



Molecular, Cellular, and Developmental Biology



Graduate Student Handbook

Fall 2014

Orientation 2014-2015 Academic Year

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First Year Doctoral Students, Fall 2014

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Ireland, Stephen	scirelan@umich.edu	Wayne State University Michigan State University	B.A. B.S.
McKitterick, Amelia	amckitt@umich.edu	Vassar College University of Michigan	B.S. M.S.
Menke, Jacob	jaallyns@umich.edu	College of William and Mary University of N. Florida	B.A. B.S.
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Price, Janet	janetep@umich.edu	Central Michigan University	B.S./M.S.
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PIBS MCDB primary

Barth, Zachary	zbarth@umich.edu	College of New Jersey	B.S.
Krieger, Adam	agkrieg@umich.edu	University of Michigan	B.S.
Miller, Alyssa	ajanemil@umich.edu	Boston University	B.S.

Doctoral Students, Fall 2014

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Jin, Meiyang	jmeiyang@umich.edu	Klionsky
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Wang, Wenjia	wangwenj@umich.edu	Schiefelbein
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Yang, Bing	ypauling@umich.edu	Wittkopp
Yang, Jiyuan	jiyuany@umich.edu	Nielsen
Yao, Zepeng	zepenyaoy@umich.edu	Shafer
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Zhang, Chen	chenzh@umich.edu	Cadigan
Zhang, Qi	qzh@umich.edu	Shafer

Mentor Faculty

Name	Phone	Office	Uniqname	Research Area
Akaaboune Mohammed	647-8512	3129 Nat. Sci.	makaabou	Neurobiology development; synaptic plasticity
Aton, Sara	615-1576	3126 Nat. Sci.	saton	Systems neurobiology, nervous system plasticity, sleep neurobiology
Bardwell, Jim	764-8028	4003A Nat. Sci.	jbardwel	Protein folding
Buttitta, Laura	764-2802	3126 Nat. Sci.	buttitta	Cell cycle regulation in <i>Drosophila</i>
Cadigan, Ken	936-3246	3028D Nat. Sci.	cadigan	<i>Drosophila</i> development and signal transduction
Chang, Amy	647-7963	2116 Nat. Sci.	amychang	Yeast cell biology
Chapman, Matt	764-7592	2109 Nat. Sci.	chapmanm	Molecular physiology
Clark, Steve	647-4151	4124A Nat. Sci.	clarks	Development and signal transduction in <i>Arabidopsis</i>
Collins, Catherine	764-4363	3028B Nat. Sci.	collinca	Structural plasticity of neurons
Csankovszki, Gyorgyi	764-3412	3028A Nat. Sci.	gyorgyi	Dual roles of condensin complexes in <i>C. elegans</i>
Denver, Robert	936-6625	3065C Nat. Sci.	rdenver	Developmental neuroendocrinology
Duan, Cunming	763-4710	3065B Nat. Sci.	cduan	Molecular animal physiology
Dus, Monica		3065A Nat. Sci.	mdus	Response of the brain in regulating feeding behavior
Hume, Rich	764-2071	3095C Nat. Sci.	rhume	Molecular and developmental neurobiology
Jakob, Ursula	615-1286	4041B Nat. Sci.	ujakob	Biochemistry and molecular cell biology
Klionsky, Dan	615-6556	6036 LSI	klionsky	Protein targeting
Kumar, Anuj	647-8060	4071D Nat. Sci.	anujk	Functional genomics/proteomics in yeast and <i>C. albicans</i>
Kuwada, John	936-2842	3113A Nat. Sci.	kuwada	Molecular genetics of zebrafish neural development

Name	Phone	Office	Uniqname	Research Area
Li, Jianming	763-4253	4071C Nat. Sci.	jian	Molecular physiology of Arabidopsis
MacAlister, Cora		4071B Nat. Sci.		Flower development and pollen tube formation
Maddock, Janine	736-8068	4033C Nat. Sci.	maddock	Microbial development
Miller, Ann	764-9721	4063A Nat. Sci.	annlm	Cytokinesis regulation by Rho small GTPases
Nandakumar, J.K.	647-9152	4140D Nat. Sci.	jknanda	Telomerase assembly/function
Nielsen, Erik	936-2977	3103A Nat. Sci.	nielsene	Proper deposition of plant cell wall components
Olsen, Laura	763-0976	4103C Nat. Sci.	ljo	Peroxisome proteases, proteomics
Pichersky, Eran	936-3522	4103D Nat. Sci.	lelx	Plant molecular biology and evolution
Raymond, Pamela	647-0811	3003 Nat. Sci.	praymond	Retinal neurogenesis regulation of neural stem cells and regeneration
Schiefelbein, John	764-3580	4103B Nat. Sci.	schiefel	Molecular genetics of Arabidopsis development
Shafer, Orië	615-0610	3126 Nat. Sci.	oshafer	Neurobiology of circadian timekeeping & animal behavior
Seed, Kimberly		2109A Nat. Sci.	kdseed	Viral impact on the evolution and epidemiology of <i>Vibrio</i>
Simmons, Lyle	647-2016	3103A Nat. Sci.	lasimm	DNA repair, mutagenesis, and cell responses to DNA damage
Wang, Yanzhuang	936-2134	2127A Nat. Sci.	yzwang	Molecular organization of Golgi apparatus
Wierzbicki, Andrzej	647-6841	3103A Nat. Sci.	wierzbic	Mechanisms of ncRNA function in transcriptional gene silencing
Wittkopp, Patricia	763-1548	1061B Nat. Sci.	wittkopp	Evolution of development / gene regulation
Wong, Kwoon	936-9547	326 Kellogg	kwoon	Regulation of non-image forming visual responses
Xu, Haoxing	615-2845	3089 Nat. Sci.	haoxingx	Sensory neurobiology and integrative physiology

Graduate Academic Affairs

Academic affairs of the MCDB graduate program fall to two standing committees: the 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.

Rich Hume, *Professor, Chair*
Mohammed Akaaboune, *Professor*
Sara Aton, *Assistant Professor*
Amy Chang, *Associate Professor*
Catherine Collins, *Associate Professor*
Janine Maddock, *Professor*
Eran Pichersky, *Professor*

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.

John Schiefelbein, *Professor, Chair*
Lyle Simmons, *Associate Professor*
Ken Cadigan, *Professor*



Standards of Conduct

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

Information about these policies is contained in The Guide to Campus and Community for Graduate and Professional Students (“The Guide”). The Guide is online at: <https://www.rackham.umich.edu/current-students/life-at-michigan/guide>

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.

Fall 2014-Winter 2015 Academic Calendar—Ann Arbor Campus

Fall 2014 Academic Calendar:

<http://ro.umich.edu/calendar/fa14.php>

Winter 2015 Academic Calendar:

<http://ro.umich.edu/calendar/wn15.php>

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.

Registration takes place in Wolverine Access, 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).

Information about student registration may be found at:

<https://www.rackham.umich.edu/current-students/life-at-michigan/resources-for-graduate-students/registering-for-classes>

Before you register

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 **April 15th** of the student's first academic year. The earliest date that a rotating student can request a position in a given laboratory is **April 15th** of that student's first academic year.

Research:

Most students admitted through the MCDB Ph.D. program engage in two or more research rotations with MCDB faculty beginning in the fall semester of the first year in order to identify a research mentor and lab in which to pursue a dissertation. Research rotations are defined as 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). 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. Typically students perform one rotation per semester but are free to arrange rotations of other durations. [Note: Certain students ("direct admits") are admitted directly into an MCDB lab and are not required to conduct rotations.]

The rotation mentor 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.

As federally mandated, students will receive training in the responsible conduct of research during their first semester in the MCDB program, typically through PIBS 503 (or UC 415). This training encompasses a mixture of podcasts, online training, panel discussions, informal debates, and small group meetings. The course meets for two hours per week (12 hours total).

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. When rotations are performed in MCDB labs, a PIBS student should register for PIBS 600 and their rotation evaluations will be placed in the student's MCDB file.

Cognates:

The Graduate School recognizes the value of intellectual breadth in graduate education, provided in part by formal coursework in fields of inquiry that lie outside the boundaries of the student's field of study.

Therefore, students are required to satisfactorily complete (with a grade of C- 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 indicated above is counted as a one-credit cognate course towards this requirement. The elected course(s) must be approved by the student's advisor prior to registration, and students must receive either a letter grade or a "satisfactory" grade for the course.

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 Doctoral Program
GENERAL TIMETABLE TO Ph.D. CONFERRAL**

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

Milestone	To be completed by:
Pre-candidate	
18 credit hours of course work	End of second academic year
Lab rotations – minimum of 2; additional rotations are possible	April 15 th of the first academic year; May 30 th if pursuing additional rotations
Select permanent lab and mentor	May 30
Complete preliminary examination	End of second academic year
Candidate	
Advance to candidacy	Beginning of third academic year
Form thesis committee	October 1st of third academic year
Hold first thesis committee meeting	First or second semester of third academic year
Hold yearly thesis committee meetings	At least once each academic year; more often as determined by committee

First-Year Students, Academic

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.

PRE-CANDIDATE

Year 1, Term 1:

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 can be applied towards the requirement for four cognate credits discussed below.

MCDB 614: This 3-credit course introduces beginning Ph.D. students to model organisms widely used in molecular, cellular and developmental biology and to several powerful experimental approaches that can be used to study these organisms. The emphasis is on understanding the types of experiments for which each organism is particularly well suited.

ONE of the following four courses: Biological Chemistry 550 (Protein Structure), Cell and Developmental Biology 530 (Cell Biology), Human Genetics 541 (Gene Structure), and MCDB 610/Neuroscience 601 (Principles of Neuroscience I). This class serves to fulfill 3-4 cognate credits needed to advance to candidacy.

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.

Research Rotation: Students will complete one (full) or two (half) research rotations in the Fall term*.

Year 1, Term 2:

MCDB 615: This course will be a continuation of MCDB 614, with a principal focus being to prepare students for the Preliminary Examination. A student must receive a grade of a B- or higher in order to fulfill departmental requirements.

Research Rotation: Students will complete one (full) or two (half) rotations in the Winter term*. Students should select a permanent mentor by April 15, unless you are completing a Spring rotation, in which case your permanent lab should be selected by May 30.

Other Courses: Appropriate specialty courses decided upon by the student in consultation with the advisory faculty can be taken during any term other than Term 1 of the first year.

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.

* *Waived for students admitted directly into an MCDB lab.*

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 in order for students to remain in good academic standing.

Mandatory training in the prevention of sexual harassment:

The university provides a series of training sessions for the prevention of sexual harassment. These sessions are entitled “Managing Your Roles and Relationships in the Academy.” First-year students are required to attend one of the sessions.

For the Fall 2014, they are:

Tuesday, September 30, 2014 from 5:00-6:30 p.m.

Wednesday, October 8, 2014 from 5:00-6:30 p.m.

Thursday, October 30, 2014 from 5:00-6:30 p.m.

First-Year Students, Financial

STIPEND: First-year Ph.D. students are appointed to Department Fellowships. The stipend depends on the academic year. Please note that this is not paid in equal monthly payments. From September through April the monthly stipend will be one amount, whereas from May through August the monthly stipend will be another. As Fellowship recipients, students are not considered to be employees of the University and therefore the pay dates will differ from University employees.

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 return in April. To avoid additional fees, students should plan to pay estimated taxes during the year.

International students should visit payroll information for foreign students at:

<http://www.finance.umich.edu/finops/payroll/foreign> for further information on taxation and estimated tax payment. Domestic students should consult the University of Michigan Payroll Office website for information on taxation and estimated tax payment.

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

Teaching: Each student is required to serve as a Graduate Student Instructor (Teaching Assistant) for two semesters 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.

Preliminary Examination (2nd Year Evaluation):

To demonstrate that they are qualified to proceed in the Ph.D. program, second-year students are given a preliminary evaluation, administered by three MCDB faculty members (Prelim Committee). At the beginning of the second year, each student will submit to the GSC a form indicating their proposed area of research concentration, and a list of faculty they consider most appropriate to serve on their prelim committee. The student's prospective thesis mentor cannot be a member of the student's Prelim Committee. The student may also name one faculty member excluded from their Prelim Committee, and need not state a reason for this choice. These preferences will be held in confidence. The GSC will assign each student a Prelim Committee consisting of three faculty members. As a general rule, at least two of the members will possess expertise in the student's selected research area.

The preliminary examination will be administered during the Winter Term and consists of three parts: a written proposal, a research seminar, and an oral defense of the proposal. The exam will be based on the student's thesis project.

Written Prelim Exam (Winter term):

The document should be written in the form of a grant proposal (11pt Arial, double spaced, 1 inch margins) of no more than 20 pages, not including references. The proposal should clearly state the hypotheses, present an appropriate experimental plan, discuss possible outcomes, and explain how they will be interpreted. The proposals are due on the first Monday after the Mid-Winter break at 5pm. The members of the Prelim Committee will provide the students with written feedback prior to the scheduled seminar and oral exam.

Research Seminar

The research seminar is to be scheduled one week after receiving written feedback from the Prelim Committee. Each student presents a seminar to the Department including the Prelim Committee members. Students should prepare a general introduction and describe their research results and a brief description of future plans. Research seminars are typically 45 minutes to allow sufficient time for questions. Research seminars should contain no more than 1-3 slides (approximately 5 minutes) describing the methodology and expected outcomes of the proposed aims; this presentation should be reserved for the oral examination discussed below. Members of the Preliminary Exam committee will typically reserve the majority of their questions for the oral examination.

Oral Prelim Exam

The oral part of the preliminary exam takes place immediately after the question and answer session following the Research seminar. The student will provide a short summary of the rationale of the proposed experiments and respond to written feedback from the Prelim Committee. This is accompanied and followed by questions from the Prelim Committee.

Second-Year Students, Financial

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's (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. To acquire this, it is necessary to complete the appropriate paperwork to choose a plan and initiate coverage. If you do not complete the paperwork, selection will default to no coverage. If you have any questions, please contact the Graduate Coordinator.

Travel to Scientific Meetings:

The MCDB Program feels that it is important for graduate students to be aware of the latest findings in their respective fields of research. For that reason, the department provides \$500 to students in their **second** year and above to attend one major scientific meeting of their choice. Request forms for this travel money can be obtained from the Graduate Coordinator. 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.



Policies on student employment and absences

Student Employment Outside the Program:

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

Leaves: (excerpted from the Rackham Policies Handbook)

3.2.2 Leaves of Absence for PhD Students

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 3.4, 3.5, 3.6). Such 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 of the Rackham Graduate School apply to all leaves of absence.

1. Chairs or directors of graduate study review and forward all requests for leaves with recommendations to the Dean of the Rackham Graduate School for review and approval.
2. A leave of absence is not required for the spring/summer, since students maintain active status during these terms whether or not they are enrolled for courses.
3. A student may submit a request to the graduate chair or director of the program and the Rackham Graduate School to return to registered status within the approved leave period.
4. Leaves of absence will not be approved for prior terms.
5. A newly admitted student who has registered may seek an admissions deferral, rather than a leave of absence, if the request and approval occur before the end of the third week of classes in the initial term of registration.
6. Students returning from an approved leave must re-enroll for the next fall or winter term that follows the leave. Re- turning students who do not extend their leave or obtain a new leave, and do not register for the next fall or winter term, will be considered to have withdrawn and be discontinued from the program.
7. Students on leave may finish work from previous terms, such as completing unfinished work for prior courses in which grades of incomplete have been assigned, but may not complete other requirements for their degree (e.g., taking exams for achieving candidacy).

The time limit for reaching candidacy or for completing the PhD degree will be extended by the number of terms the student is on leave ([sections 5.1, 5.4.1](#)).

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 in the event that the student is incapacitated. The checklist and form to request a leave of absence for medical reasons is available on the Rackham website.

For some medical circumstances, students should consider whether a within-semester medical accommodation is more appropriate (section 3.4).

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 (section 3.5). The checklist and form to request a leave for family necessity or dependent care are available at Rackham's website.

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.

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. The checklist and form to request a leave of absence for personal reasons are available at Rackham's website.

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

Candidacy, Academic

Candidacy:

The Prelim Committee provides a written evaluation and recommendation to the Graduate Studies Committee (GSC). The Prelim Committee considers in their recommendation the student's performance in the research seminar and in the written and oral part of the Prelim Exam.

The GSC of MCDB determines whether or not to recommend the student for advancement to candidacy. This decision is based upon the performance of the student in the Prelim Exam, their individual research rotations, their course work, and their performance as GSI. It will also depend on satisfactory research progress in their mentor's laboratory. The GSC will also recommend whether students who did not pass the preliminary exam should be terminated from the program or permitted to re-take the exam. Students will be notified of the recommendation of the GSC, and may appeal the decision to the MCDB Executive Committee.

The GSC will file a report of its recommendations for discussion by the full faculty of MCDB. The faculty will discuss all recommendations for termination from the program and any appeals. The GSC recommendations and Executive Committee discussions will be forwarded to the Chair of the MCDB Department for final action.

Deviations from Policies and Procedures:

Any deviation to the Policies and Procedures must be requested in advance. A written request must be submitted to and reviewed by the GSC.

Dissertation Committee & Candidacy:

Candidate students MUST have a Dissertation Committee established by October 1 of the third year in the doctoral program. Rules governing its membership are described in the Rackham *Graduate Student Handbook*. A list of the committee members who have agreed to serve in this capacity should be submitted to the Graduate Coordinator. To nominate committee members from outside the university, the student must submit: (a) a memorandum from their program Chair describing the individual's qualifications for committee service and (b) a copy of the nominee's curriculum vitae to the Graduate Coordinator. Candidate students must have the date for their first committee meeting by December 1 of their third year. After this first thesis committee meeting, a student is expected to submit an abstract of the proposed thesis problem (about 500 words) along with the signed committee meeting sheet to the Graduate Coordinator.

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
- A minimum GPA of 3.0 ("B" average)

Dissertation Committee & Candidacy, continued: If all of these requirements have been met, the Graduate Coordinator will complete the necessary paperwork, get the Graduate Studies Committee Chair's approval, and forward it to Rackham. Any changes in the constitution of the Dissertation Committee must be reported to the Graduate Coordinator so that a form for revising a committee may be submitted to Rackham.

Annual Committee Meetings:

Annual meetings of the thesis committee are mandatory for all doctoral students in their third year and beyond. 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.

Travel to Scientific Meetings:

The MCDB Program encourages students to present their work at local, regional, and national scientific meetings. The Program provides a contribution of up to \$500 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. Funds must be requested prior to the meeting

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.

Candidacy, Academic

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 Function and Constitution of 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 include:

- 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 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 (i.e. Visiting Professors, Adjunct Professors, etc., cannot serve as regular members of a Dissertation Committee).

1. 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. For more information, see "Guidelines for Dissertation Committee Formation" at <http://www.rackham.umich.edu/current-students/dissertation/committees>
2. Emeritus Professors may serve as co-chair of a Dissertation Committee; they may also serve as sole chair or cognate member by special arrangement (i.e., the completed Dissertation Committee Form must be accompanied by a memorandum, signed by the faculty member's Chair and by the Dean of his/her 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 further information, see the *Graduate Student Handbook*, or the online "Guidelines."
3. 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 out- side 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:

- a. He or she shall not be a primary affiliate of either the group in the Department with which the Chairman of the Dissertation Committee is primarily affiliated or that in which the student qualifies.
- b. 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, protistans, plants, etc.), and/or
 - in the level of biological organization (e.g. molecular, organismic, population, etc.) with which it is concerned.

Special Membership:

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 *Graduate Student Handbook* or the online "Guidelines" noted above).

1. The nomination of a person to serve on a specific Dissertation Committee is made on the Dissertation Committee Form.
2. The nominee's expertise in the dissertation topic must be detailed. A curriculum vita should be included if possible.
3. A Special Member need not be employed by The University of Michigan and need not hold an academic appointment.

No person working toward a graduate degree may serve on a committee until all requirements for his or her degree have been met.

A great deal of helpful information and printable forms are available on the Rackham Graduate School website at www.rackham.umich.edu.

Dissertation Preparation

Prepared dissertations will be expected to conform to current guidelines established by the Rackham Graduate School. Rackham offers explicit formatting guidelines for the dissertation and abstract available from the Rackham Web site (<https://www.rackham.umich.edu/current-students/dissertation>); additional directions regarding the preparation and submission of the dissertation are provided in the Rackham Dissertation Handbook (available from the URL above). 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 Handbook 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. Per Rackham guidelines (from the Dissertation Handbook):

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 and fair use, see:
http://www.umi.com/assets/downloads/products/UMI_CopyrightGuide.pdf

University of Michigan Copyright Information is provided at:
<http://www.copyright.umich.edu>.

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

Master of Science Program in MCDB

MCDB's Master of Science Program is designed to be a customized and flexible pathway to the next stage of a student's career, such as medical school, a Ph.D. program, classroom teaching, a research position, or other biologically related vocation. As a member of MCDB's Master of Science Program students have access to a diverse and challenging array of courses, seminars, and laboratory research opportunities to prepare for a career in the biological or medical sciences.

Advising:

The Graduate Studies Committee (GSC) of MCDB is responsible for the development and administration of the Master of Science Program. This committee, along with the graduate program coordinator Mary Carr, is also responsible for advising master's students during their time in the program. It is important that students seek advice from the committee during all phases of their Master's career. The Graduate Studies Committee comprises Dr. John Schiefelbein (Chair), Dr. Lyle Simmons, and Dr. Ken Cadigan. All members of the committee are available for advising, but students are asked to first contact Mary Carr or Lyle Simmons for master's program advising. Students are responsible for scheduling an advising appointment once per semester.

For questions concerning the program, advice on the curriculum, or any concerns you may have please contact:

Mary Carr
Graduate Program Coordinator
1121A Nat. Sci.
carmm@umich.edu
(734) 615-1635

Lyle Simmons
Assistant Professor, MCDB
4140A Nat Sci.
lasimm@umich.edu
(734) 647-2174

Program Requirements:

Students must complete 24 credit hours of approved coursework, with a minimum of 16 credit hours coming from MCDB courses. A minimum of four credit hours must come from cognate courses, defined as courses offered by departments other than MCDB. For courses to count toward your required 24 hours, they must be at the 400 level or higher. Up to six credit hours of the required 24 can take the form of independent research (MCDB 700).

Master's students who lack required prerequisite courses below the 400 level may take these courses during their first two terms of enrollment, *but credit from these classes will not count toward the required 24 credit hours*. Students who lack prerequisites or are aware of curricular deficiencies are encouraged to address these issues as early as possible.

Students in the MCDB Master of Science Program must maintain an overall grade point average of 3.00, a "B" average.

The Horace H. Rackham School of Graduate Studies ultimately governs the requirements for the attainment of a master's degree at the University of Michigan. This includes policies concerning the transfer of credit from other institutions. Though the graduate studies committee will do its utmost to advise you on these policies, *it is your responsibility to be familiar with the current Rackham*

requirements. Rackham's master's requirements can be found on Rackham's website at:
<https://www.rackham.umich.edu/current-students/policies/masters-students>

Please consult Rackham's website frequently to ensure that you are aware of current policies.

Curriculum

The University of Michigan offers a variety of graduate-level courses taught by faculty who are leaders in their academic fields. We encourage you to explore the large number of course choices available on the Ann Arbor campus and to choose those that will best prepare you for your future plans in the biological or medical sciences.

A comprehensive guide to Rackham-approved courses can be found at:
https://secure.rackham.umich.edu/academic_information/programs/

Courses offered by the College of Literature, Sciences, and the Arts (LSA), including MCDB courses, can be found on LSA's online course guide:
<http://www.lsa.umich.edu/cg/>

MCDB 800 (MCDB Departmental Seminar) is a popular 1 credit MCDB course that can be taken every term. This course consists of a weekly research seminar that features visiting biologists discussing a wide range of biological questions.

Departments of the University of Michigan School of Medicine offer many relevant graduate level courses, which are excellent choices for cognate classes. Descriptions of these classes are available in the Program in Biomedical Science's (PIBS) curriculum guide (opens a PDF file):
<http://www.med.umich.edu/pibs/pdf/curriculum.pdf>

PIBS 503 (Research Responsibility and Ethics) is a popular 1 credit cognate course for master's students.

The School of Public Health offers courses in Biostatistics, Environmental Health, Epidemiology, Health Behavior, and Health Education that can fulfill cognate credits. A link to the School of Public Health's departments can be found here:
<http://www.sph.umich.edu/academics/>

Research

Though MCDB's Master of Biology Program is not thesis-based, students who plan to conduct research in the future or are otherwise interested in conducting laboratory research are encouraged to seek research opportunities in the laboratories of MCDB faculty. Up to six credit hours of the required 24 can take the form of independent research (MCDB 700). If you are interested in conducting research in an MCDB lab, please contact research faculty directly. MCDB faculty research interests with links to individual labs can be found here:
<http://www.lsa.umich.edu/mcdb/research/labs>

Standards of Conduct

Master's students are responsible for understanding and adhering to the academic and ethical standards of The University of Michigan. University policies pertaining to graduate student conduct are discussed in detail in Rackham's academic policies available online:
<https://www.rackham.umich.edu/current-students/policies/academic-policies/section10>

Financial Support

Though the MCDB master's program does not guarantee financial support, master's students are eligible for Graduate Student Instructor (GSI) and Graduate Student Research Assistant (GSRA) positions. Please note that students from MCDB's Ph.D. program are given first priority for these positions, and such positions may not be available to master's students. To inquire about GSI positions please contact Kimberly Pavuk (kimberlj@umich.edu) in the Biology Advising Office. GSRA positions must be arranged directly with MCDB research faculty.

School loans and work-study programs are available through the University of Michigan's Office of Financial Aid:

<http://www.finaid.umich.edu/Home.aspx>

Part-time positions are sometimes available at University of Michigan, though they vary in type and availability. Students interested in such positions should contact the student employment office:

https://www.studentemployment.umich.edu/cmxc_content.aspx?cpid=11

Departmental Retreat

The Department of MCDB gathers yearly for a retreat. This is an excellent opportunity to meet faculty and fellow students and to learn about the research being conducted in the department. Master's students are encouraged to attend this yearly event.

Mentoring Procedures and Policies

As a department, we have implemented several practices and policies to promote effective mentoring of graduate students throughout your doctoral studies. As a group, graduate students will meet annually with the departmental Chair of Graduate Studies in cohort sessions (with four cohorts in total: a First-Year Cohort, a Second-Year Cohort, a Third-Year Cohort, and a Senior Cohort). For example, the cohort of second year students will meet with the Graduate Studies Chair in the Fall, as will the cohort of third year students, and so on. 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 as Retreat Representatives and Cohort Representatives. The four Retreat Representatives will assist in organizing the annual departmental retreat; the four Cohort Representatives will assist in general departmental issues related to the graduate students as needed.

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. Obviously, 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)

Here 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 some students, it may be beneficial to meet regularly: (*e.g. weekly on Wednesday, 1st and 3rd Thursday of the month, as needed, but at least monthly*)
- 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. Determine 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. Determine the 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. Discuss other areas:

(discuss any other areas of understanding between the student and mentor regarding the joint working relationship during the student's tenure. This might include 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

(from Rackham, 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.