 BSB	wittkopp	Evolution of development / gene regulation
Wong, Kwoon	936-9547	326 Kellogg	kwoon	Regulation of non-image forming visual responses

Diversity, Equity, and Inclusion

The MCDB Department is committed to developing a graduate program that enhances the training of scientists of all backgrounds and identities. MCDB strives to provide equitable and inclusive teaching and laboratory research opportunities within the department and at the university. MCDB is also committed to providing equitable and inclusive fellowship opportunities and organizing diverse, equitable, and inclusive events. MCDB is also committed to engaging the public through numerous outreach activities by our students and faculty. Our graduate students organize DEI events that are open to the entire MCDB community while our faculty are involved in several initiatives to help increase DEI across all educational and professional levels in MCDB. Together, we strive towards equity through these actions. For more information on our activities and other resources, please see the links below.

"The University of Michigan is located on the traditional territory of the Anishinaabe people. In 1817, the Ojibwe, Odawa, and Bodewadami Nations made the largest single land transfer to the University of Michigan. This was offered ceremonially as a gift through the Treaty at the Foot of the Rapids so that their children could be educated. Through these words of acknowledgment, their contemporary and ancestral ties to the land and their contributions to the University are renewed and reaffirmed. *(Taken from writing by Ethriam Cash Brammer, Ph.D.)*"

MCDB Diversity, Equity, and Inclusion Committee (DEIC)

Monica Dus, Assistant Professor-Faculty Advisor

Pamela Raymond, Professor Emeritus

Matthew Chapman, Professor

Bahaar Chawla, Graduate Student

Jessy Martinez, Graduate Student

Heather Gregg, Graduate Student

Cassie Zuckerman, Graduate Student

Angelica Previero, Graduate Student

<https://lsa.umich.edu/mcdb/diversity.html>

<https://lsa.umich.edu/lsa/about/diversity--equity-and-inclusion.html>

Graduate Academic Affairs

Academic affairs of the MCDB graduate program fall to two standing committees: Admissions Committee and the Graduate Studies Committee. The goal of these two committees is to provide an environment that is conducive to students becoming productive scientists and thoughtful human beings.

Admissions Committee

The Admissions Committee is responsible for reviewing all applications to the program and subsequently recommending admissions offers. This committee is also involved in the recruiting process, both externally and internally.

Members

Amy Chang, Associate Professor, *co-chair* (19-22)
Daniel Klionsky, Professor, *co-chair* (18-21)
Sara Aton, Associate Professor (20-23)
Josie Clowney, Assistant Professor (19-21)
Bo Duan, Assistant Professor (18-21)
JK Nandakumar, Associate Professor (20-23)
John Schiefelbein, Professor (F20)
Andrzej Wierzbicki, Professor (20-23)
Suzanne Craig, Graduate student rep
Eshna Jash, Graduate student rep

Graduate Studies Committee

The Graduate Studies Committee (GSC) is responsible for supporting the graduate students by monitoring the year-round issues that occur in the graduate program, including preliminary examinations, orientation, internal awards, and individual concerns that may arise.

Members

Lyle Simmons, Professor, *Chair* (17-22)
Mohammed Akaaboune, Professor (18-21)
Laura Buttitta, Associate Professor, (20-21)
C. Duan, Professor (F20)
Anuj Kumar, Professor (20-23)
Ming Li, Assistant Professor (20-23)
Ann Miller, Associate Professor (20-23)
Laura Olsen, Professor (17-21)– *Masters and Pathways program*
Yanzhuang Wang, Professor (19-22)
Ritvija Agrawal, Graduate Student Rep
TJ Waller, Graduate Student Rep

Standards of Conduct

Graduate students are responsible for being familiar with and are held accountable to the standards in all applicable University policies.

These policies are available online at: <https://rackham.umich.edu/academic-policies/>

The information can also be downloaded as a pdf at:

<https://rackham.umich.edu/wp-content/uploads/2020/08/rackham-academic-policies.pdf>

All Rackham students should review this information.

The following discussion covers additional policies that apply to Rackham students that are not covered in The Guide.

A clear sense of academic honesty and responsibility is fundamental to our scholarly community. To that end, the University of Michigan expects its students to demonstrate honesty and integrity in all their academic activities. Furthermore, students pursuing graduate education are being educated not only in a substantive field of inquiry but also in a profession. Although there are many common values, specific standards required of professionals vary by discipline, and this policy document has been written with respect for those differences.

As professionals in training, graduate students assume various roles, depending on the academic program. These include the roles of scholar/researcher, teacher, supervisor of employees, representative to the public (of the University, the discipline, and/or the profession), and professional colleague and even the role of provider of services to clients. Therefore, students are responsible for maintaining high standards of conduct while engaged in course work, research, dissertation or thesis preparation, and other activities related to academics and their profession. Because students take on multiple roles in multiple settings, some types of conduct are both academic and professional in nature—hence, the inclusive nature of this policy.

Graduate training, like future professional life, includes demands that might tempt some students to violate integrity standards. There are pressures on graduate students to achieve high grades, obtain financial support, meet research or publication deadlines, gain recognition from the scholarly community, and secure employment. Although faculty members can help students to maintain academic integrity despite these pressures, each student has final responsibility for maintaining integrity in his or her individual conduct.

Finally, conduct that violates the ethical or legal standards of the University community or of one's program or field of specialization may result in serious consequences, including immediate disciplinary action and future professional disrepute. In support of the Graduate School's commitment to maintain high standards of integrity, this policy makes provisions for bringing forward and hearing cases of academic and professional misconduct.

Registration Information

Fall 2020 & Winter 2021 Academic Calendar • Ann Arbor Campus

- Registrar's site for Academic Calendars: <https://ro.umich.edu/calendars>
- Fall 2020 and Winter 21 Academic Calendars [pdf]
https://ro.umich.edu/sites/default/files/2020-02/Cal_2020-2021_2.pdf

Registration Appointments

Your registration appointment is the earliest date and time you can enroll for the term. You may not register prior to the date and time of your appointment.

Wolverine Access is an online system that allows you to enroll from anywhere you can access the Internet. Prior to your registration appointment, the system will take you to your Backpack. Once the date and time of your appointment pass, the Backpack/Registration link will take you to Registration. Note that you can register for classes without first putting classes in your Backpack.

After registering for your classes, you may make modification to your class schedule at any time using Wolverine Access until the third week of the term (drop/add deadline).

Registration information and deadlines may be found on the Rackham website at:

<https://rackham.umich.edu/navigating-your-degree/registering-for-classes/>

Independent Study Courses

Before you may register for a course that requires faculty permission, you must be sure that the instructor has contacted Mary Carr (carrmm@umich.edu) in the MCDB Office for an override. You must then go to Wolverine Access and register for the course.

Program Credit Requirements

Credit System: Most courses at Michigan meet for one term and are given a value of three or four credit hours. Credit hours reflect the number of hours a student attends lectures each week during a four-month term. A course with three hours of lecture plus a discussion segment generally receives four-credit hours.

Rackham Requirements for Candidacy: The Graduate School requires that you successfully complete a total 18 credit hours before being advanced to candidacy. In addition, 4 of these 18 credit hours MUST be in a cognate field (i.e. Human Genetics, Biochemistry, etc.). See the "Cognates" section below.

Requirements for Graduate Students in MCDB

Focus

The members of the Department of MCDB are broadly interested in how organisms, cells, molecules, and genomes function, develop, and evolve. Despite the diversity of research in our department, MCDB faculty members share technical approaches such as recombinant DNA, genetics, biochemistry, and specialized approaches in imaging. Collectively, our faculty also shares a common intellectual approach that emphasizes mechanistic and experimental strategies to investigate a diverse set of biological problems.

Mentorship

The Graduate Studies Committee (GSC) of MCDB will advise each pre-candidate student with respect to courses, teaching, and laboratory rotations. The GSC will evaluate pre-candidate student progress until the student has identified a faculty member as a research mentor. At that time the research mentor, along with the GSC, will advise the pre-candidate student.

The earliest date that a faculty member can extend an offer of a position in the faculty's laboratory to a rotating student is **March 15** of the student's first academic year. The earliest date that a rotating student can request a position in a given laboratory is **March 15** of that student's first academic year. A student must complete at least two different rotations to select a lab on the early date of March 15.

Research and Research Rotations

The major activity for a PhD student is to complete a substantial body of scholarly research and to describe this research in the doctoral thesis. This research is carried out under the supervision of a research mentor (the PhD advisor) and typically requires 4-5 years of research.

To assist students in identifying a research mentor, MCDB students are required to conduct at least two research rotations with MCDB faculty members during their first year. [Note: Certain students ("direct admits") are admitted directly into an MCDB lab and are not required to conduct rotations.] Research rotations are lab research experiences undertaken as part of the MCDB 700 course (for MCDB students) or the PIBS 600 course (for Program in Biomedical Science (PIBS) students). Rotations are arranged by the individual MCDB graduate students, based on their own research interests and goals, through discussions with their prospective rotation mentors. Typically, students perform one or two rotations per semester. If an MCDB student is rotating in more than one lab during a semester, he/she should register for MCDB 700 with each faculty member. Students admitted via PIBS who have designated MCDB as their primary choice will follow the PIBS rules and guidelines regarding research rotations during their first year and should register for PIBS 600.

The rotation mentors and research advisors take an active role in the student's education and training toward becoming an independent investigator. In addition to technical training in the laboratory, the rotation includes training on formulation of a research plan, analytical and critical interpretation of the student's research results, critical analysis of reports in the literature, and oral and written presentation of scientific materials. The rotation mentor evaluates and grades the performance of the students, and these evaluations are placed in the student's file.

Responsible Conduct of Research:

As federally mandated, students will receive training in the responsible conduct of research early in their time in the MCDB program. This training encompasses a mixture of podcasts, online training, panel discussions, informal debates, and small group meetings. Typically, MCDB students get this training through the PIBS 503 (or UC 415) course. The course meets for two hours per week (12 hours total). If offered in the first semester, students should take this in the fall. [This academic year, it is only offered Winter 2021]

Courses:

MCDB students (but not PIBS students) take the following MCDB courses: MCDB 527, MCDB 528, MCDB 615, and MCDB 800, which are described in greater detail later in this document. Students may also elect to take additional courses that are appropriate for their goals and interests, in consultation with their mentors.

Cognate Courses:

In addition to MCDB courses, students take courses offered by other UM departments. This is a requirement of the Rackham Graduate School, which recognizes the value of intellectual breadth in graduate education that is provided in part by formal coursework in fields of inquiry that lie outside the boundaries of the student's field of study. Students are required to satisfactorily complete (with a grade of B- or better) a minimum of 4 credit hours of graduate-level work in a field or fields other than the student's field of specialization before being advanced to Candidacy (i.e. Human Genetics 541, Cell Biology 530, etc.). The PIBS 503 course described above is counted as a one-credit cognate course towards this requirement.

If a student has completed graduate coursework elsewhere that may be considered as a cognate course, he/she may request that the course be considered a cognate "in spirit." The MCDB Graduate Coordinator can provide further details as needed. A cognate in spirit may not be used to meet minimum credit hour requirements toward the doctorate.

Molecular, Cellular, and Developmental Biology

GENERAL TIMETABLE TO Ph.D. CONFERRAL

MILESTONE	NORMALLY COMPLETED BY:
Pre-candidate	
18 credit hours of course work	End of first academic year
Lab rotations – minimum of 2; additional rotations are possible	March 15 of the first academic year; May 30 if pursuing additional rotations
Select permanent lab and mentor	March 15 or May 30
Complete prelim exam – Checkpoint 1	End of first academic year – First week in May
Candidate	
Advance to candidacy	Beginning of second academic year
Form thesis committee	December 1st of second academic year
Hold first thesis committee meeting	Second semester, or summer of second academic year
Dissertation Evaluation – Checkpoint 2	
Hold subsequent thesis committee meetings	At least once each academic year; more often as determined by committee

This guide outlines important milestones toward completion of the Ph.D. degree.

Funding and Appointments

Students in the Molecular, Cellular, and Developmental Biology PhD program receive up to five years of financial support that includes tuition, a full stipend, and health and dental insurance. This financial support remains in place through the entire program as long as the student continues to make good progress toward the degree (including timely advancement to candidacy).

The main types of financial assistance for graduate students are:

- Fellowships
- Research funding: Graduate Student Research Assistantship (GSRA)
- Teaching: Graduate Student Instructorship (GSI)

Appointments Compared

Differences among Fellowship, Graduate Research Assistant, and Graduate Instructor Support

	Fellowship	GSRA	GSI
Status	Non-Employee	Employee	Employee
Timing of Pay	Student financial timeline	Last working day of the month	Last working day of the month
Taxes	None withheld - student is responsible	Withholding as an employee	Taken out as an employee
Insurance	Grad care	Grad care	Grad care
Reimbursement	Grad. Coordinator	Use Concur	Use Concur

Fellowships

Fellowships provide valuable additional support for some students. Some types of fellowships:

MCDB First Year Fellowships: These fellowships are offered to directly admitted students during their first year in the program (fall and winter terms only).

PIBS: Students admitted through the PIBS program are supported via a PIBS fellowship their first year.

Rackham Merit Fellowship: offers a special funding package to promote the values of diversity and inclusion by encouraging the admission and funding of students who represent a broad array of life experiences and perspectives. Graduate students do not apply for this fellowship but are nominated by faculty upon admission into the program. Only U.S. citizens and permanent residents are eligible for this award.

Research Funding

The availability of research funding varies between research groups. Some funding sources are given to very specific projects, while other research grants are much more flexible. Because of this and other factors, there is no strict rule for how much research funding students receive. Students are therefore encouraged to discuss funding expectations with prospective advisors.

Taxes

Other than direct payment funds of tuition, fees, and benefits, all income is subject to taxation and must be reported on federal and Michigan state tax forms, as well as any other forms according to your individual situation. This includes stipends, debit funds, and any other funding you receive from the University that is not considered a qualified scholarship.

Depending on the type of appointment you have, the university may or may not deduct taxes from your paycheck, but your stipend is always taxable. If taxes are not withheld from your paycheck, you still must pay taxes on that income. Note that while domestic students may not have taxes deducted, international students may. Learn about more quarterly estimated tax procedures. Please refer to Rackham Graduate School's Tax Information for Fellowship Recipients.

[<https://rackham.umich.edu/rackham-life/finances/#tax-information>]

Teaching

Each student is required to serve as a Graduate Student Instructor (Teaching Assistant) for two terms prior to receipt of a Ph.D. degree. Typically, students serve as a GSI for one term in year 2 and then another term after the second year. Graduate student instructors who are teaching for the first time are required to take MCDB 801-Supervised Teaching. Students who are awarded internal or external fellowships delay their teaching until they come off their fellowship.

Other Funding Opportunities

All graduate students in the department are highly encouraged to apply for other sources of support for which they are eligible. Graduate students should work closely with their faculty advisor to identify appropriate funding sources, and to prepare strong funding applications.

- Rackham Funding Information: <https://rackham.umich.edu/funding/>
- STEM & Medical Program Information from LSA Fellowship Office: <https://lsa.umich.edu/onsf/fellowships/stem-medical-programs.html>

First-Year Students: Academic Issues

COURSE REQUIREMENTS

The typical student will take the following sequence of courses. Any deviation from this course sequence must be approved by the Graduate Studies Committee in advance. It is expected that all students will maintain a 3.0 GPA, which is a “B” average, and will not receive less than a B- in any given course.

Year 1, Fall Term

- **MCDB 527 Molecular Biology:** This course is a graduate section of MCDB 427. This course teaches beginning Ph.D. students all aspects of molecular biology to establish the core foundational education in MCDB. It also emphasizes appropriate experimental design, strategies, and it aims to help students learn to effectively read and critically evaluate research papers. Topics in this course will be used during the Preliminary Checkpoint #1 exam at the end of the first year.
- **ONE** of the following cognate courses: Biological Chemistry 550 (Protein Structure), Cell and Developmental Biology 530 (Cell Biology), Human Genetics 541 (Gene Structure), or Neuroscience 611 (Neuropharmacology), 612 (Neural development), and/or 613 (Neurophysiology), (1 credit each) are examples of cognate courses. This serves to fulfill the 3 additional cognate credits needed to advance to candidacy.
- **MCDB 800:** Weekly Department Seminars. This one-hour seminar series includes speakers from other institutions and helps students broaden their understanding of MCDB research. Attendance is mandatory for all first-year students and highly recommended for second year students. An attendance sheet is kept to verify compliance and for grade assignment.
- ***Research Rotation:** Students will complete one (full) or two (half) research rotations in the Fall term*. Students are required to rotate in labs where the PI has an appointment in MCDB. Students cannot rotate in labs where the PI does not have an MCDB appointment. If students wish to rotate in labs outside of MCDB the student would need to change to a different graduate program.

Year 1, Winter Term

- **PIBS 503:** MCDB students and MCDB primary PIBS students will take PIBS 503, which covers issues in research ethics. PIBS 503 is a one-credit course and counts towards the requirement for four cognate credits.
- **Research Rotation:** Students will complete one (full) or two (half) rotations in the Winter term*. Students can select a permanent mentor on March 15, unless they choose to continue rotating, in which case the permanent lab could be selected at any time with a deadline of May 30.
- **MCDB 528 – Cell Biology:** This course is a graduate section of MCDB 428 and is a core component of the curriculum for MCDB students. It also emphasizes appropriate experimental design, strategies, and it aims to help students learn to effectively read and critically evaluate research papers. Topics in this course will be used during the Preliminary Checkpoint #1 exam at the end of the first year.
- **MCDB 600, cognates or other course:** It is recommended that students take a “journal club” style course to develop their critical thinking and primary literature evaluation skills.
- **MCDB 800:** Weekly Department Seminars. **Attendance is mandatory for all first-year students and highly recommended for second-year students.** An attendance sheet will be kept to verify compliance and for assigning grades.

** Rotation requirements waived for students admitted directly into a particular MCDB lab.*

ROTATIONS

At least two different rotations must be completed before selecting a permanent lab at the earliest date of March 15, 2021.

MCDB DEPARTMENT RETREAT

Each year, the Department holds a one-day research retreat designed to enhance interactions among the faculty, postdoctoral scientists, and graduate students. First-year graduate students are expected to attend this retreat to help them become familiar with the research and the personnel in the Department. Look for this event sometime in January 2021.

PRELIMINARY EXAMINATION (CHECKPOINT 1)

To demonstrate that students are qualified to proceed in the PhD program, first-year MCDB students are given a preliminary examination at the end of the Winter term. This examination is based on concepts and experimental design learned in MCDB 527 and MCDB 528. Students are also expected to be able to read and understand material in research papers, including the background and experimental methods. The preliminary exam is oral and will be administered primarily by members of the Graduate Studies Committee.

CANDIDACY

The Graduate Studies Committee of MCDB determines whether to recommend students for advancement to candidacy. This decision is based upon the performance of the students in the preliminary exam (Checkpoint 1), their individual research rotations, their course work, and their performance as a GSI, if applicable. The Graduate Studies Committee will file a report of its recommendations for discussion by the full faculty of MCDB. Said report will be forwarded to the Chair of the MCDB Department for final action, which would normally lead to candidate status being awarded, beginning in the Fall Term of the second year.

A Candidacy Certificate will be issued when it is determined that the student has completed all requirements for the doctorate except for the dissertation. In addition, the combined Department and Rackham requirements for Candidacy include:

- Submission of an official undergraduate transcript with the degree posted
- Satisfactory completion of any course deficiencies (prerequisites to program)
- Completion of all required graduate coursework (other than 995)
- Completion of at least 4 hours of cognate coursework with at least a B average
- A minimum GPA of 3.0 ("B" average)

INDIVIDUAL DEVELOPMENT PLAN (IDP)

To facilitate extensive and open communication between mentor faculty and students, first-year MCDB students will complete an Individual Development Plan (IDP). The IDP is intended to track student accomplishments, goals, and performance during the year, with direct feedback and input from mentor faculty. Students will initially complete the IDP form in late April of their first year in the MCDB doctoral program, together with their chosen research mentor. The IDP is intended to be updated and modified yearly, requiring input from both the student, mentor, and thesis committee. Completed IDP forms will be sent to the MCDB Graduate Coordinator and will be kept in confidence. IDPs must be updated yearly for students to remain in good academic standing and are to be completed by September 1st of each year.

First-Year Students: Financial Issues

STIPEND

First-year Ph.D. students are appointed to Department Fellowships. For this academic year (2020-2021), the stipend is \$33,720.00. The monthly stipend will be \$2,804.00. As Fellowship recipients, students are not considered to be employees of the University and therefore the pay dates will differ from University employees. For this academic year, the pay dates for Ph.D. students will be:

<u>2020</u>	<u>2021</u>	<u>2021</u>
9/28/20	1/18/21	5/17/21
10/26/20	2/16/21	6/14/21
11/23/20	3/22/21	7/12/21
12/11/20	4/19/21	8/9/21

As Fellowship recipients, Ph.D. students will **not** have income taxes withheld from their paychecks. This means that students will be responsible for paying these taxes when they file their annual income tax in April. To avoid additional fees, *students should plan to pay estimated taxes during the year*. Consult the University of Michigan Payroll Office website for information on taxation and estimated tax payments. Visit: <http://www.finance.umich.edu/finops/payroll/>. Information for international students is at: <http://www.finance.umich.edu/finops/payroll/foreign>.

DIRECT DEPOSIT

Most students opt to have their paycheck funds deposited directly into their bank account. Please see the payroll website to apply online for this direct deposit service.

HEALTH CARE

Enrollment forms for health care coverage are available online. Please see the University of Michigan Benefits Office website to provide/submit the necessary information as soon as possible.

OFF CAMPUS NOTICE

If you plan to leave campus for more than 48 hours during a work week, please notify the Graduate Studies Committee prior to your departure. This will provide us with your contact information in case of an emergency.

Second-Year Students

ACADEMIC ISSUES:

FALL TERM:

MCDB 615 = 3 credits

MCDB 995 = 8 credits

MCDB 800 or 801 = 1 credit

WINTER TERM:

MCDB 995 = 8 credits

MCDB 800 = 1 credit

MCDB 600 = 1 credit

*****Please note that you cannot take more than 12 credits a term *****

Course Requirement

MCDB 615: This course is offered in the Fall term and is intended for second-year students. MCDB 615 teaches students how to prepare research proposals and the appropriate design of experiments. A principal focus is to prepare students for their Dissertation Evaluation (Checkpoint 2), which they typically will take in the Winter term of their second year. Students are not allowed to have their advisor read or evaluate their MCDB 615 proposal.

Teaching

Each student is required to serve as a Graduate Student Instructor (Teaching Assistant) for two terms prior to receipt of a Ph.D. degree. Typically, students serve as a GSI for one term in year 2 and then another term after the 2nd year. MCDB 801-Supervised Teaching: Graduate student instructors who are teaching for the first time are required to take this course. Students who are awarded internal or external fellowships delay their teaching until they come off their fellowship.

Dissertation Evaluation (Checkpoint 2)

Second-year students, in consultation with their thesis mentor, will decide on the composition of their dissertation committee (consistent with Rackham requirements). The student will submit the dissertation committee membership form within three months after advancement to candidacy, **usually by the end of November of the second year.**

The first meeting of the student's dissertation committee will be a dissertation evaluation (Checkpoint 2), designed to assess the student's progress in the PhD program and determine whether they are qualified to proceed in the program. This meeting is to occur within 6-9 months after advancement to candidacy (typically, March-June of the second year).

Students are expected to prepare for the dissertation evaluation throughout years 1 and 2 by reading primary literature, discussing scientific issues with mentors/colleagues, engaging in appropriate coursework, and by performing relevant laboratory research.

In advance of the dissertation evaluation, the student will prepare and submit a dissertation proposal (R21 style) to the members of their dissertation committee. Immediately before the dissertation evaluation meeting, the student will present a public talk that describes the background, preliminary research findings, and major future aims of their proposed thesis project. At the dissertation evaluation, the committee members will examine the student's knowledge of the proposal topic and their ability to defend their central hypothesis and aims. Students who pass the Checkpoint 2 will receive approval from their dissertation committee to continue with their dissertation research.

Financial Issues

Second-year students are employees of the University and as such, the paydays will fall on the last working day of the month. Typically, second-year students teach and serve as graduate student instructors (GSIs) in the Fall semester and are GSRA (Graduate Student Research Assistants) in the Winter semester. It is important that second-year students teach in one semester of the second year.

Health Care

As a GSI or GSRA, students are eligible for health care coverage. You **must complete the appropriate forms** to choose a plan and initiate coverage. If you do not complete the forms, selection will default to no coverage. Contact the Graduate Coordinator with questions.



Students Beyond the Second Year

Annual Committee Meetings

Annual meetings of the thesis committee are mandatory for all doctoral students in their third year until the defense is completed. At the meeting, the committee chair and/or co-chairs must summarize the student's progress on the Dissertation Committee Meeting Form (obtained prior to the meeting from the Graduate Coordinator) and the student must sign the form indicating that he/she has reviewed their comments. The form must then be submitted to the Graduate Coordinator. The Dissertation Committee will be responsible for reporting to the Graduate Affairs Committee whether the student is making satisfactory progress toward completing the Ph.D.

Research Presentation

MCDB Doctoral students are required to make at least one oral presentation of their research (aside from the dissertation defense seminar) to a broad audience at some point during their time as a PhD student. This requirement is normally satisfied by a public talk given by the student immediately prior to their dissertation evaluation in Year 2, but it may also be satisfied by giving a research talk at a scientific conference, at the annual Departmental retreat, in a multi-lab research club, or another academic venue, but it cannot be satisfied by giving a lab meeting research seminar.

Travel to Scientific Meetings

The MCDB Program encourages students to participate in the discussion and dissemination of recent research findings through attendance at local, regional, and national scientific meetings. The MCDB Program provides a contribution of up to \$650 per academic year for second, third, fourth, and fifth year students for student travel to these meetings. Request forms for this money can be obtained from the Graduate Coordinator's office. Students must present a poster or research talk at the meeting and must request these funds prior to the meeting. Receipts are to be submitted through the CONCUR system within 15 days of returning from the meeting. In addition to the departmental money, students are strongly encouraged to apply for the Rackham Travel Awards and the Rackham Research Awards. More information on these will be found on the Rackham website.

Defense of Dissertation

Upon completion of research, students write a dissertation in accordance with the requirements of the Graduate School. Once the dissertation is read and approved by the committee members, the student must present an oral defense of the dissertation. It is a policy of the Graduate School that dissertations be published. The Dissertation Handbook is available from the Office of Academic Records and Dissertations in Rackham outlines guidelines for preparing and submitting the dissertation.

Seven-Year Limit

The general progress of individual students in graduate work is monitored annually by the Graduate Studies Committee. A student must complete all doctoral work within seven consecutive years from the date of first enrollment in the Rackham degree program.

Augmented Candidacy Enrollment ("Free Course")

Once you have achieved Candidacy, you may elect one "free" course per full term without paying additional tuition. This course may be elected with either a full term or a half term of MCDB 995 enrollment. For the spring/summer term, this means you may elect either one course for the spring half or summer half, or one course for the full spring/summer term. These "free" courses may be elected for credit or for a "visit." If you do not elect a "free" course during a term of MCDB 995 enrollment, you may "bank" the "free" course, then select two "free" courses during a subsequent term of MCDB 995 enrollment. A "banked" course must be used concurrently with a MCDB 995 enrollment, and only one course may be "banked" at any given time (i.e., no more than 2 "free" courses can be taken during any given term). Courses may not be elected in anticipation of future "banking" (i.e., you cannot elect two "free" courses in one term, planning to take none the following term). When you take a "banked" course, you will initially be assessed tuition for that course. This fee will be adjusted after the Registrar's Office reviews your record to ensure that you have met all the requirements for "banking" the free course. With the exception of a "banked" course, if you elect more than one course with MCDB 995 enrollment, you will be assessed the appropriate tuition per credit hour for that and any other course. As stipulated in the GEO contract, students with at least a .25 Graduate Student Instructor (GSI) or Graduate Student Staff Assistant (GSSA) appointment receive a full tuition waiver regardless of candidacy status and have no limitation on the number of courses taken in the term of appointment. The appointing department is responsible for the coverage of fees. Students with Graduate Student Research Assistant (GSRA) appointments should check with their appointing department/program about coverage of fees for any additional courses taken.



The Dissertation Committee

The Dissertation Committee is charged with the supervision of a Candidate's dissertation activities. It should guide and encourage the student in the design and execution of the research program and in the writing of the dissertation. Committee members must file evaluations of the dissertation and certify if the student has passed the oral examination and has produced a dissertation that is satisfactory in every way.

The student chooses a chair or co-chairs that will act as the primary director of the student's research. Together they choose other faculty who may be expected to supply a high degree of expertise in the special area of the dissertation, and whose appointment will satisfy the following requirements.

All Dissertation Committees must consist of at least four (4) members. At least two of the Committee members in addition to the chair must be regular members from the Department of Molecular, Cellular, and Developmental Biology. Overall, each Committee must have

1. a chair or two co-chairs;
2. an outside member who is a regular member of the Graduate Faculty in a Rackham doctoral program, who is familiar with the standards for doctoral research, and who, preferably, holds an appointment in a collateral or related field; and
3. a minimum of three regular members of the Rackham Graduate Faculty.

Memberships on Dissertation Committees are of two types, regular and special as described below.

Regular

Regular member of the graduate faculty: A regular member of the Rackham Graduate Faculty is any person holding an unmodified appointment at the University of Michigan as Professor, or Associate Professor, or Assistant Professor with an earned doctorate from an accredited institution. (This means Visiting Professors, Adjunct Professors, etc., cannot serve as regular members of a Dissertation Committee).

Instructors, lecturers, and primary research scientists who do not hold an appointment as a member of the regular faculty may serve on the Dissertation Committee provided that they possess an earned doctorate from an accredited institution. They may serve as co-chair if the other co-chair is a regular member of the graduate faculty who is affiliated with a Rackham doctoral program. However, they may not serve as a sole chair or as the outside member of the Committee, with the exception of some primary research staff.

Emeritus Professors may serve as co-chair of a Dissertation Committee; they may also serve as sole chair or cognate member by special arrangement. (The completed Dissertation Committee Form must be accompanied by a memorandum, signed by the faculty member's Chair and by the Dean of her/his school or college, requesting the appointment and affirming the professor's experience in teaching, advising, and dissertation committee service). They may not serve as the outside member of a Committee unless that appointment was made prior to retirement.

For detailed information on eligibility to serve on dissertation committees, see the online guidelines linked under "Navigating Your Degree" on the Rackham website.

<https://rackham.umich.edu/faculty-and-staff/dissertation-committees/guidelines-for-dissertation-committee-service/>

Outside Members: The outside member of a Dissertation Committee represents all other Rackham doctoral programs and as such must be a regular member of the Graduate Faculty. The presence of an outside member on a Committee provides an opportunity for the doctoral student to have the advantages of both diversity of outlook among his/her committee members and breadth of expertise.

In certain cases it may be possible to have faculty of the Department of Molecular, Cellular and Developmental Biology serve as an outside member of the Departmental Dissertation Committee. Such an appointment must be approved by Rackham and meet the following requirements:

He or she shall not be a primary affiliate of either the group in the Department with which the Chair of the Dissertation Committee is primarily affiliated or that in which the student qualifies.

The subject of the research interests and expertise of the outside member shall differ in one or both of the following ways from the dissertation topic of the graduate student for which the Dissertation Committee is appointed.

- in the biological kingdom with which it deals, (animals, protists, plants, etc.), and/or
- in the level of biological organization (e.g. molecular, organismic, population, etc.) with which it is concerned.

Special

University faculty and staff who do not fall into any of the classes cited above and qualified people from outside the University of Michigan whose service on a Dissertation Committee would contribute significantly may be nominated for *special* membership. (For further information, see the online "Guidelines" noted above).

The nomination of a person to serve on a specific Dissertation Committee is made on the Dissertation Committee Form.

The nominee's expertise in the dissertation topic must be detailed. A curriculum vita should be included if possible.

A Special Member need not be employed by the University of Michigan and need not hold an academic appointment.

No persons working toward a graduate degree may serve on a committee until all requirements for their degrees have been met.

Completing Your PhD

Helpful information, timelines, forms, and checklists are available on the Rackham website under "Navigating Your Degree." <https://rackham.umich.edu/navigating-your-degree>.



Dissertation Preparation

Dissertations will be expected to conform to the Rackham Graduate School guidelines. Rackham offers explicit directions for formatting the dissertation and abstract and other helpful information on the Rackham website (<https://rackham.umich.edu/navigating-your-degree/formatting-guidelines/>.) The Rackham Graduate School requires that every doctoral dissertation and abstract be published. Students will sign an agreement to this end to make the dissertation available in print and online. If desired, dissertations may be embargoed for a period of time. Please check the Rackham Dissertation resources at the URL above for guidelines

We do not seek to reproduce these guidelines here, but it is particularly important to bear in mind the following point regarding the inclusion of published work in the dissertation and copyright.

Use of Copyrighted Materials in Your Dissertation

Students are required to receive written permission from the copyright owner for any material used in the dissertation that falls outside the guidelines of “fair use,” and are responsible for full compliance with proper use of copyrighted material. Availability of materials on the internet does not change copyright status. Copyright law protects original works of authorship in any medium of expression and including: long quotations from pre-existing materials; reproduced publications even if you are the author of the original work; unpublished materials; poetry and music lyrics; dialogue from a play, screenplay, broadcast, or novel; music; graphic or pictorial works; computer software; and sources on the internet.

For information about copyrighted material, fair use, and help obtaining permissions, visit the University of Michigan Library copyright services:

<https://www.lib.umich.edu/research-and-scholarship/copyright-services>

Students should retain full documentation of every instance for which they have received permission to use copyrighted material.

Mentoring Procedures and Policies

The Department has implemented several practices and policies to promote effective mentoring of graduate students throughout the doctoral study period. As a group, graduate students will meet annually with the departmental Chair of Graduate Studies in cohort sessions. These cohort meetings provide an excellent opportunity to address important issues (timelines and goals for the academic year) relevant to each group of students. The cohort meetings will also be used to assist in the voluntary selection of graduate students for participation in Departmental committees.

These group mentoring sessions are augmented by extensive individual mentoring from your selected thesis advisor. The Individual Development Plan (IDP) is further intended to foster open and productive lines of communication between the mentor and student. Opportunities for annual feedback from your thesis committee are built into your doctoral studies through yearly thesis committee meetings, as well as through the IDP. Your most valuable and most frequent form of mentoring will occur individually between you and your thesis advisor. While we cannot suggest any single format or guide for this type of mentoring, we do offer the following suggested discussion topics to aid in this process. The mentoring topics presented on the following pages are intended strictly as samples to facilitate effective communication between you and your thesis mentor. The text provided below is in no way intended to constitute a rigid document or agreement, but rather a listing of relevant topics of discussion between student and mentor.

Possible Topics to Discuss/Plan Between Mentor and Student

(adapted from forms developed by the Institute for Health Policy Studies/Institute for Health and Aging Fellowship Program)

Below are some potential topics for discussion between the graduate student and the faculty mentor/research advisor to facilitate open communication regarding the structure of the working relationship during the student's tenure in the laboratory. We hope that these discussions can lead to an interactive and effective understanding between students and mentors.

- 1. Frequency of student/mentor one-on-one meetings.** For many students, it is beneficial to schedule regular meetings: *(for example, weekly on Wednesdays, or 1st and 3rd Thursdays, etc.)*
- 2. Frequency of student participation in group meetings (if relevant).** It may be useful to plan in advance the frequency with which students will participate in ongoing research or policy group meetings.
- 3. Identification of professional meeting(s) beneficial for the student.**
- 4. Tentative topics for papers on which the student will be an author:** *(discuss topics and likely order of student's authorship, e.g., first, second, etc.)*
- 5. Student's role on each project.** *(discuss his/her primary areas of responsibility, such as overseeing analyses, performing analyses, helping conceptualize study, working with technician to conduct analysis of particular research question, interviewing, drafting a manuscript, etc.)*
- 6. Other areas:** *(discuss other areas of the joint working relationship, including issues regarding the student's schedule, student absences, and any unusual arrangements regarding the provision of computer equipment, space, or other resources; etc.)*

Best Practices and Commitments for Graduate Students

(Modified from original documents by the Graduate Research, Education, and Training (GREAT) group of the AAMC)

Graduate Student Commitments

I acknowledge that I have the primary responsibility for the successful completion of my degree. I will be committed to my graduate education and will demonstrate this by my efforts in the classroom and in research settings. I will maintain a high level of professionalism, self-motivation, engagement, curiosity, and ethical standards.

I will meet regularly with my research advisor and provide him/her with updates on the progress and results of my activities and experiments.

I will work with my research advisor to develop a thesis/dissertation project. This will include establishing a timeline for each phase of my work. I will strive to meet the established deadlines.

I will work with my research advisor to select a thesis/dissertation committee. I will commit to meeting with this committee at least annually (or more frequently, according to program guidelines). I will be responsive to the advice of and constructive criticism from my committee.

I will be knowledgeable of the policies and requirements of my graduate program, graduate school, and institution. I will commit to meeting these requirements, including teaching responsibilities.

I will attend and participate in relevant group meetings and seminars that are part of my educational program.

I will comply with all institutional policies, including academic program milestones. I will comply with both the letter and spirit of all institutional research policies (e.g., safe laboratory practices and policies regarding animal-use and human-research) at my institution.

I will participate in my institution's Responsible Conduct of Research Training Program and practice those guidelines in conducting my thesis/dissertation research.

I will be a good research citizen. I will agree to take part in relevant shared research group responsibilities and will use research resources carefully and frugally. I will be attentive to issues of safety and courtesy, and will be respectful of, tolerant of, and work collegially with all research personnel.

I will discuss policies on work hours, sick leave, and vacation with my research advisor. I will consult with my advisor and notify any fellow research group members in advance of any planned absences.

I will discuss policies on authorship and attendance at professional meetings with my research advisor. I will work with my advisor to submit all relevant research results that are ready for publication in a timely manner.

Policies on Student Employment and Absences

Student Employment Outside the Program

MCDB follows the standard NIH policy that Ph.D. students may not be employed outside their training program. MCDB faculty believe that Ph.D. training is a full-time endeavor. Outside employment subtracts from the time and mental energy students are able to devote to their research. No student in the MCDB Program may be employed outside the Program without permission of both the mentor and the Graduate Studies Committee.

Vacation, Absences or Leaves

Participation in the MCDB Program, without regard to the source of financial support, is to be full time; that is 12 months per year. Participation includes regularly scheduled Program events and registration in the graduate school for relevant course work, directed research, and dissertation research. Other relevant activity such as detached study, or other off-campus course work or research may be taken with the approval of the Graduate Studies Committee (for pre-candidates) and the student's research mentor (for both pre-candidates and candidates). Any other activity is viewed as personal and may be undertaken subject to the following policy covering vacations and leaves.

VACATIONS

Graduate students are entitled to University-designated holidays. Additionally, subject to the discretion and explicit approval of the Graduate Studies Committee, first-year students may take up to two more weeks in the summer when they are supported by MCDB department funds. Prearranged total vacation time is **NOT TO EXCEED 4 weeks** per year, including all University breaks and approved vacations. First-year students must consult with the Chair of the GSC **before** making any travel arrangements. In particular, **DO NOT** purchase any travel tickets without prior consultation with the GSC Chair.

Once supported by their research mentor, students are allowed vacation time that includes University-designated holidays and up to two weeks of additional time. Prearranged total vacation time is **NOT TO EXCEED 4 weeks** per year, including all University breaks and mentor-approved vacations. The timing must be **discussed with the mentor prior** to making any travel arrangements. In particular, **DO NOT** purchase any travel tickets without prior consultation with your mentor.

If necessary and under unusual circumstances, it is possible to take total vacation time in excess of 4 weeks per year. However, this requires a written request and approval from the student's mentor and the Chair of the GSC. This may be granted without financial support.

LEAVES

(excerpted from *Rackham Policies: Leaves of Absence for PhD Students*)

<https://rackham.umich.edu/academic-policies/section2/#2-2-2>

See also: <https://rackham.umich.edu/navigating-your-degree/leave-of-absence/>

Events may occur that make it necessary for a student pursuing a PhD to interrupt his or her progress toward a degree. Since students in PhD programs are required to be continuously enrolled, they may ask for a temporary leave of absence when certain life events make impossible continued active participation in the degree program. A leave of absence enables a student to not register during a fall or winter term and remain in compliance with the continuous enrollment requirement. A leave will be granted to students for illness or injury, to provide care or assistance for family and dependents, to meet military service obligations, or for other personal reasons.

A student on a Rackham-approved leave of absence suspends progress toward the PhD degree for a minimum of one fall or winter term. No tuition and fees are charged for the period during which a student is on a leave of absence. A leave of absence may have implications for a student's federal financial aid and loans. Students should consult with the Office of Financial Aid to determine how a leave status might affect their aid and eligibility to defer loan repayment. Students on leave do not have the benefits of registered status, however, and may not use University facilities or services normally available to registered students, including the use of laboratories, equipment, and other research facilities. Students on leave may not use the services of faculty or administrative staff except for planning the transition back to registered status.

A student is strongly encouraged to discuss the impact of a leave on the plan of study with the chair or director of graduate studies and the faculty advisor and develop a strategy for completing the degree program. A student is strongly encouraged to talk with the chair or director of graduate studies and the faculty advisor about alternatives to a leave. It is important for faculty to have the opportunity to provide advice and counsel about how to manage the intersection of graduate education and personal situations. As an alternative arrangement, a student may remain enrolled but ask for a within-term accommodation that allows a temporary reduction in coursework, research, teaching or other educational responsibilities, or an extension of time allowed for achieving candidacy and completing the degree (sections [2.4](#), [2.5](#), [2.6](#)). Within-semester accommodations allow a student to maintain eligibility for student services.

Emergency situations may require a student to begin a leave of absence in the middle of a term. In these circumstances, students would withdraw their registration for that term and then immediately begin the approved leave of absence. Adjustments to tuition and fee charges are made according to the schedule set by the Registrar's Office. Emergency leaves do not reverse the charges set by this schedule.

US immigration regulations may restrict the eligibility of an international student for a leave of absence. International students considering a leave of absence must consult with the International Center, so that the Center can either inform the student that the proposed leave of absence is permissible under immigration regulations and can update the student's SEVIS record if needed, or, if the proposed leave is not permitted by immigration regulations, advise the student on other possible courses of action.

The following general policies apply:

1. Directors of graduate study review requests for leaves and forward recommendations to the Dean of the Graduate School or designee for review and approval.
2. A student must complete one term of study in the Ph.D. program before requesting a leave. A newly admitted student who has registered may seek an admissions deferral if the request and approval of the deferral occur before the end of the third week of classes in the initial term of registration. After the third week of the term, the student may withdraw and apply for reinstatement at a later term (sections 2.3, 2.2.4).
3. With the exception of a leave for military service or for personal reasons, a student may request a leave for up to two consecutive fall or winter terms, or 12 consecutive months, and may request an extension for up to an additional 12 months, or a maximum leave of 24 months.
4. Leaves of absence will not be approved for prior terms.
5. A leave of absence is not required for the spring/summer since students are in active status during these terms whether or not they enroll for courses.
6. Students on leave may finish work from previous terms, such as completing work for courses in which grades of incomplete have been assigned but may not complete other academic requirements such as taking exams for achieving candidacy.
7. A student returning from a leave must enroll for the next fall or winter term that follows the leave. A student at the end of a term of an approved leave who does not request a new leave or register for the next fall or winter term will be considered to have withdrawn and will be discontinued from the program at the end of the term that follows the leave.
8. A student on leave may ask to return Approval is subject to the recommendation of the graduate program and approval by the Dean of the Graduate School or designee.
9. The time limit for reaching candidacy or for completing the D. degree will be extended by the number of terms the student is on leave (sections 4.3, 4.4.1).
10. A student who has been suspended for academic or non-academic reasons is not eligible to apply for a leave of absence. A student on an approved leave of absence who subsequently is suspended will have the leave rescinded.

2.2.2.1 Leave of Absence for Medical Reasons:

A student will be granted a leave of absence for medical reasons for a serious physical or mental health condition that prevents continued participation in the program. Application for a leave requires a written recommendation from a health care provider. A student can request a leave for up to two consecutive fall or winter terms, or 12 consecutive months, and may request an extension for up to an additional 12 months, or a maximum leave of 24 months. The program may initiate a request for a leave for medical reasons if the student is incapacitated. The checklist and form to request a leave of absence for medical reasons is available on the Rackham website.

<http://www.rackham.umich.edu/policies/registration/leave-of-absence>

For some medical circumstances, students should consider whether a within-semester medical accommodation is more appropriate.

2.2.2.2 Leave of Absence for Family Necessity or Dependent Care

A student may be required to step away from study for a term or more to take care of an urgent family necessity or to provide dependent care. A student will be granted a leave of absence:

- to take care of a serious circumstance that directly affects a family member, such as a death, serious health condition, financial difficulty, or other critical life situation; or
- to provide care for a dependent incapable of self-care because of age or disability.

For family necessity, “family” is defined according to the University’s Standard Practice Guide (SPG 201.11) to include: the student’s spouse or domestic partner with whom the student shares living accommodations and expenses, and, without regard to their place of residence, the child, sibling, parent, grandparent or other related individual whose primary care is the responsibility of the student. For dependent care, a dependent is defined as: a biological, adopted or foster child, stepchild, or legal ward who is either under 18 years old; a family member (as defined above) older than 18 years and unable to provide self-care; or a spouse or domestic partner.

A student must explain the reasons why a leave is needed. A student can request a leave for up to two consecutive fall or winter terms, or 12 consecutive months, and may request an extension for up to an additional 12 months, or a maximum leave of 24 months. Students who have become parents through birth or adoption may remain enrolled, with the benefits of this status, but seek a Graduate Student Parental Accommodation within the term. The checklist and form to request a leave for family necessity or dependent care are available at Rackham’s website.

2.2.2.3 Leave of Absence for Military Service

A student will be granted a leave of absence for the duration of a military service obligation to their country of citizenship. The student must provide documentation confirming induction or authorization for active duty. The checklist and form to request a leave for military service are available at Rackham’s website.

2.2.2.4 Leave of Absence for Personal Reasons

After completing at least one full term, a student may request a one-term non-renewable leave of absence for personal reasons. A student should request this leave before the beginning of the term for which this leave is requested. A leave of absence for personal reasons may be taken only once during the graduate career, even if the student begins a leave in mid-term. A student considering a personal leave is encouraged to discuss other possible arrangements with the advisor and chair or director of graduate studies. Alternative strategies may help the student to continue in the program and to have the benefits of enrolled status. Checklist and form to request a leave of absence are available at Rackham’s website.

2.2.2.5 Services Available to Students on Leave

Insurance and Health Care

- may be eligible to purchase an extension of existing health insurance coverage at personal expense;
- are not eligible to begin enrollment in either GradCare or the Domestic Student Health Insurance Plan;
- can have access to the services of the University Health Service (UHS) at personal expense on a fee-for-service basis by purchasing the UHS Prepaid Plan, or through the provisions of any health insurance coverage the student may have.

Academic Services

- retain access to the University's libraries, including borrowing privileges and remote access;
- are not eligible for University-administered fellowships, grants, temporary student employment or any of the following appointments: Graduate Student Instructor, Graduate Student Research Assistant, or Graduate Student Staff Assistant;
- are not eligible for University grants or reimbursements for supplies, materials, travel or other expenses; student loans
- are not eligible to apply for new student loans intended to span the period of non-enrollment; should consult with the Office of Financial Aid for deferral and forbearance options of any outstanding student loans.

E-mail, Computing

- retain access to their University e-mail account, storage space in the IFS home directory, and to University websites that require authentication with a Login ID

Housing and Recreational Services

- may be able to retain their University Housing contract, depending on the duration of the leave and its intersection with the contract (students who live in University Housing should consult with the Housing Office to understand their options to continue or cancel their contracts)
- retain access to the International Center, and can have access to Recreational Sports with a continuing student pass at personal expense

Policy for Academic Progress, Unsatisfactory Academic Standing, and Dismissal from MCDB Doctoral Program

Satisfactory academic standing at the pre-candidate level

- 1) To maintain satisfactory standing at the pre-candidate level, students must maintain a cumulative GPA of a 3.0 (B) or higher. If a student's GPA falls below the 3.0, the student will be placed on academic probation and given one term to obtain good academic standing.
- 2) All pre-candidate students must be actively engaged in laboratory rotations beginning Sept 1 through March 15. If a student chooses a lab on March 15, they are no longer required to perform laboratory rotations. If a student does not choose a lab on March 15, the student must be in a laboratory rotation. If a student is unable to find a laboratory rotation for more than two consecutive weeks from Sept. 1 through March 15 of the first year, the student will be placed on academic probation.
- 3) All students must identify a mentor by June 30 of their first year, with most students selecting a lab by March 15. If a student is unable to identify a mentor by June 30, the student will be placed on academic probation. If a student is unable to find a research mentor by August 15, the student will be dismissed from the MCDB graduate program.
- 4) Pre-candidate students must pass checkpoint #1 exam in the spring of their first year. If a student fails the checkpoint #1 exam they will be placed on academic probation or be dismissed from the graduate program after review and evaluation by the MCDB faculty. Failure of the Checkpoint #1 exam will result from deficiencies in reading and understanding the primary scientific literature.

Satisfactory academic standing at the candidate level

Students are considered candidates after identifying a research mentor, after passing the checkpoint #1 exam, after maintaining a GPA at a 3.0 or higher and after review by the MCDB faculty. Below, are programmatic specific requirements to remain in good academic standing at the candidate level.

- 1) The student must pass the checkpoint #2 exam. If a student fails the checkpoint #2 exam, the student will be placed on academic probation or dismissed from the MCDB graduate program.
- 2) If removed from a lab, the student will be placed on academic probation. The student and the Associate Chair for Graduate studies will develop a timetable for identifying a new research mentor. The expected timetable should be no longer than one term. If the student is unable to identify a research mentor, within the specified timetable, the student will be dismissed from the Ph.D. program.
- 3) Students will be responsible for holding an annual thesis committee meeting. If a student is unable to hold their committee meeting within 12 months of their previous meeting, the student must submit a written request for an extension to the Associate Chair for Graduate Studies. The student must cite the reason behind the extension request and ask for an extended period. If approved, the extension will be granted for no more than three months. If a student fails to hold a committee meeting within the extended period, the student may be placed on academic probation after consultation with their mentor, and given one term to return to good academic standing.

- 4) The student must receive an “S” for “satisfactory” progress towards their degree in MCDB 995, as determined by their dissertation advisor. If a student receives a “U”, the student will be placed on academic probation and given one term to return to good academic standing.
- 5) The student’s progress at their annual committee meeting must be deemed as satisfactory by the thesis committee. If the thesis committee determines that the student’s progress is unsatisfactory the student will be asked to schedule another meeting within six months. If progress after the six-month meeting is deemed satisfactory the student will return to a schedule of annual committee meetings. If the student’s progress is still deemed unsatisfactory, the student will be placed on academic probation and given one term to have a committee meeting. After the meeting the dissertation committee will determine if the student will return to good standing, be dismissed from the MCDB program or receive an M.S. degree after returning to good academic standing in the MCDB M.S. program.

Options for re-taking qualifying or candidacy exams and the consequences for failure.

Students who fail the Checkpoint #1 or Checkpoint #2 exam will be placed on academic probation. The students will either be allowed to retake the exams or be dismissed from the graduate program. The result to dismiss would be a recommendation from the exam committee that would be reviewed and upheld by the graduate studies committee or the MCDB faculty in the case of Checkpoint #1. For students allowed to re-take Checkpoint 1 exam, the student will be given up to three months to re-take the exam (i.e. by August 10). If the committee or the MCDB faculty determine the student’s performance in the Checkpoint 1 exam was well below the expected standard, the student will be dismissed from the MCDB graduate program. For the Checkpoint #2 exam, it is expected that the student will re-take the Checkpoint #2 exam within three months. A student can submit a written request for an extension (maximally up to 12 months). All written requests will be sent to the Associate Chair for Graduate studies and evaluated by the MCDB Graduate Studies Committee. If a student fails the re-take of either Checkpoint #1 or Checkpoint #2 exam, the student will be dismissed from the MCDB doctoral program.

Placing a student on academic probation.

In accordance with Rackham policy (3.5.2.1), the thesis advisor, graduate chair or program director may recommend that a student be placed on academic probation. The decision to place a student on academic probation must be made by a group of at least three faculty members and should include one or more of the following members: the department chair (or chair’s designee), the graduate chair; the advisor; the graduate committee or another committee constituted of faculty.

Length of the probationary period

Students will be placed on academic probation for one term. In accordance with the Rackham policy (3.5.2.2), students will be notified in writing that they have been placed on probation and will be given benchmarks that must be met to return to good academic standing. At the end of the term, a student will either return to good academic standing, be dismissed from the MCDB doctoral program, or placed on probation for a second term. Students will be allowed at most two consecutive terms to return to good academic standing or be dismissed from the MCDB doctoral program.

In accordance with the Rackham policy (3.5.2.2) The probationary period may be no shorter than two months of the fall or winter term and ordinarily conclude at the end of that term. For a student placed on probation within two months of the end of the fall term, the probationary period will extend into the winter term for a total of at least two months. For a student placed on probation within two months of the end of the winter term, the probationary period may include the spring or summer half-terms or the following fall term, for a total of at least two months. A student may be placed on probation starting in the spring or summer half term for a minimum of two months and does not need to be enrolled during these half terms.

Procedures for notifying students placed on academic probation and options for appeal

In accordance with Rackham policy (3.5.2.3), the graduate chair must notify the student and Rackham OARD in writing before the probationary period begins, explaining the reasons and conditions of probation; the start and end dates of the probationary period; funding support; conditions, if any, for returning to satisfactory standing; and options for appeal. A student who has been placed on probation may request a leave of absence from Rackham or withdraw (*sections 2.3.2, 2.2.3*). The leave or withdrawal will stop the clock on the probationary period, which resumes when the student returns to active status or is reinstated. Probation will remain in effect until the conditions are remedied or the student is dismissed.

Funding a student on probation

In accordance with Rackham policy (3.5.2.4), the level of funding for a student prior to probation must be continued through the probationary period.

Option to appeal academic probation or dismissal

Students must be notified of options to appeal academic probation or dismissal. Students will have seven days to appeal the decision of being placed on probation or dismissal from the MCDB graduate program. The program should constitute a separate committee of review to consider appeals. Students may use the Graduate School's Academic Dispute Resolution process only for procedural issues of fair and equal treatment under the policy of the program, and not to appeal the academic reasons for the decision.

Students who fail to meet standards of academic or professional integrity or who have been found responsible for violations of other University standards of conduct may be dismissed in accordance with separate procedures described in Rackham Academic and Professional Integrity Policy (*section 11*).

Communication of procedures to all students

The procedures of this policy will be located in the graduate student handbook and made available to all MCDB doctoral students.