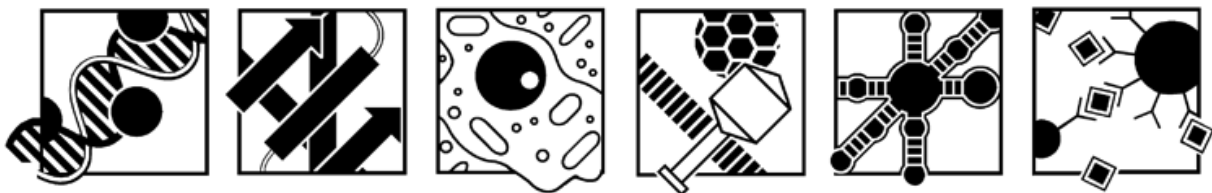


GRADUATE PROGRAM IN CELLULAR & MOLECULAR BIOLOGY

UNIVERSITY OF MICHIGAN

CMB STUDENT HANDBOOK

Last Updated November 27, 2024



GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

TABLE OF CONTENTS

| | |
|-------------------------------------------------------------------------------|----|
| CMB DIRECTORY | 3 |
| OVERVIEW OF PROGRAM MILESTONES AND REQUIREMENTS | 4 |
| Program Requirements | 5 |
| Program Timeline | 6 |
| GUIDELINES FOR MAJOR MILESTONES AND REQUIREMENTS | 9 |
| Lab Rotations | 10 |
| Joining CMB & Selecting a Dissertation Mentor | 11 |
| Fall Retreat and Spring Symposium, Required Annually | 12 |
| Retreat and Symposium Attendance and Make-Up Policy | 13 |
| CMB Prelim Exams | 14 |
| Advancement to Candidacy | 20 |
| Forming a Dissertation Committee | 21 |
| First Dissertation Committee Meeting | 22 |
| Subsequent Dissertation Committee Meetings | 23 |
| Teaching Requirement | 25 |
| Dissertation and Oral Defense | 27 |
| COURSES & ADVISING | 28 |
| Academic Advising | 29 |
| Course Selection and Registration | 30 |
| The CMB Student Seminar (CMBIOL 850) | 32 |
| The CMB Short Course (CMBIOL 630) | 34 |
| Research Course (Independent Study/CMBIOL 599/990/995) | 35 |
| Training in Ethical Issues in Science (RCR and R&R) | 36 |
| FUNDING | 39 |
| Funding During Ph.D. Training | 40 |
| Common Funding Opportunities and How to Apply | 41 |
| Method of Payment: Employment/Payroll vs. Financial Aid | 43 |
| Student Account Balances | 44 |
| STUDENT STATUS, VACATIONS & ABSENCES | 45 |
| Student Status, Registration and Tuition | 46 |
| Leaves of Absence and Parental Leave | 47 |
| Vacation and Employment | 48 |
| Academic Progress and Probation Policy | 49 |
| DEVELOPMENT, OUTREACH & INVOLVEMENT OPPORTUNITIES | 51 |
| CMB Student Committees | 52 |
| U of M Student Organizations | 54 |
| Professional Development | 55 |
| Community Building | 56 |
| DEI AND CONFLICT RESOLUTION | 57 |
| Mission and DEI Statement | 58 |
| Disability and Parental Accommodations | 59 |
| Conflict Resolution Policy | 60 |
| Mentor/Lab Change Policy | 62 |
| Discrimination and Harassment | 63 |
| Confidentiality and Reporting | 64 |
| APPENDICES | 65 |
| Appendix 1: CMB Program Timeline | 66 |
| Appendix 2: Sample Courses | 68 |
| Appendix 3: Sample Academic Plans Based on Interest | 71 |
| Appendix 4: Funding Cheat Sheet by Award Type | 75 |
| Appendix 5: Additional Resources for Students | 76 |
| Appendix 6: CMB Student Expectations Agreement | 80 |

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

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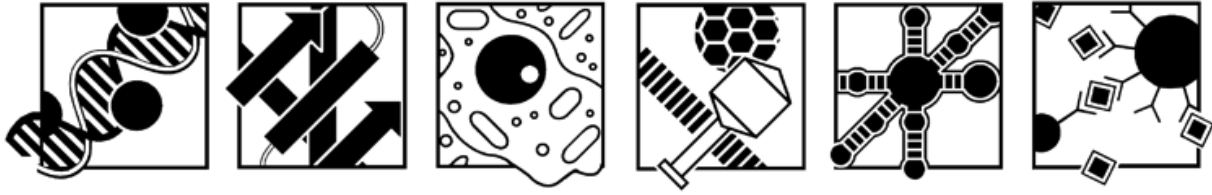
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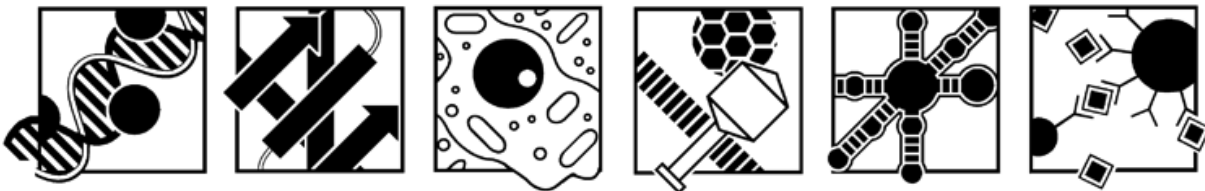
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OVERVIEW OF PROGRAM MILESTONES & REQUIREMENTS



GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

PROGRAM REQUIREMENTS

CMB is a university-wide, interdisciplinary Ph.D.-granting program that trains students to address problems from multiple perspectives through individualized programs of coursework and research.

PIBS students complete the following in their first year, before joining CMB:

- At least 3 [research rotations](#)
- [PIBS 503/Responsible Conduct of Research](#) (Fall)
- [PIBS 504/Rigor & Reproducibility](#) (Winter)
- Students should start taking coursework in the first year for the program they intend to join

CMB Pre-Candidate Requirements (*Required for advancement to Ph.D. candidacy*)

- CMB New Student Workshop Series – (starts in June the summer students join CMB; includes additional R&R training, plus information for new students throughout the 2nd/G1 year)
- [MORE Mentorship Training Program](#) (completed with PhD mentor upon joining lab)
- [Required Pre-Candidate Coursework](#) (see “Courses and Advising” section)
- [CMB 850 seminar presentation](#) in 2nd/G1 year
- Passing [preliminary exam](#) – oral/written – and [advancement to candidacy](#)

Other CMB Requirements

- CMB Courses
 - [CMB 850](#) (student seminar, **required weekly every Fall/Winter**), students present their research in 2nd/G1 and 4th/G3 years
 - [CMB 630](#) (short course, **required 4 times before defense**)
- [Teaching requirement](#) (1 semester)
- Minimum:** One first-author research manuscript submitted for publication to a peer-reviewed journal before scheduling the oral defense, in which the student has both written the bulk of the paper and contributed the majority of the data. **Recommended:** 3 first-author papers submitted.
- Participation in [CMB student committees](#) for 2 years or more
- Successful completion of [written dissertation and oral defense](#)
- Successful completion of all [Rackham degree requirements](#)

Ongoing or Annual

- Regular attendance at [CMB defenses](#) (at least 4 per academic year – Sept through Aug)
A list of defenses can be found either on the “Events” page of the website, or the [CMB Google Calendar](#)
- Regular [dissertation committee meetings](#) (2/year after becoming candidate)
- Attendance at annual [retreat and symposium](#) (including poster presentation)
- Completion of [ethics in research training](#) (Responsible Conduct of Research, integrated into Fall and Winter CMB 850 courses)
- [Annual IDP](#) – students create an Individual Development Plan (IDP) and update annually

Additional Expectations for CMB Students Before Graduation

- Presentation of student’s work in oral or poster form at a **minimum** of at least one national meeting (reminder: both CMB and Rackham offer financial support for this)

Visit Rackham’s [Navigating Your Degree](#) page for detailed information about Rackham requirements and processes. Additionally, a timeline is available on the [CMB Forms](#) page for students to track their milestone progress.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

PROGRAM TIMELINE

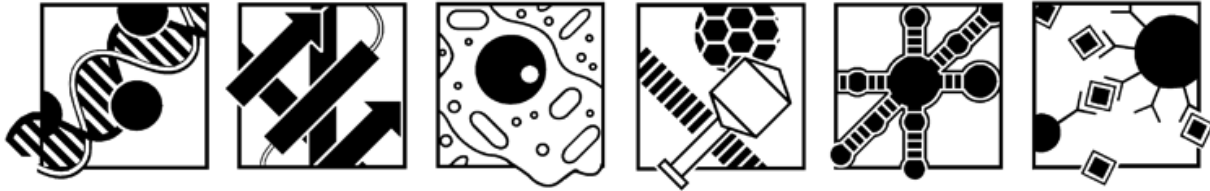
| Pre-Candidacy (2nd Year/G1 and Before) | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Pre-Clinical Coursework (MSTP only) OR PIBS Coursework</i> | M1 & M2/PIBS Year (Fall & Winter) PIBS 503 – Responsible Conduct of Research (Fall) PIBS 504 – Rigor & Reproducibility (Winter) PIBS/MSTP Core Coursework CMB core curriculum and electives CMB 850 student seminar |
| <i>Rotations (at least 3 – more possible)</i> | PIBS Year or G0 Rotation Year (MSTP) Starting summer or Sept of this year, until Spring after this year |
| <i>Selection of Dissertation Mentor</i> | By end of 1st Year (PIBS)/G0 (MSTP) – by April/May |
| <i>Pre-Candidacy Coursework</i> | 2nd Year/G1 MSTP New Student Workshop Series with R&R refresher training (starting summer before 2 nd /G1 year) CMB core curriculum and electives (finish by Fall before prelim) Pharm 502 – required Fall 2 nd /G1 Year CMB 850 – required each Fall/Winter Can start taking short course (CMBIOL 630) – 4 semesters required Pre-candidate research course (CMBIOL 599 – MSTP, or CMBIOL 990 – non-MSTP) <i>Student/PI submits grade and Semester Report for Fall and Winter</i> |
| <i>Presentation of first seminar for CMB 850</i> | 2nd Year/G1 MSTP (late Fall/early Winter, before prelim exam) |
| <i>Start attending CMB defenses (4/ year required)</i> | 2nd Year/G1 MSTP through graduation |
| <i>Attend MORE Mentorship Training w/ Mentor</i> | By end of 2nd/G1 Year |
| <i>Start attending Fall Retreat and present poster at Spring Symposium</i> | 2nd/G1 MSTP – October (retreat) and May (symposium) <i>(Required annually starting 2nd/G1 Year)</i> |
| <i>Prelim Exam (Written/Oral)</i> | Winter of 2nd Year/G1 MSTP (February) |
| <i>Start looking for GSIs</i> | March/April of 2nd/G1 year – for teaching in 3rd/G2 or 4th/G3 year |
| <i>Advancement to Candidacy & Assembly of Dissertation Committee</i> | Spring after 2nd Year/G1 MSTP <i>(Following passing oral and written prelim exam)</i> |

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

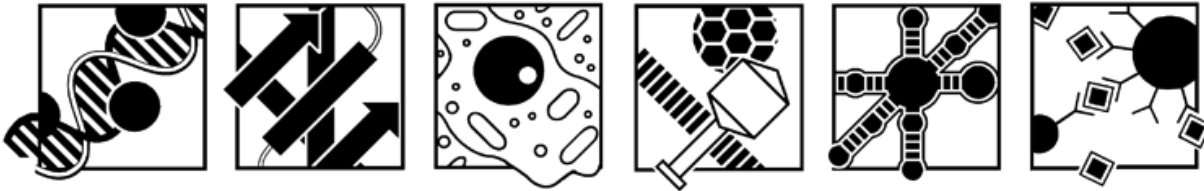
PROGRAM TIMELINE (continued)

| <u>Candidacy</u> (3rd/G2 year and later) | |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>First Dissertation Committee Meeting</i> | Summer after prelim, or Fall of 3rd/G2 year No later than Nov/6 months after advancing to candidacy <i>Submit Specific Aims to committee; committee completes meeting addendum and student submits with Semester Report</i> |
| <i>Subsequent Dissertation Committee Meetings</i> | Twice per year/every 6 months, until defense <i>Committee completes addendum at/directly after meeting; student submits with each Semester Report.</i> |
| <i>CMB Courses</i> | Required each Fall/Winter: CMBIOL 850 and CMBIOL 995 <i>Mentor submits Semester Reports each Fall/Winter for CMBIOL 995</i> Required Sp/Su of Defense: CMBIOL 995 Required 4 times before Defense: CMBIOL 630 (short course) |
| <i>CMB 850 Attendance & Presentation</i> | Attend weekly; present in 4th/G3 year |
| <i>Teaching (GSI)</i> | 1 term GSI required (typically in 3 rd /G2 or 4 th /G3 year) <i>All GSIs need to be approved by CMB <u>beforehand</u></i> |
| <i>Attend CMB defenses</i> | 4 per academic year (Sept – Aug) required until graduation |
| <i>Complete 4 Semesters of CMB 630 (Short Course)</i> | By Defense |
| <i>Submit at least one first-author publication</i> | By Defense <i>Submitted to a peer-reviewed journal, in which the student has both written the bulk of the paper and contributed the majority of the data</i> |
| <i>Attend Fall Retreat & Present at Spring Symposium</i> | Required Annually (October Retreat, May Symposium) |
| <i>Write and defend dissertation; complete Ph.D. requirements</i> | Target 5th/G4 year Inform CMB at least 2-3 months before defense |

For a blank “Program Timeline” form that can be used to track progress through these milestones, see Appendix 1.



GUIDELINES FOR MAJOR MILESTONES



GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

LABORATORY ROTATIONS

In PIBS or MSTP, each student participates in research by completing at least 3 laboratory rotations. Rotations must be completed prior to the selection of a dissertation mentor. The duration of one laboratory rotation is generally 4 or 8 weeks, and can include summer rotations prior to and after the first academic school year. PIBS students receive academic credit by enrolling in PIBS 600. Both PIBS and MSTP students should make rotation arrangements in consultation with specific rotation mentors.

Rotating with Non-CMB Faculty

Students interested in CMB must complete at least one rotation under the supervision of a CMB faculty member, or a faculty member who is willing to apply and be accepted to CMB, and subsequently, take on all faculty responsibilities associated with CMB membership. The appropriateness of rotations with faculty outside of CMB will be reviewed by the CMB Program Committee.

An associate director arranges rotation advisory committees for PIBS/MSTP students who are interested in CMB during the summer before CMB matriculation. These committees aim to provide names of additional faculty who may be of interest to a student and guidance in selecting rotation mentors.

Choosing a Rotation Mentor

Picking the right rotations is critical for finding a dissertation lab where the student will be successful. Before choosing a rotation lab, research faculty and meet to discuss expectations and research projects.

- Visit the [CMB website](#) under “People” and review faculty research and profiles
- Email a faculty member whose work interests you and schedule a time to chat
- Attend CMB retreats in the Fall, or CMB symposia in the Spring to meet and talk to new faculty
- Attend CMB 850 seminars and other research presentations through CMB events

Some questions students may want to ask before choosing a rotation lab:

- Is the lab currently taking new students? How many other students are interested in rotating and how many new students can the mentor accept into the lab?
- What does the mentor expect from rotation students? How much time do rotation students generally spend in the lab and how much data are students expected to produce?
- Which projects are available? Does the mentor expect the student to complete a project on a grant or do graduate students have more freedom to define their own research projects?
- How many people are in the lab and are other members of the lab experienced researchers? Do the members of the lab enjoy training students? Are lab members happy in the lab?
- How are lab meetings and meetings with the mentor structured? Is there a venue for supportive and open discussion of student’s work within the lab and with the mentor?
- Does the lab have sufficient funds to support a graduate student through the duration of the dissertation research? Where does the funding come from? Are students expected to apply for training grants or write grant proposals to secure their own funding?
- What is the mentor’s management style? Newer researchers are more likely to be in the lab and involved in training students on a day-to-day basis, while senior professors often have administrative and professional duties that keep them away from the lab some of the time.
- How long has it taken previous graduate students to complete their degrees?

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

JOINING CMB & SELECTING A DISSERTATION MENTOR

Lab Selection

Each student selects a dissertation mentor from the CMB faculty to guide his or her dissertation research. If they are interested in a lab where the faculty member is not a CMB member, the faculty member must be willing to apply to and be accepted to CMB, subsequently taking on all responsibilities that come with CMB membership.

As soon as possible after completion of laboratory rotations, the student should submit his/her choice of mentor to PIBS/MSTP and to the CMB program director. The selection of the dissertation mentor should generally occur by the end of the academic year (PIBS or G0 MSTP).

Change of Status/Joining CMB

Instructions are usually sent to student/mentor pairs in May to formally join CMB and apply for funding. The following will be required:

1. Student submits a [Change of Status form](#) to Rackham – with the program code 00111 for CMB
2. Both student and mentor submit emails declaring their intent to join CMB and applying for funding. Specific directions for this will be sent out in May.
3. CMB will set up a meeting for you to meet with the director around March/April and will ask you to submit your [profile form](#) to be added to the website.
4. MORE Mentorship Training is required by the end of the 2nd/G1 year for both the student and mentor (student submits confirmation that you are both attending one of the training sessions).

Funding

Dissertation mentors are required to financially support students during the entirety of their Ph.D. degree. Mentors should have funds available to support students, but should also encourage students to apply for their own funding.

PIBS students are funded through PIBS for 10 months. This means that students who started the July before their first year will start being funded by their mentor in May the following year. Students who started PIBS in September will be funded by PIBS through the following June, and start funding by their mentor that July. MSTP covers students' funding through June of their G1 year, and when students go back to medical school after defending their Ph.D.

CMB works with the mentor's department to facilitate the funding of each CMB student – but it is the responsibility of the student and mentor to inform CMB of any new awards and changes to funding. CMB typically needs at least a month (sometimes more) to implement a transition from one funding mechanism to another (e.g. university funds to sponsored funds, GSRA to training grant, etc.).

See “Appendix 4” for a chart explaining the types of awards and how they are paid differently, and differently affect things like taxes, benefit elections, pay dates, and more.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

JOINING CMB & SELECTING A DISSERTATION MENTOR (continued)

Registration and Matriculation

Matriculation to CMB typically happens just before the Fall semester. Once a student selects a lab, CMB research credits are elected each Fall/Winter term. Pre-candidate students register for CMB 990 (non-MSTP) or CMB 599 (MSTP). (CMB 995 is for candidates.)

Ongoing Requirements for the Student/Mentor Pair

The dissertation mentor submits a grade of “S” or “U” via Wolverine Access, and a “Semester Report” to the CMB office each term throughout the student’s training (for work done in the lab – CMBIOL 599/990/995). This report should first be discussed and signed by both mentor and student. It is then reviewed by the program directors.

After the student advances to candidacy, the mentor and student will be responsible for coordinating dissertation committee meetings every six months, and submitting dissertation committee reports within two weeks of each meeting.

Both forms can be found on the [CMB Forms](#) page of the website.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

FALL RETREAT & SPRING SYMPOSIUM

Every year, the CMB Fall Retreat (October) and Spring Symposium (May) bring together the whole CMB program from a breadth of research areas, and from 20-30 departments across campus. These events combine both scientific and community-building activities, and are critical to CMB's success as an interdisciplinary program.

Students are required to attend both events annually, and to present a poster at the Spring symposium. Retreat and symposium dates are often announced 6-12 months in advance. Faculty are also invited to both events, and they also participate in judging or presenting posters, giving talks, or other event activities.

Keynote Seminars

Both the retreat and symposium include a keynote talk by a guest speaker with a special topic area of expertise.

Fall Retreat – The Jessica Schwartz Lecture, is a keynote lecture given by a guest speaker who is chosen by the CMB Retreat Committee.

Spring Symposium – The Myron Levine Lecture, is a keynote lecture given by a guest speaker who is chosen by the CMB faculty directors.

Poster Abstract Guidelines

CMB will send out a “Call for Abstracts” in March or April, before the May symposium. Choose the best category from the Google Form that describes your poster. You will be asked to upload your abstract in a Microsoft Word file. It should include a title, authors, and departments for those authors.

Formatting: Times New Roman, 12-point font, 1-inch margins, 1 to 1.5 line spacing, no more than 1 page. The title, authors, and department references should be centered, and the abstract should be justified.

Poster Printing

The poster boards are 4' x 6', and usually CMB posters are 4' x 4' or 4' x 5' in size. If you have a full-size poster that you have presented in the last 6 months, you can use it. Please, no “micro-posters.” Check out the [Poster Printing](#) page of the CMB website for a list of printing locations.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

RETREAT & SYMPOSIUM ATTENDANCE & MAKE-UP POLICY

CMB students must annually attend the Fall Retreat and Spring Symposium, starting the year they join the program. These dates are announced 6-12 months in advance. If one is missed, a comparable amount of time will be required as a make-up in other CMB activities, up to a maximum of 8 hours per event.

No Make-Up Required:

- Student is attending a conference or required activities for their GSI (teaching) appointment, on the same date and cannot attend
- Students who are defending within 3 months of this event date are excused but are still welcome to attend and/or present.
- PIBS/MSTP students who have not joined CMB yet are not required, but are welcome to attend and/or present.

Make-Up Required:

- CMB students who do not, or cannot, attend either event, for any reason besides those listed above, or who do not stay the whole event, will be required to complete a make-up.
 - This includes life events (e.g. weddings), vacation, lab conflicts, etc.
 - Requests for exceptions, such as illness, will be considered on an individual basis, but generally students will be expected to contribute an equal amount of effort or service into other CMB activities (through the alternatives listed below).

Make-Up Options:

Each hour missed should be made up by attending one of the following (totaling up to 8 hours per event, regardless if the event occurs over one day or more than one):

- 1) Additional CMB defense (4/year already required per academic year – Sept - Aug)
- 2) Rehearsal for CMB 850 (and give feedback to presenter) – worth 2 hours of make-up
- 3) CMB 630 seminar if not currently taking the course
- 4) Miscellaneous CMB seminars/career panels/DEI sessions (those not already required)

If the entire retreat or symposium is missed, these options are also available instead of making up hours individually:

- 5) One additional semester of CMB 630 (4 already required)
- 6) Student serves one extra year committee membership (2 already expected)

Previous CMB activities would not count retroactively; but once the student knows they will miss, they can send CMB their plan to make up missed time, and start making it up even before the event.

Incomplete Make-Ups:

- *Students with absences that are not made up will receive an “Incomplete” in CMB 850 for the semester in which they missed the event.*
 - The “incomplete” will be converted to a “Satisfactory” grade once the make-up is complete, or “Unsatisfactory” if not made up within 12 months.
- Students who receive an “Unsatisfactory” grade for CMB 850 will be deemed not meeting program expectations, and subject to the program/university’s [Academic Probation Policy](#).

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CMB PRELIMINARY EXAMS

The CMB preliminary examination involves students writing an original research proposal (written component) and defending it before a committee of CMB faculty members (oral component). The written and oral components of the preliminary examination must each be passed before a student achieves candidacy for the Ph.D. degree.

What is being evaluated?

The preliminary exam (“prelim”) tests the student's ability to reason analytically and to develop ideas and experimental approaches. The exam gives the student an opportunity to demonstrate creativity, imagination and knowledge of one area of current research. The purpose of the prelim exam is to evaluate the student's ability to think and plan independently in a scientific manner, and to ascertain the student's background knowledge.

Timeline

The prelim is to be completed in the student's 2nd/G1 year. The specific timing/dates of the process will be announced in each academic year. Requests for extensions must be submitted in writing to the CMB Program Director. The entire process should take approximately 8 weeks. A general timeline is below.

| | |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oct/Nov | Student meets with Prelim Coordinator; student submits proposal topic in the form of a title and brief abstract (one paragraph) to Coordinator |
| Early Nov | Deadline for Coordinator to approve student's prelim proposal topic |
| Mid Nov | Draft of Specific Aims Page submitted to Prelim Coordinator; student submits names of 2 CMB faculty who have agreed to serve on the student's prelim committee and who will be present during exam period |
| Mid Nov | Coordinator identifies 2 additional CMB faculty who have agreed to serve on the student's prelim committee and who will be present during exam; Coordinator obtains agreement of one committee member to serve as chair. |
| Early Dec | Deadline for Coordinator to approve student's Specific Aims page. Coordinator submits approved Specific Aims page to the student's committee. |
| Early Dec | The student should receive feedback from the Committee on the Specific Aims from the Chair. At the Chair's discretion, the student may meet with Chair during this time to discuss Committee's feedback on specific aims. |
| Early Dec | Deadline for Committee to approve Specific Aims page; chair communicates approval to student and student begins writing proposal. If committee cannot approve Specific Aims page December deadline, a period (between Dec and Jan) is set aside for further revisions. |

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CMB PRELIMINARY EXAMS (continued)

| | |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1st Week Feb | Student submits full written proposal to committee |
| 1st Week Feb | Committee evaluates written proposal; If serious problems are found with the written proposal, this should be communicated to the student, the coordinator and the Director; the timing of the oral exam may be delayed. |
| February/March | Oral Prelim Exam Period. All oral exams should be scheduled during this interval unless the committee finds it necessary to delay the exam or there are unavoidable scheduling difficulties. |

Choosing a Topic

The specific project for the prelim proposal should be focused and mechanistic, involving the development of one or more hypothesis and should propose experimental approaches that will critically test the hypotheses. The project should be related to the mentor's research area and should be chosen in consultation with the mentor, unless a strong case for an independent proposal is made by the student and agreed to by the mentor and prelim coordinator.

The specific project can be based on the student's research, and should represent the *original ideas of the student* synthesized from interactions with the mentor. It is strongly advised, therefore, that from the time the student joins the mentor's lab, the student should be engaged in a) mastering the literature and methodologies relevant to the likely prelim project; and b) involved in intensive discussions with the mentor about the directions and aims of the student's dissertation research.

Approval of Topic

The student will meet with and discuss a proposed prelim topic with the prelim coordinator by first submitting a title and brief abstract. This abstract should include background information, information concerning how the project evolves from the previous studies (the rationale) and the hypothesis or hypotheses to be tested. It may include a brief overview of experimental approaches to be taken.

As a general guideline, the proposal is expected to be of sufficient quality to develop into a dissertation project, but it is not required that the Proposal develop into the student's dissertation project.

Submission of Specific Aims

Once the topic is approved, the student will write a draft of the Abstract/Specific Aims page for review by the prelim coordinator.

The student should develop the aims independent of the mentor. The aims should not be identical to the aims of any current or pending grant in the mentor's lab, although it is recognized that the aims may be similar to the mentor's aims.

Once the student has begun drafting the specific aims, the student should not discuss the content of the written prelim or planned oral presentation with the mentor until the oral exam is completed.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CMB PRELIMINARY EXAMS (continued)

The student may of course continue to talk to the mentor about ongoing research in the lab. The purpose of the exam is for the student to develop an independent proposal based on the experience of the student in the lab. The scope of the work proposed should be appropriate for a Ph.D. candidate to accomplish in 3-4 years with the goal of publishing at least 2 first-author papers based on the research.

Note: It is the policy of Pharm 502 that mentors be involved in evaluation of the written proposal the student develops in this course, a situation that is in some ways counter, in spirit, to the CMB prelim process. The program asks that mentors and students limit mentor involvement in development of the Pharm 502 proposal to light editing and commentary.

Format of Specific Aims Page

The Specific Aims Page should be in the format of an NIH research grant application and should consist of: (1) an abstract that provides key background information, establishes the question(s) to be addressed and the hypothesis/hypotheses posed to evaluate the question; and (2) the specific experimental aims that will provide critical tests of the hypothesis/hypotheses. The enumerated specific aims should include a concise statement of each aim followed by a description of the general experimental approach that will be used in pursuing that aim.”

This page will serve as the “Specific Aims” page as in an NIH research grant application and will become the first page of the prelim proposal. This page may be revised in response to comments by the committee and can be revised further as the student writes the full proposal.

Preliminary Examination Committee

- Student submits the names of two CMB faculty members who *have agreed to serve* on the examining committee at the time that the Specific Aims page is submitted.
- The student's dissertation advisor may not serve as a member of this committee, but can advise the student on selection of faculty for the committee.
- The Prelim Coordinator (one of the CMB directors) appoints two additional members and appoints one prelim committee member to serve as committee chair.

Scheduling the Oral Exam

Once the committee is completed, the coordinator will notify the student. As soon as possible, the student is responsible for arranging a day and time during the designated CMB prelim exam period (typically February) that all members of the committee can attend the oral exam. Email cmbgrad@umich.edu to inform CMB of your date/time for your file; and also to request make sure a room and audiovisual resources are available.

The student is responsible for seeing that each committee member receives a copy of the Specific Aims page. The committee members will review these Specific Aims to determine ultimate feasibility and acceptability of the outlined project. The Preliminary Exam Committee Chair will communicate to the student (YES or NO) within *ONE WEEK* whether the Specific Aims are appropriate. If the Specific Aims are deemed NOT appropriate, the Committee Chair will explain the problems with the proposed

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CMB PRELIMINARY EXAMS (continued)

project and the student will have one opportunity to revise and resubmit the Specific Aim page to the committee within one week.

Committee Roles

Prelim Coordinators (Director/Associate Directors) - helps the student form a Prelim Committee (including appointment of chair and adding 2 members to student's chosen faculty); ensures that the timeline of the Prelim exam is followed; approves prelim topic. Each student will be assigned to work with one of the Prelim Coordinators.

Prelim Committee Chair - represents the Prelim Committee and is responsible for giving feedback to the student on behalf of the committee; runs the oral exam; writes committee summary of outcome of the prelim exam; compiles evaluation feedback and sends to student. The student may meet with the Prelim Committee Chair to discuss/submit the Specific Aims page.

Prelim Committee Members - provide feedback to the chair on the specific aims and may request revisions; provide written evaluations of both the written and oral proposal; may request a delay in the oral exam if serious problems are found with the written proposal.

Note, the student's lab mentor(s) should have very little role in the prelim as it is a test of the student's abilities and not the faculty's. Mentors should avoid taking an active role in experimental design and proofreading the written proposal.

Written Proposal Guidelines and Format

The written proposal must contain background information and a brief summary of an original experimental approach to a scientific problem of current interest in cellular and molecular biology. ***The proposal should consist of 1 page of Specific Aims, and 6 pages of research strategy. This should be single-spaced, inclusive of figures, but exclusive of references.*** Fonts should not be smaller than Arial 11-point. The written proposal should use the NIH research grant format: i.e. one-page hypothesis and Specific Aims (see "Specific Aims" description above); significance and rationale, including pertinent background; and experimental design and methods, including justification of the approach taken, controls, interpretation of possible results, priority of experiments, limitations, and alternative approaches. A preliminary data section and timeline are not necessary but may be helpful.

The student is responsible for deciding independently on the problem and devising logical and convincing experimental approaches. When writing the proposal and preparing an oral presentation, students may ask peers and faculty for advice on execution of specific techniques or specific interpretation of published work. Faculty can suggest reading materials, but should avoid taking an active part in experimental design. Fellow students (but not faculty) can proofread (for spelling and grammar only) the proposal.

Students can look over copies of previous student proposals, which are kept by the CMB Administrator. It is recommended that the written proposal be hand-delivered to each member of the committee in addition to providing an electronic copy. A copy should also be submitted to the CMB office.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CMB PRELIMINARY EXAMS (continued)

When in doubt about appropriate boundaries of advice from others, the student is expected to consult with the Prelim Chair or Coordinator.

The student should not approach Prelim Committee members to seek advice on the written proposal prior to the oral exam, but it is recommended that students meet with Prelim Committee members in order to introduce themselves.

The Prelim Committee chair may contact the student if the committee identifies major flaws in the proposal. Requirements to revise the proposal may result in a delay in the oral exam.

Oral Exam

Format of the Oral Exam:

- Prior to the meeting, the committee will provide the chair with written comments on the proposal
- To start, the student will be asked to leave for a few minutes while the committee has a chance to discuss their evaluations of the written proposal and how they wish to organize the examination.
- The student will give a 20-30-minute presentation with PowerPoint slides, of which they may provide the Committee members a printed copy. The presentation should begin with the hypothesis, specific aims, and significance. However, the emphasis in the presentation should be on the experimental approaches to be taken to address the hypothesis.
- The members of the committee may wait until the presentation is over, or may ask questions as points are presented. At the end of the presentation committee members will then ask questions for the remainder of the examination. The total time for the exam should be about 2 hours.

What is tested?

The oral exam tests the student's ability to reason analytically and to develop ideas and defend them in front of other scientists. Thus, the emphasis is on hypothesis testing and experimental design. The student should have broad knowledge of the foundational literature of the field and should be familiar with the key past experiments performed that led to the hypothesis, and the important basic concepts.

(i.e. if studying a membrane receptor, the student must know aspects of that receptor binding, whether the cell type is appropriate for studying that receptor, whether antibodies or cDNAs have been made to that receptor).

Students should be familiar enough with techniques to understand theoretical basis, and appropriateness and limitations in addressing the hypothesis being tested. Consulting methods papers, such as those in *Methods in Enzymology* or *Methods in Cell Biology*, is recommended to ensure that the student thoroughly understands the details, strengths and weaknesses of experimental procedures that are central to the proposal. Detailed knowledge of things like buffer ingredients and incubation times is less important, unless they are vital to the interpretation of results.

(E.g. if proposing PCR, one should know how PCR works, whether the starting materials are available, whether PCR is the best approach, and the limitations of using PCR. One does not need to know the

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CMB PRELIMINARY EXAMS (continued)

exact ions needed for the PCR reaction to take place, nor the incubation time of the step. In contrast, if one were studying ion channels, one would be expected to know the ion concentrations in the buffers to be used to measure ion transport.)

Furthermore, the curriculum for all CMB students is based on a solid foundation in biochemistry, genetics and cell biology, and students should demonstrate a breadth of knowledge in these areas if

relevant coursework had been completed. The committee will discuss whether the student has displayed sufficient depth and breadth of scientific knowledge, insight into experimental design, and ability to think critically, analytically and quantitatively, to predict a high likelihood of success in pursuit of a Ph.D. dissertation.

Don't Forget to Practice!

It is highly recommended that the student hold at least one practice exam with students or postdocs who have relevant expertise. The participants should question the student in a realistic fashion.

Evaluation and Outcomes:

The written and oral exams will be evaluated separately by the committee. A student will either receive a pass, a conditional pass or a fail on each component (written and oral) and the committee will also decide on an overall grade.

- Unconditional Pass: No further action is necessary.
- Conditional Pass: Remediation as requested by the committee. Instructions for remediation should be communicated orally to the student by the chair immediately after the exam and also in writing not later than a week after the exam. These instructions should be communicated to the CMB Director and Prelim Coordinator as well.
- Failure: The Committee Chair will discuss the situation with the CMB Director and the student and a plan for retaking the exam will be formulated. This plan will be discussed with the student and the mentor. The student will have up to six months to prepare for retaking the exam. The length of time allotted reflects the fact that students who fail the exam usually need to fill in substantial gaps in their preparation.

The committee members will provide the Chair with written comments on the oral exam not later than ***one day after the exam***. The chair will use the evaluations of the written and oral exam and write a summary evaluation of both parts of the exam and the committee's discussion. This summary should include separate overall grades for the written and oral that have been agreed upon by the committee, as well as the overall grade. The chair should submit the evaluations and summary to the Prelim Coordinator, the CMB Director and the CMB office (cmbgrad@umich.edu) ***within one week of the exam***. The CMB Director will forward the evaluations to the student and the student's mentor.

The report and outcome of the Preliminary Exam represent a recommendation to the CMB Program Committee concerning advancement to candidacy for the Ph.D.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

ADVANCEMENT TO CANDIDACY

Program Committee Approval

The final approval as to whether the student is advanced to candidacy will be made by the faculty members of the CMB Program Committee, and will incorporate the totality of the student's record, including academic record, lab progress, prelim evaluations, and rotation and dissertation work.

Factors considered in determining a student's eligibility for advancement to candidacy include: a) academic record meets Rackham requirements (average of B or better); b) required core coursework (biochem, cell biology, genetics, quantitative requirement, and Pharm 502) has been accomplished with grades of B or better; and c) laboratory progress is satisfactory based on completion of rotations and satisfactory reports from the mentor.

The student's dissertation mentor is asked to write a detailed evaluation of the student's performance in conjunction with the review for advancement to candidacy. If clarification is needed, the student's dissertation mentor or prelim committee chair may be asked to attend the Program Committee meeting when the student's performance is discussed. If deficiencies are identified, the Program Committee will recommend procedures for correcting the deficiencies to bring the student to eligible status.

Advancement to Candidacy

Once the Program Committee decides to advance the student to candidacy, the CMB Office will process the candidacy with Rackham (typically in the Spring). Students must register for Fall and Winter terms after advancing to candidacy. Additional requirements can be found on Rackham's Doctoral Degrees policy page (<https://rackham.umich.edu/academic-policies/section4/>).

Registration

Once students achieve candidacy, they must register for CMBIOL 995 as their research course each Fall and Winter. They will continue to register for CMBIOL 850 each semester unless they are registering "unofficially" with the CMB program so they can take other courses.

Rackham has a limit on how many courses/credits candidates can take, so this helps to avoid being charged extra tuition at the end of the academic year. Click here for the [Rackham policy](#) on taking extra courses as a candidate.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

FORMING A DISSERTATION COMMITTEE

Timeline:

- The student should start forming the committee within **one month** after passing the prelim exam
- The student should compile their materials to be approved by the Program Committee **by July**
- The student should hold their first meeting with the committee **no later than November** of their 3rd/G2 year. The committee does not have to be formally approved for them to start meeting.

Purpose of Committee

- Monitors quality, efficiency and significance of the research,
- Helps keep the research timeline efficient and on track to minimize the time to degree
- Encourages peer-reviewed publication of research findings
- Provides advice on career paths

Requirements of Committee Membership:

- Rackham Graduate School has certain [requirements for dissertation committee service](#)
 - Committee should include 4 members at a minimum – ideally 5 (6+ is tricky to schedule)
 - 4 members must be graduate faculty; a 5th can be a “special” member
- In addition to Rackham requirements, CMB has the following requirements:
 - Dissertation mentor chairs the committee
 - At least 3 members of the committee, including the chair, must be CMB faculty

Approval of Committee:

Students should submit:

- The names and email addresses of proposed dissertation committee members
- An abstract of the proposed project for approval by the CMB Program Committee
The abstract should be one page, following the format of the Specific Aims page of an NIH research grant, including the following: Background, Specific Aims and Significance of the questions to be addressed.

Changes in the composition of the committee membership at later times may be advisable and will be permitted if approved by the CMB Program Committee.

Areas to be Assessed by the Committee:

- Feasibility of the proposed project/aims
- Quality of the experimental design and results
- Progress on aims
- Focus of the research
- Level of student's effort and productivity
- Quality of the student's writing
- Quality of the student's oral presentation skills
- Progress towards independence
- Progress to publication
- When the student should be expected to begin writing the dissertation
- Ways in which the mentor could facilitate the student's research and professional development

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

FIRST DISSERTATION COMMITTEE MEETING

Scheduling

The first meeting should occur no later than November of the 3rd/G2 year, unless exceptional circumstances pertain, with approval of the Director.

Written Proposal and Oral Presentation

At this meeting the student is expected to present their Specific Aims to the committee, for their dissertation research. This proposal may borrow from the student's preliminary exam proposal, if appropriate, but should be prepared in consultation with the dissertation mentor.

The written and oral presentation should include a hypothetical timeline. In the oral presentation, preliminary data may be presented, but the focus of the first meeting should be on articulating a well thought-out research plan and on getting constructive feedback from the committee.

Submission Timeline

Before the Meeting – submit Specific Aims at least 3 days in advance to committee members

At the Meeting - The student will provide the committee members with a copy of the PowerPoint presentation of the Specific Aims at the meeting.

After the Meeting – The student will send CMB a copy of the final Specific Aims (modified from prelims to show actual dissertation work that will be done), within 2 weeks of the meeting. Additionally, at each meeting, the committee should work on filling out the Dissertation Committee Meeting Addendum of the Semester Report on page 3 of the “candidate” form. This addendum requires the mentor to collect input from the committee, and should be signed by both the mentor and student. It should be saved and submitted at the end of the semester with the student's Fall or Winter Semester report.

For subsequent meetings, students should include a progress report in lieu of the Specific Aims (discussed further below). Dissertation committee meeting forms can be found on the [CMB Forms](#) page.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

SUBSEQUENT DISSERTATION MEETINGS

Scheduling

Must be scheduled every 6 months/twice per year – the student and mentor are responsible for scheduling these meetings, and for telling the CMB office the date and time it will be held.

Keep track of meeting *dates and times*, as the program will request these twice per year.

If meetings are not getting scheduled, the CMB office may automatically schedule the next meeting (same day of the week and same time) 6 months later, and add calendar requests to your committee members' calendars. If there are conflicts, it is the responsibility of the student and committee to reschedule, ideally ± 2 weeks from the given date.

Lack of progress is not an excuse to delay meeting; rather, it is a compelling reason to have one.

A student who has not had a committee meeting within a 9-month period will be considered 'not in good standing'.

The mentor of such a student will not be permitted to accept additional CMB students until this situation is rectified. In special circumstances, a waiver of this rule may be granted by the Director of the CMB Program upon receiving a clear explanation for the delay.

Submission Timeline

Before Meeting:

Submit Progress Report to Committee

The student and mentor should discuss the content of the dissertation committee meeting prior to the meeting and the student should provide committee members with a brief written **Progress Report** (1-2 pages) at least 3 days prior to the meeting. The Progress Report should include a brief restatement of the aims, a summary of progress, a discussion of problems encountered and a plan for future work. The plan for future work should be organized in terms of 6-month research goals and longer-term goals. The Progress Report should include a list of the student's publications and abstracts for national/international meetings attended; manuscripts planned, submitted and in preparation should be indicated

Submit Manuscripts to Committee for Review

Manuscripts accepted for publication should be provided electronically to committee, but students may provide drafts if they would like to have comments from the faculty.

Bring Dissertation Committee Meeting Addendum

The dissertation committee meeting addendum is page 3 of the student's Semester Report form, which can be found on the [CMB Forms](#) page.

Prepare PowerPoint for meeting

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

SUBSEQUENT DISSERTATION MEETINGS (continued)

During Meeting:

Provide PowerPoint to Committee Members

Don't forget to discuss your career goals, and get advice from the committee (this is a chance for you to get guidance to move your research and career planning forward)

Ask your committee to schedule the next meeting (while you are all together, you might as well – faculty as you know are very hard to schedule!)

Ask your chair to step out of the room at the end of the meeting so you can talk freely with the rest of your committee (this is a CMB policy) – or ask another committee member to remind the group

Ensure the committee fills out the Dissertation Committee Meeting Addendum

This addendum should be filled out by the committee at the student's meeting and saved to be submitted with the Semester Report for Fall or Winter. The meeting addendum may be reviewed by a director and/or the Program Committee along with the Semester Report.

Format of Meetings:

There is no fixed length for a meeting but in most cases meetings will be 2 hours in length.

- ***Research Progress***
Oral presentation should focus on progress on the specific aims, problems encountered, plans for publication and future research plans – the latter organized in terms of immediate and long-term goals. If results indicate that aims need to be modified or discarded, this should be discussed and new aims may be proposed or recommended.
- ***Career Development***
During the 4th/G3 year and later, time should be reserved at the end for discussion of career goals. The student should include a slide or two in the presentation on this topic.
- ***Candidate Timeline:***
Student should present a formal timeline for completion of the dissertation research, including realistic estimates for research aims. They should also use the Candidate Timeline document (found on the [CMB Forms](#) page) to track their progress in program requirements as well as expectations such as writing research papers for publication and presenting research at meetings.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

TEACHING REQUIREMENT

Requirement for CMB

CMB students are required to teach as a graduate student instructor (GSI) for one term, and submit a teaching evaluation form (see [CMB Forms](#)) from the supervising instructor at the end of the semester.

Students can teach both undergraduate and graduate courses in a various of areas across campus, but *must have the course approved by CMB before accepting the appointment.*

Timeline for Teaching

CMB requests that students *start searching for a teaching position at least 2 semesters in advance.* There are plenty of opportunities available, but they often fill up quickly and can be competitive, so it's important students start looking in their 2nd year (or G1 MSTP) – ideally to do their teaching in the 3rd/G2 or 4th/G3 year.

Students on F31s/F30s or Training Grants

These types of appointments require that you teach no more than 10 hours per week (limits you to GSIs of 25% effort or less). If you are planning to apply for these, it is ideal to do your teaching before this if possible, to keep your teaching options open. Reminder – GSIs also provide funding for the semester.

Finding a Position

Where to Look:

- Apply to the LSA Biology department [HERE](#)
- CDB 530 is a common GSI (several positions at 25% effort, email cdb-info@umich.edu)
- Search the course catalog for future courses, and *contact instructors directly*
- Search careers.umich.edu for open GSI positions (or other job titles similar to GSIs)
- CMB keeps a list of prior GSI positions held and contact information (see “[Program Guide](#)” on the website).
- Contact your mentor’s department for potential open positions, or instructors for courses you have taken (they sometimes require or prefer students who have already taken the course)

Tips for Applying:

- Some departments prioritize their own students – if an admin tells you CMB students are not eligible, try contacting individual instructors instead. They are more knowledgeable about their own course and who they are willing to accept. Often, they only require someone who is enthusiastic about the subject matter, or someone who has taken the course previously
- Don’t forget to tell them if you are on an F31 or training grant, as this limits you to a 25% effort appointment (10 hours/week)
- DO apply for several opportunities. DO NOT decline another offer until you are appointed to a position. Sometimes departments have opportunities that are dependent on approval or budget to hire you. If this falls through, it’s good to have another option.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

TEACHING REQUIREMENT (continued)

Accepting a Teaching Position

Once a teaching position is arranged, the student should submit to the CMB office the following *before* formally accepting the position:

- Course number
- Department appointing the student
- Percent effort of the appointment (e.g. 25% or 10 hours/week)
- Name of course director/supervising instructor

Students must let CMB know this information a minimum of 1-2 months before the intended start date. This gives CMB time to coordinate the student's other funding with a teaching appointment. Note, students should be paid for teaching, per the Graduate Employee Organization (GEO) contract.

The student should *not* accept a position until they have confirmed with CMB that the GSI works with their current funding. For example – students on F31s/training grants cannot take a GSI position at 50% effort (which applies to many GSI positions) – see the section above about this on the previous page.

Expectations of GSIs

At a minimum, students are expected to attend lectures, prepare material to present in a formal class context (review session or lecture), and to participate in student evaluation (exams). The teaching requirement must be fulfilled prior to completion of the degree.

Institutional teaching awards recognize excellence in teaching, indicating the value placed on learning these skills.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

DISSERTATION & ORAL DEFENSE

It is expected that by the end of the 5th/G4 year in the program, students will be ready to propose a dissertation defense date. It is recognized that the timing of research varies and that students will have different timelines. Beyond the fifth year, it is recommended that students schedule dissertation committee meetings more frequently (e.g. every three months) to facilitate research progress toward timely completion of the dissertation and defense.

The Dissertation

Upon approval by the dissertation committee, the student will write a scholarly dissertation, formatted according to the [guidelines of the Rackham Graduate School](#). Published manuscripts are often included as chapters in the dissertation, with appropriate attributions (and recognition of contributions of others).

In addition, a scholarly introduction and discussion are included to provide an integrated dissertation. The discussion is expected to be more than a restatement of the results of the dissertation studies. A scholarly discussion includes the important implications of the work, how it expands the field, and the critical future directions for the research area. CMB recommends that students consult the [Dissertation Handbook](#) provided by the Rackham Graduate School, as they are writing and defending their theses.

The Oral Defense

The dissertation research is defended at a public seminar followed by a meeting with the dissertation committee. The student should tell the CMB office when they have scheduled a defense date and time, a minimum of 2-3 months before the scheduled oral defense.

Registration at Time of Defense

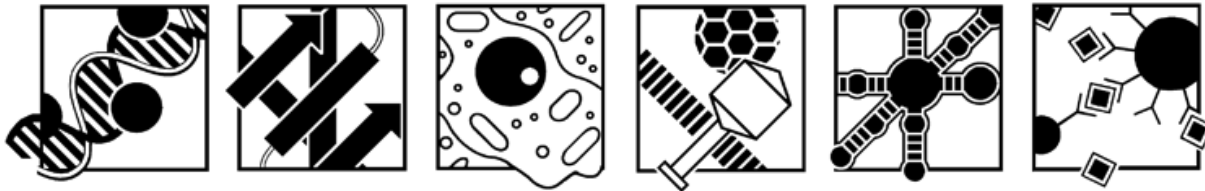
Students must be registered for CMBIOL 995 the semester in which the dissertation is defended. This includes the Spring/Summer semester. By registering, the student incurs Spring/Summer tuition, which the mentor should budget for, for summer defenses, unless the student is able to meet all Rackham requirements by the Winter grace period deadline. Students who are defending do not need to register for CMB 850 in their final semester, but will be expected to attend the seminars until 3 months before their scheduled defense date.

Timeline and Deadlines

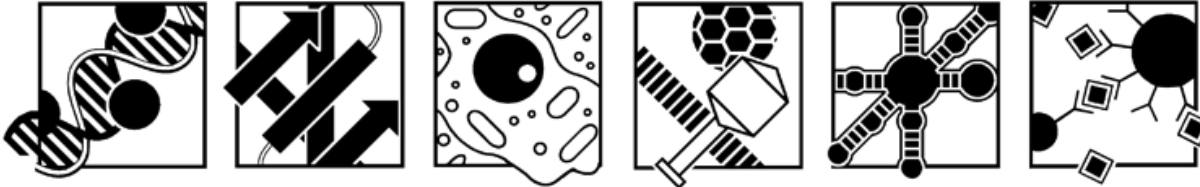
The [Navigating Your Degree](#) page on the Rackham website should be consulted for detailed instructions regarding the Ph.D. dissertation, defense, and finishing Rackham degree requirements. Two particularly helpful pages are: [Dissertation Timeline](#), and [Doctoral Degree Deadlines](#).

Graduating and Leaving U of M

Students should visit the [Commencement website](#) for information about graduation ceremonies; and also realize that their access to resources may change upon finishing their degree requirements. More info about this is available [here](#). Lastly, talk to CMB to confirm when your stipend and benefits will come to an end, and to wrap up any final information CMB may need from you before you leave the program.



COURSES & ADVISING



GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

ACADEMIC ADVISING

PIBS, CMB and MSTP/CMB students can meet with an academic advisor at any time – they should contact the CMB Office to be scheduled for a time with their respective advisor. Students can also request to meet with another CMB student if they are interested in receiving advisement from a peer/student perspective.

Academic advising occurs as follows:

STUDENTS

PIBS and MSTP students interested in CMB

2nd Year/G1

3rd Year/G2 – 5th Year/G4

6th Year/G5+

ACADEMIC ADVISOR

CMB Director

CMB Director

CMB Associate Directors*

CMB Director

*Contact CMB Office to find out which Associate Director is assigned to your cohort, as ADs follow an assigned cohort class for three years.

PIBS/MSTP students interested in CMB meet with the CMB Director for information about CMB, rotations and coursework, to facilitate the transition to the CMB program.

Each pre-candidate CMB student meets individually with the CMB Director twice a year, before Fall and Winter terms, to discuss course work, lab rotations, student seminars, prelim preparations and performance.

CMB students who have achieved candidacy meet individually with their assigned advisor at least once each year. Advisors review each student's academic record, Semester Reports/Dissertation Committee Meeting Reports, and progress through the candidate timeline.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

COURSE SELECTION AND REGISTRATION

Credits to Take

Pre-Candidates must take a minimum of 9 credits to be a full-time student. We recommend 12 credits, and do not recommend any more than 12-15 per semester.

Candidates must take a minimum of 8 credits to be considered full-time (generally we require 9; 8 credits of research and 1 credit of CMB 850). Candidates should reference the [Candidate Course Registration policy](#) if they plan to take additional courses as they could be assessed additional tuition (generally over 12 credits/1 course).

Registration

Generally, the university requires the student to initially register for classes by the day before the term starts. Additionally, there is a drop/add deadline a few weeks later by which the student must drop/add courses, or else receive a “W” for “Withdrew,” or be required to submit an approval form signed by their program.

CMB Course Requirements at a Glance:

(Discussed in Detail Below)

1. Core Curriculum (3 courses PIBS/1 course MSTP)
2. Electives (6 Credits)
3. Quantitative Training (2-3 Credits – can be “core” or “elective”)
4. Grant Writing (Pharm 502 Required in 2nd/G1 Year)
5. Ethics Training (RCR and R&R Required Every 4 Years)
6. CMB Courses (CMB 850 required every semester; CMB 630 required 4 times)

1. CORE CURRICULUM

CMB-PIBS students are required to take 1 course in each of 3 areas:

- a. Biochemistry
- b. Cell Biology
- c. Genetics

MSTP students receive credit hours for medical school and required MSTP coursework. This includes training in biochemistry and cell biology that satisfies CMB requirements in these areas.

CMB-MSTP students are required to take one course in genetics.

The specific courses elected to fulfill these requirements should be based on student’s prior educational background. See “Appendix 2” for specific courses based on the following proficiency levels:

- **Level 1.** No background/coursework in the basic area. An introductory class is recommended; in some cases, this may be an upper-level undergraduate course (400-500 level).
- **Level 2.** Some background in the basic coursework area, but not sufficient for Ph.D. training. A mid-level survey course is recommended (500 level – corresponding to PIBS “core” courses).
- **Level 3.** Graduate-level background has been achieved by the student, such as graduate-level courses or a Bachelor’s degree in the area. Courses based on primary literature are recommended.

Students should discuss previous coursework with advisors to determine the appropriate level for each area. It is helpful to provide recent transcripts and syllabi when requesting a more advanced level. Additionally, students should discuss with the mentor whether they should strengthen background in areas critical for their success..

Students are required to earn a grade of B or better in core course work and an overall average of B (3.0 GPA) or better in all coursework.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

COURSE SELECTION (continued)

2. ELECTIVES

CMB students are required to take 6 additional elective credits.

It is recommended that the electives be selected to complement the student's research interests and needs. Course offerings change frequently, so students should check the [PIBS Curriculum Guide](#) for the most recent listings. View Appendix 3 for some sample plans based on different interest areas.

3. QUANTITATIVE TRAINING

CMB students are required to take 2-3 credit hours of coursework that provides quantitative training.

This requirement can be met by taking, either as an elective or as a CMB core course, in any one of the four general areas indicated in Appendix 2, or any other course approved by the CMB Director.

4. GRANT WRITING

CMB students are required to take Pharmacology 502 (FA term/2 credits) in their 2nd/G1 year. They will need a course permission from Pharmacology before they are able to register for the course.

5. ETHICS TRAINING

Responsible Conduct of Research (RCR/PIBS 503) (1 credit) – Offered each year. To be taken in PIBS in first year. Refresher training is required every 4 years (CMB includes it in CMB 850 seminars)

Rigor & Reproducibility (R&R/PIBS 504) (1 credit – offered each year). Required for new students.

Refresher Workshops – New 2nd year/G1 students are required to take R&R training in the CMB New Student Workshop Series offered starting in the summer before their 2nd/G1 year. RCR topics are covered each Fall/Winter in CMB 850.

6. CMB COURSES

CMBIOL 850 (Student Seminar/1 credit) – required weekly starting in 2nd/G1 year.

Students will be required to present a seminar in their 2nd/G1 year, and their 4th/G3 years.

3rd/G2-year students will serve as evaluators and facilitate seminars and rehearsals, alongside selected faculty evaluators.

More info about CMBIOL 850 is detailed in the next section.

CMBIOL 630 (Short Course/Adv. Topics in Molecular Biology - 1 credit) – required at least 4 times

Each Fall term, the “short course” is planned and facilitated by the student-run CMB Short Course Committee. Each Winter, the Genetics Training Program (GTP) students plan and facilitate the course. The course is a mini-series of seminars and discussions on a special topic of current interest to students, presented by leaders in the field, who are invited over several weeks.

More info about CMBIOL 630 is detailed in a section coming up.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

THE CMB STUDENT SEMINAR **Special Topics in Seminars (CMBIOL 850)** *Fall/Winter (1 credit each semester)*

The CMB 850 course is a series of student seminars presented every Monday at noon, and is attended by both students and faculty. Discussion and criticism of the research by the audience is encouraged.

Registration and Attendance

CMB students are required to enroll every Fall and Winter for 1 credit, although they may request to enroll “unofficially” if they are taking other courses that preclude the ability to take more credits. Attendance is required weekly from CMB students. Students should SIGN IN (and out, if using a QR code), every week, to get credit for attending.

CMB students are allowed 2 absences with no questions asked, per semester, to include most reasons for missing (e.g. illness, lab conflicts, conferences, etc.). Additional will be approved/denied on a case-by-case basis by the course directors and should be requested more than 48 hours in advance. See the CMB 850 attendance and make-up policy in Canvas for more specific details.

Students who have a scheduled defense date within 3 months are excused from attending. Students in their 6th year/G5 year+are expected to attend at least 5 seminars per semester, including the intro seminar/required RCR training, and 4 student seminars.

Student Requirements in 2nd/G1 – 4th/G2 Year

CMB students will be assigned a week to present a seminar in their 2nd/G1 year (20 minutes with 5 minutes for questions), and in their 4th/G3 year (40 minutes, with 10 minutes for questions). A 3rd-year/G2 and assigned faculty member serve as *evaluators* on assigned weeks. *Student presenters* should work with their mentors to prepare a talk.

Roles and Responsibilities

Audience (faculty, students, etc.) – all attendees should sign in and prepare to ask questions at the Q&A. All students are expected to submit a presenter evaluation. Physical copies are available at the back of the room, or they can submit a [Google Form version](#) later as well.

Presenter – should prepare a talk a couple weeks ahead of time, attend the rehearsal (and reschedule the rehearsal with the group if there are time conflicts), send an abstract (and article if applicable) to CMB a week ahead of time, bring or request presentation equipment (including a laptop or projector if necessary, laptop adapter, and USB drive with the presentation to the seminar)

Presenter’s Mentor – should attend rehearsal/presentation, provide feedback, and fill out an evaluation

(cont’d on next page)

THE CMB STUDENT SEMINAR (continued)

Faculty & Student Evaluator – should attend the rehearsal and presentation, prepare remarks to introduce the speaker, read the paper if applicable, provide comments at the rehearsal, fill out a seminar evaluation after the seminar, and facilitate the seminar – including the introductions, transitions, and Q&A session afterwards. During the Q&A, the evaluators should have a couple prepared questions in case of a lull in questions, and should facilitate the handheld microphone so Zoom participants can hear questions. They should also be prepared to help troubleshoot any technical issues. Furthermore, the student evaluator should email a list of attendees to CMB if other students attend as a make-up.

Presenter Guidelines:

- **CONTENT:**
 - 2nd year/G1 students should see this presentation as an opportunity to practice their prelim presentation. Hence, they should present on their own planned research, providing background, premise, hypotheses, specific aims, and, if available, preliminary data supporting their hypotheses. The presentation should be a critical evaluation of the work, not simply a summary of it.
 - 4th year/G3 years should do essentially the same, with the expectation that the background, premise, hypotheses elements are more concise to leave enough room to share actual results. A working model and preliminary/final conclusions should be presented as well.
- Start preparing a few weeks before the presentation. Discuss with your mentor, and identify interesting papers that put the research into context. Select papers from high-quality journals of broad interest rather than from specialty journals
- Don't forget to implement suggestions from the rehearsal into the seminar
- Bring your presentation on a USB drive – and **test the equipment** in the room you will be doing your presentation. It is also recommended you bring (or ask CMB for) an adapter, in case one is not available in the room you are presenting.
- Please talk to your mentor to determine whether it's alright for your talk to be recorded and/or posted to the CMB website. If not – please let the CMB administrator know as soon as possible.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

THE CMB “SHORT COURSE”

Advanced Topics in Molecular Biology (CMBIOL/HUMGEN 630/631)

Fall/Winter (1 credit each semester)

The course is designed to introduce students to “hot topic” research areas and allows students to interact closely with leading investigators from other institutions. Each “short course” is a mini-symposium composed of one introduction seminar from the Course Director, and 4-5 guest speakers giving talks on a thematic topic, which take place over several weeks during the academic semester.

The course is taken cooperatively with both CMB and Genetics Training Program (GTP) students. The student-run CMB Short Course Committee plans and facilitates each Fall semester, and GTP plans and facilitates each Winter semester.

Registration and Attendance

CMB students are required to take CMB 630 (the “short course”), at least 4 times before defending. Students should enroll in 1 credit, although they may choose to enroll “unofficially” if they are taking other courses that preclude the ability to take more credits. To enroll, students should request a course permission from the current Human Genetics administrator.

To get credit for the course, students must attend all seminars, including the introduction seminar; all discussions, which typically follow the seminar (Fall) or take the form of a lunch (Winter); and complete all assignments related to the course (which typically take the form of submitting a discussion question each week there is a special guest speaker).

Absences are only allowed in the case of attending a conference, as course sessions are limited. Any attendance requests should be made before the seminar/discussion in question, and emailed to the Course Director.

For more information on attendance and make-up policies, the student should review the detailed policy posted in the Canvas course (under “Files”).

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

RESEARCH COURSE

Independent Study (CMBIOL 599/990/995)

Fall/Winter (8 credits for 995; credits for 599/990 vary)

Registration

From the time students join CMB, they should enroll in a research course every Fall/Winter semester, depending on their candidate status. These courses can be found under “independent study” with the student’s research mentor listed for the course section. For the course ID – contact CMB.

CMBIOL 599: Pre-Candidates in MSTP – credits vary depending on your other courses

CMBIOL 990: Pre-Candidates (non-MSTP) – credits vary depending on your other courses

CMBIOL 995: Candidates – register for 8 credits

Semester Reports and Dissertation Committee Meeting Reports:

The research mentor is responsible for submitting a grade report ("S" for satisfactory, "U" for unsatisfactory) each term. Mentors are also responsible for entering/approving the student’s grade in the Wolverine Access Faculty Center.

A Dissertation Committee Meeting Addendum should be submitted with the Semester Report (page 3 of the report template) detailing feedback from the student’s dissertation committee meeting over the last semester.

The Semester Report and Dissertation Committee Meeting Addendums can be found on the [CMB Forms](#) page of the website.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

TRAINING IN ETHICAL ISSUES IN SCIENCE

Responsible Conduct of Research (PIBS 503)

To ensure that all students have appropriate training in research responsibility, they are required to take PIBS 503: Research Responsibility and Ethics in the Fall semester of their PIBS year. This course consists of seven 50-minute small group discussions, led by 72 faculty volunteers from various programs within PIBS. The groups discuss issues related to responsible research and ethics. The syllabus satisfies NIH mandates, required for trainees supported on F, K and T-series awards.

The seven discussion topics, with associated case studies, are:

- 1) Falsification, Fabrication, and Plagiarism
- 2) Conflict of Interest (scientific and financial)
- 3) Human Subjects in Research
- 4) Animal Use and Care
- 5) Data Management
- 6) Dual Use Issues
- 7) Collaboration and Research in the Global Society

In addition, students are required to engage in a one-hour discussion of ethical issues with their current research supervisors.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

TRAINING IN ETHICAL ISSUES IN SCIENCE (cont.)

Rigor & Reproducibility (PIBS 504)

In response to NIH suggestions to incorporate rigor and responsibility training into graduate and post-doctoral education, the university has developed the 2-hour PIBS 504 course to be taken in the Winter semester of the student's PIBS year.

The content of the course covers 4 main NIH-suggested areas:

- 1) Transparency in Research
- 2) Blinding and Randomization
- 3) Biological and Technical Replicates
- 4) Sample size, Outliers and Exclusion Criteria

For each of these areas, participants watch the [NIH-produced videos](#) (about 5 minutes each) with scenarios depicting common issues in these areas, read the "Discussion Material" and participate in a discussion about each video.

Additionally, the instructor leads a discussion on the following topics:

- 5) Data presentation (scatter vs. bar graphs, best practice for Western blots)
- 6) Sex as a Biological Variable
- 7) Reagent Verification
- 8) Common Statistical Tests

For each module, the instructor presents several examples of issues that can arise and discusses the best practices that allow investigators to be transparent in data presentation and analysis. Examples of data manipulation that have been caught in published papers are shown and discussed.

Trainees are engaged in discussion about issues that have arisen within their own laboratories or issues they have heard about and the instructor helps facilitate sharing of ideas for ways to handle the issues.

Students are also provided with University resources for reporting of issues and getting more information.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

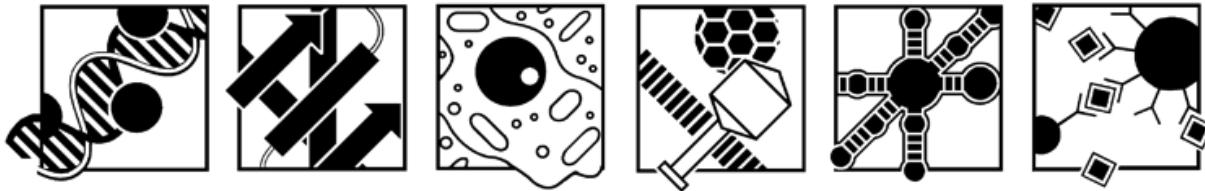
TRAINING IN ETHICAL ISSUES IN SCIENCE (cont.)

Required Ethics Refresher Training

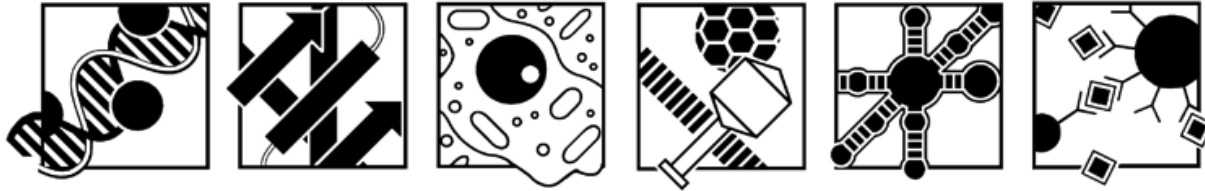
Recognizing the importance of maintaining a conversation about ethical issues in scientific research and in line with mandates from the NIH Institute of General Medical Sciences, students will be required to participate in RCR topic discussions in CMB 850 each Fall and Winter semester, so they receive RCR refreshers throughout the academic year.

Additionally, new students receive additional R&R training in some program-facilitated workshops in the summer after PIBS 504, before joining the CMB program formally.

MSTP students may take these workshops, or they may take workshops offered through the MSTP program to satisfy CMB's refresher training requirements.



FUNDING



GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

FUNDING DURING PH.D. TRAINING

What is Covered?

CMB students in good standing receive full financial support throughout their training, including tuition and fees, stipend (living allowance), and university benefits. CMB also provides funding towards student travel to present their research at national meetings or attend career events (\$300/academic year). After 6 years, students can petition to stay in the program (policy effective for incoming students starting Fall 2022).

Who is Providing Funding?

While funding is guaranteed throughout a student's Ph.D. training, students are expected to seek out and apply for funding/award opportunities from various sources.

Support for the first 10 months is provided by PIBS. MSTP students are supported while in medical school and through June of their G1 year. Beyond this, funding is the responsibility of the dissertation mentor when the student is not supported by an award or fellowship.

Funding Frequently Asked Questions

Please visit the "[Funding Info](#)" page of the CMB website for FAQs, including the current stipend/wage rate, when to contact CMB about funding, EBS Award info (supplement award for individual fellowships), Rackham cost sharing, taxes, and more.

Also see Appendix 4 for a funding cheat sheet and Appendix 5 for contact information for Benefits, Payroll, Student Financial Services, Academic HR, and tax information.

CMB Training Grant Policy

We will not allow a student on the CMB training grant to be appointed to a second NIGMS pre-doctoral training grant. Conversely, if a student has been appointed to another NIGMS training grant (with the exception of the MSTP training grant), that student will be ineligible for future appointment to the CMB training grant.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

COMMON FUNDING OPPORTUNITIES & HOW TO APPLY

CMB encourages students to seek out funding in many different forms. Click [HERE](#) to search grants and fellowships. Additionally, here are some common funding opportunities:

- ***CMB Training Grant (T32)*** – CMB is funded on a long-standing NIH training grant that provides a number of “slots” for CMB to use as it sees fit. This is typically used for new (2nd year/G1) students, and offered as a merit-based internal competition for 3rd year/G2 students.
How to Apply: CMB will send application instructions to 2nd/G1 and 3rd/G2 years in May
- ***Regent’s Fellowship*** – an award given to CMB from Rackham Graduate School to award at its discretion. Usually given to one new/pre-candidate student to fund their 2nd/G1 year. Comparable to CMB T32 support.
How to Apply: CMB will send application instructions to 2nd years/G1 years in May
- ***NIH NRSA fellowships (F30/F31)*** – more information available at <https://researchtraining.nih.gov/career/graduate> or at the ORSP website: <https://orsp.umich.edu/>
How to Apply: Work with your mentor/the Office of Research & Sponsored Projects (ORSP), and email CMB for current application guidelines.
***Note:** F31/F30 appointments cannot coincide with GSI teaching appointments over 25% effort (10 hours/week).
- ***Foundation and Institute Fellowships:*** E.g. National Science Foundation, Department of Defense, American Heart Association, etc.
How to Apply: See the individual organization’s websites for further info/instructions.
- ***Specialized Training Grants:*** CMB students can compete for training support in a variety of specialized areas pertinent to their training, including: Cancer Biology, Microbial Pathogenesis, Organogenesis, Systems and Integrative Biology, Tissue Engineering.
How to Apply: Ask your PI if you are eligible for one of these grants.
- ***Rackham Fellowships*** (Rackham Predoctoral, Lipshutz/Ayers/Host, etc.)
How to Apply: Some awards can be applied to by the student, and some require nominations from the program. Award info can be found here: <https://rackham.umich.edu/funding/>. If you are interested in being nominated, contact CMB for internal application instructions.
- ***Rackham Graduate Student Emergency Funds*** – intended to help meet the financial needs of Rackham graduate students who encounter an emergency situation or one-time, unusual, or unforeseen expenses during their degree program including medical emergencies, major accidents, and expenses related to the death of an immediate family member.
How to Apply: Apply on the [Rackham Emergency Funds page](#)

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

COMMON FUNDING OPPORTUNITIES (continued)

- ***Rackham Graduate Student Research Grant.*** – designed to support Rackham graduate students who need assistance to carry out research that advances progress toward their degree. Students can be awarded once as pre-candidates and once as candidates.

How to Apply: Apply on the [Rackham Graduate Student Research Grant page](#)

- ***Rackham Travel Grant*** – provides travel support for scientific and career-related meetings.

How to Apply: Apply on the [Rackham Travel Grant page](#)

- ***CMB Travel Grant*** – Students can apply for travel awards from CMB to partially defray their expenses for meetings and travel. Funds are awarded upon request to the CMB Administrator and upon approval by the CMB Director. Students can also apply to Rackham and PIBS for travel support. Two types of CMB travel grants can be awarded:

- *Travel to scientific meetings*

CMB strongly encourages students to present their work at local, regional, national, and international scientific meetings. For 3rd year (G2 MSTP) students and above, the student must have an abstract accepted for a poster or a talk to be eligible for a CMB travel awards. These awards can be up to \$300/academic year (Sept – Aug).

- *Travel to career-related meetings*

The CMB Program will also grant an award to assist students to travel to a meeting related to career development, once in their graduate career (up to \$300).

How to Apply: Send the following before the intended travel, to cmbgrad@umich.edu for approval by the CMB Director:

- Title, sponsor, and location of meeting
- Dates of travel
- Your role in the meeting (attendee, poster presenter, speaker)
- A copy of your registration for the conference, including proof of payment
- A copy of your abstract (if you are presenting a poster or talk)

OR

A brief explanation of why attendance at the meeting is important to you (if you are an attendee but not presenting) – if you are attending career development activities, please detail them here.

The travel grant can be awarded before or after the trip – but should not be submitted more than 45 days after purchases were made, per university reimbursement policy. The money should also not be used for the same expenses that Rackham is reimbursing you for. ***For all expenses you are having reimbursed, CMB will need the following:***

- Receipts that together total at least \$300 – this can be the registration we are already requesting or something else related to the conference (hotel, food, transportation, etc.)
- Receipts be itemized and show **proof of payment** (last 4 digits of credit card number or other form of payment), a date of payment, and your name as the purchaser.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

METHOD OF PAYMENT: **PAYROLL VS. FINANCIAL AID**

Employment (GSRA/GSI) vs. Financial Aid

Most types of funding (fellowships, training grants, etc.) will be paid to students through the Financial Aid system. On the other hand, when a student is supported by their mentor's sponsored funds (e.g. R01) – the grant often requires the student to be paid “wages” instead of a stipend. This means the student needs to be appointed to a Graduate Student Research Assistantship (GSRA). GSRA's provide a tuition waiver (mentor pays fees), plus “wages” (paycheck), and Gradcare benefits.

When a student teaches, the Graduate Employee Organization (GEO) requires that students are appointed to a GSI (Graduate Student Instructor) position. GSI positions also pay tuition (some fees must be paid by mentor), monthly “wages” (paycheck), and Gradcare benefits.

Both GSRA's and GSIs are considered university employees. A student can be appointed fully to one of these positions (50% effort – 20 hours/week) – or at a partial appointment (e.g. 25% effort – 10 hours/week), combined with other funding mechanisms.

How will my funding change when I switch from Financial Aid to Payroll or vice versa?

There are many implications associated with switching between GSRA's/GSI's and other funding methods – including how students will be taxed, pay dates, how benefit elections are paid, and more.

For a complete guide on these differences, see Appendix 4: Funding Cheat Sheet Based on Award Type.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

STUDENT ACCOUNT BALANCES

It is critical that students check their account balances frequently and pay their monthly charges, or they may experience several consequences. This is true no matter which type of funding you have. Additionally, research mentors often change between sponsored and non-sponsored funds very frequently – which may change how your benefit elections are charged (e.g. automatic paycheck withdrawal vs. student account charges).

Possible Charges to Student Account:

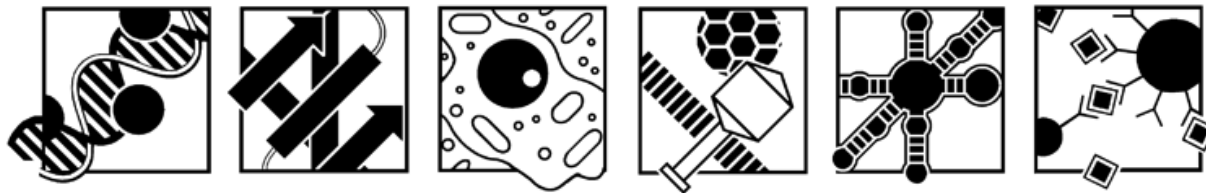
- Registration Late Fee
- GradCare Benefits
- Parking
- University Housing Costs
- Printing
- ***Tuition and Fees*****

*****Remember, if you do not recognize a charge on your account, contact CMB ASAP (before late fee is assessed).*** This might be a charge related to your tuition or funding, which should be paid by your mentor/fellowship (not you).

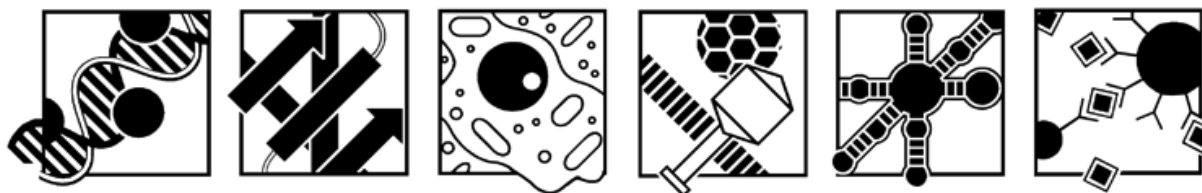
Note, there is a delay between your tuition/fee charges hitting the account (just before semester starts), and them being paid by your funding source (this usually happens mid-month the first month of the semester. Do not panic if you see this – but contact CMB if it's not paid within a couple weeks.

Potential Consequences for “Past Due” Charges

- Account Hold:
 - Inability to Register for Courses
 - Diploma Withheld
- Cancellation of Benefits (failure to pay benefits)



STUDENT STATUS, VACATIONS AND ABSENCES



GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

STUDENT STATUS, REGISTRATION AND TUITION

Full-Time Student Status

Pre-candidates must be registered for 9+ credits per semester to be full-time. Candidates should be registered for at least 8 credits.

Minimum Registration

At a minimum, CMB students need to register every Fall/Winter for:

- CMBIOL 850 (student seminar) – 1 credit
- Research Course (search “independent study” under mentor’s section ID)
 - CMBIOL 599 – MSTP pre-candidates
 - CMBIOL 990 – pre-candidates (non-MSTP)
 - CMBIOL 995 – candidates – 8 credits
- ***You need to be registered for a research course in the semester you take your prelim exam or defend your dissertation*** (even if it is the Spring/Summer – note: this incurs summer tuition)
- For pre-candidate research courses - elect as many credits as needed for full-time status (taking into consideration all other courses you are taking) – it is also recommended to take extra credits in case you end up dropping a course, to avoid falling below full-time student status

Additional Courses as a Pre-Candidate

- Technically there is no upper credit limit for pre-candidates per Rackham rules
- To avoid burning yourself out, CMB does not recommend taking more than 12-15 credits

Additional Courses After Becoming a Candidate

- You are permitted to take a limited number of additional credits each semester – basically, 4 credits or 1 course per semester.
- If you do not take 4 in the Fall – you can take 8 in the Winter, but not vice versa
- If you take more credits than this, ***you will be assessed extra tuition at the end of the year***

Courses with Permissions

- CMBIOL 630 – email Human Genetics for course permission (Molly Martin – mollymu)
- Pharm 502 – email Pharmacology for course permission (contact TBD)
- Others? Email department for course permission

Tuition

- Click [here](#) to view tuition rates – mentors, not students, are responsible for tuition and fees (select “medical school” as the college and scroll to Rackham rates)
- Pre-candidates should make sure their [state residency](#) is updated for tuition purposes
- Students must be registered as full-time students, or it may affect their tuition charges
- Candidates must make sure to adhere to [Rackham course registration policies](#), or they could be charged additional tuition at the end of the year.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

LEAVES OF ABSENCE (LOA) AND PARENTAL LEAVE

Parental Leave

In the case of the birth of a child or adoption of a child under 6, a parental accommodation period up to six weeks long may be granted, during which the student may continue to be enrolled full-time. Additional information can be found at the Rackham parental accommodation page [here](#).

Leave of Absence (LOA)

Ph.D. students may also request a leave of absence when certain life events prevent continued active participation in their degree program. [Rackham's Leave of Absence Policy](#) enables students to officially suspend work toward their degree for a limited time.

Students may request a leave of absence as early as six months prior to the term the leave is to start.

Types of LOA

1. **Medical** – 2 years max, recommendation by a licensed health professional required – illness or injury (physical or mental), requires medical documentation to request a return to active status
2. **Family Necessity/Dependent Care** – 2 years max, basic info required about family member/dependent – to enable students to provide care for family/dependents
3. **Military Service** – duration of service, authorization for active duty required – to allow them to meet military service obligations
4. **Personal** – 6 month maximum, eligible only once in PhD career, does not require a specific reason – must be requested before add/drop registration period in Fall/Winter

How to Request a Leave of Absence (and a Return from LOA)

Checklists, charts, and step-by-step instructions for using the Leave of Absence system are available on the [Rackham LOA Website](#) to help navigate the process. For some types of LOA – you must request to return from a LOA before you can register for classes again. Please reference the LOA site for instructions on requesting a return from LOA.

Registration During a LOA

Students should not be registered for any classes during a LOA – they should unenroll if they have been approved to start a LOA

CMB Requirements for a LOA

- The student is required to meet with the CMB Director to plan for a leave of absence and also discuss possible alternatives. They should come up with an agreed-upon “re-entry plan.”
- A formal letter indicating the duration of the leave, as well as the student’s “re-entry plan” is kept on file with the CMB office. The Program Committee may be consulted as well.

Eligibility for Services on a LOA

While on a LOA, students are eligible for [limited university services](#). Additionally, monthly stipends for work done in the lab will not be paid out during a LOA. After returning to active status, funding and other commitments made to students prior to the leave will carry over.

For specific questions about Leaves of Absence, contact the Leave of Absence Coordinator by e-mail rackham.loa@umich.edu or call (734) 615-5670.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

VACATION AND EMPLOYMENT

Participation in the CMB program, without regard to the source of financial support, 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.

Student Employment Outside the Program:

The CMB Program follows NIH policy that *students may not be employed outside of CMB*. Occasional exceptions may be made with permission of the mentor and program advisor. Outside employment subtracts from the time and mental energy a student devotes to their research.

Additionally, the student's GSI appointment (required teaching for one term) – should be approved by the CMB office before the student agrees to accept the appointment.

Vacation Policy:

The CMB program adheres to the vacation policy set forth by PIBS:

- Students are entitled to time off during vacation periods, such as university-designated holidays, Winter and Spring breaks, and may request time off during the summer.
- Students must discuss proposed vacation periods with their mentors well ahead of time, and *vacation time is expected not to exceed 4 weeks per year, including all university breaks and mentor-approved vacations.*
- Any further vacation time should have the additional approval of the CMB Director, and it may be granted without financial support.
- Relevant activity such as detached study, internships, or other off-campus coursework may be taken with Director's approval and in consultation with the Program Committee. Activity outside of this will be considered personal and subject to the vacation policy.

Since progress towards completion of dissertation studies is normally directly related to the amount of time devoted worked in the lab, it is highly recommended that students enrolled in classes take advantage of time off from classwork to make progress in the laboratory.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

ACADEMIC PROGRESS & PROBATION POLICY

Satisfactory Academic Standing at Pre-Candidate Level

To maintain satisfactory standing at the pre-candidate level, students must maintain a cumulative GPA of a 3.0 (B) or higher and complete laboratory rotations before joining CMB. PIBS policies and information about rotations can be found on the [PIBS Rotations](#) page. If a student's GPA falls below 3.0, the student will be placed on academic probation and given one term to obtain good academic standing. See [Rackham Academic Policies](#) for more information.

Pre-candidate students must pass a prelim examination in the Winter term of their second year. The examination process is detailed in the "CMB Prelim Exams" section of this handbook. If a student fails the exam, the prelim examination committee, in consultation from the CMB Director and Associate Directors will review the student's performance. A timetable for retaking the examination will be established. Students failing a second examination will be placed on academic probation or be dismissed from the graduate program after review and evaluation by the CMB Director, Associate Directors and Program Committee.

Advancing to Candidacy

Ideally, CMB students complete their pre-candidate coursework by the end of the Fall semester of the 2nd/G1 year to limit distractions while working on the preliminary exam proposal. At a minimum, they should have taken their required coursework before being advanced to candidacy (typically Spring after their pre-candidate year), unless they are given approval otherwise by a CMB director.

Students are allowed to advance to candidacy after identifying a research mentor, receiving a B in core CMB courses and B- in CMB electives, passing the prelim examination (both oral and written portions), and, per Rackham policy, maintaining an overall GPA of 3.0 or higher.

Satisfactory Academic Standing at Candidate Level

As Ph.D. candidates, students must continue to maintain an overall GPA of 3.0, per Rackham policy. Below are program-specific requirements to remain in good academic standing at the candidate level.

- 1) If a student decides or is asked to leave their mentor's lab, then the student and the CMB Director will develop a timetable for identifying a new mentor (see lab change policy in the next section of this handbook). If the student is unable to identify a new lab within the specified timetable, the student will be placed on academic probation, until a decision has been reached, or the student has been dismissed from the program.
- 2) Students will be responsible for holding a thesis committee meeting every six months, starting the Fall term of their third year. If a student fails to hold regular committee meetings within CMB guidelines, the student may be placed on academic probation after consultation with their mentor, and given one term to return to good academic standing.
- 3) The student's progress at their bi-annual committee meeting must be deemed satisfactory by the thesis committee. If the thesis committee determines that the student's progress is unsatisfactory, the

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

ACADEMIC PROGRESS & PROBATION POLICY (CONTINUED)

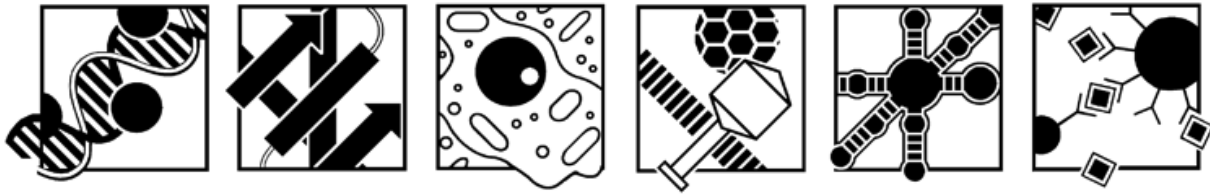
student will be asked to schedule another meeting within three months. If progress after this meeting is deemed satisfactory, the student will return to a schedule of bi-annual committee meetings. If the student's progress is still deemed unsatisfactory, the student will be placed on academic probation and given one term to rectify their unsatisfactory performance.

- 4) The student must receive an "S" for "satisfactory" progress towards their degree in CMBIOL 995, as determined by their dissertation advisor. If a student receives a "U", they will be placed on academic probation and given one term to return to good academic standing.
- 5) The student must receive an "S" for "satisfactory" progress in CMB 850, as determined by CMB administration/directors. This includes attendance at both the weekly student seminars, and annual attendance at both the CMB Fall Retreat and Spring Symposium. If make-ups need to be completed for these events, the student will receive an "Incomplete" and given 12 months to complete make-ups, at which point the grade will be converted to either Satisfactory or Unsatisfactory. If the student receives an "Unsatisfactory" grade, they will be placed on academic probation and given one semester to return to good academic standing.

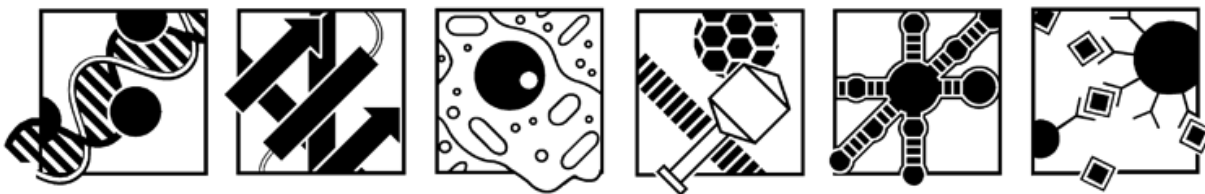
Rackham Academic Progress and Probation Policy

For updated information on Rackham's policy on academic progress and probation, visit the [Rackham Academic Progress](#) page of their academic policies. This information includes length of probationary period, funding while on probation, option to appeal, who makes the decision to put students on probation, and procedures for notifying the student of their probationary status.

When a student is placed on academic probation, at the end of the term, the student will either return to good academic standing, be dismissed from the CMB 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 CMB doctoral program.



DEVELOPMENT, OUTREACH & INVOLVEMENT OPPORTUNITIES



GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CMB STUDENT COMMITTEES

It is expected that students participate in at least one student committee for 2 years or longer.

Career Development – The Career Development Committee consists of students and a faculty advisor who plan workshops and that explore the diverse career options available to CMB graduates.

DEI Task Force – This task force will be chaired by the faculty and student diversity allies, and will include additional students. Events and initiatives are planned throughout the year and posted to the DEI page of the website, as well as the “Events” page, for publicly available events. The responsibilities of this task force will include (but are not be limited to):

- 1) Determining the best use of funds from the Rackham Faculty Ally Diversity Grants
- 2) Identifying and implementing new DEI opportunities for CMB, including the assessment of these events and on the climate within CMB
- 3) Soliciting and determining DEI topics/speakers for CMB 850
- 4) Updating the CMB Handbook and website to include defined DEI sections
- 5) Working with the short course and retreat committees to ensure diversity in speaker selections
- 6) Reviewing DEI statements from new CMB Faculty applicants and during the review of continuing CMB Faculty

Newsletter Committee – Two students serve as editors of the biannual CMB Newsletter. This can be spearheaded by multiple students who are willing to create a 4-6-page newsletter keeping the CMB faculty and students abreast of various CMB activities and important events or accomplishments in the lives of faculty, students, and alumni. The newsletter has also been added to the CMB website, particularly for recruitment, outreach and contact with alumni.

Photographer – One or several students who like to take photos, take responsibility to do so at CMB events, and provide photos both for the CMB website, and for the Newsletter Coordinators. CMB can provide the digital camera.

Program Committee – Between 2 and 4 students represent the CMB student body at Program Committee meetings, which occur every two months. The committee meets to discuss admission of incoming students and faculty members, program and course requirements, recruiting, CMB funding, approval of dissertation committees, and many other items pertaining to the continued growth and success of the CMB program.

Recruitment Committee – Persons from this committee, together with the Social Committee members, help to coordinate the CMB activities during the PIBS recruitment weekends, as well as the visits of recruits who visit Michigan on alternate weekends. The duties of this committee include assigning student recruits to CMB student hosts, assigning/selecting restaurants and nighttime activities for the weekend, planning CMB program presentations (e.g. poster presentations), etc. This is approximately a 2-month commitment during which meetings occur approximately every 2 weeks.

Retreat Committee – Four CMB students work with a faculty coordinator with the planning and scheduling of the annual retreat, which is a weekend in mid-October. This includes finding the location, getting a keynote speaker, and creating activities. The retreat alternates between on-site and off-site venues every year.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CMB STUDENT COMMITTEES (continued)

Short Course Committee (Fall) – Four or five students plan the Fall short course, which is held in conjunction with the Genetics Training Program. These students, with the aid of a faculty advisor, select the short course topic and invite outstanding leaders in the field to participate as speakers in the short course. They also help in coordinating the seminar times/locations and student lunches with the speakers. General guidelines/timelines are available from the CMB office to assist in planning the seminar, which requires advanced preparation to secure a good panel of speakers. This committee works best if all of the members of the short course committee have similar research interests, and is an excellent opportunity to meet top researchers in that field! Each student coordinates one guest speaker's itinerary.

Social Committee – Consisting of three or four students who are in charge of scheduling CMB student gatherings and social outings. These gatherings in the past have included the welcome picnic, holiday party, trivia or bowling nights, ice-skating, gatherings at a local restaurant, etc. The goal of this committee is to promote and facilitate community between CMB students. Some funding may be obtained for these events from the CMB program. Committee members also play a limited role in planning activities related to recruitment and the retreat.

Student Monthly Meeting Committee – This committee (2-3 students) coordinates the monthly student meeting each month, starting with meeting with CMB staff and faculty to determine an agenda for each month. Each month they create a PowerPoint/presentation for CMB's approval, and present it to student attendees, and help collect notes/questions from students to relay back to CMB staff/faculty.

Summer Journal Club – The Journal Club is a student-only, informal meeting space where students can gather to discuss a paper (or their own writing), chosen by that week's facilitator. Journal Club typically meets every other week, but students can create their own schedule. Two students will be in charge of recruiting students, setting the schedule, collecting materials, and sending reminders.

Symposium Committee – Two CMB students are needed to assist the faculty coordinator with the Spring CMB Symposium. This includes coordinating the CMB Poster Session, which follows the Myron Levine Lecture.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

UNIVERSITY OF MICHIGAN STUDENT ORGANIZATIONS

The University of Michigan has over 1400 student organizations, many of which are for graduate students, and many of which are geared towards students in STEM/biomedical fields.

Some examples that many CMB students participate in:

Association of Multicultural Scientists – The Association of Multicultural Scientists is a graduate student-run organization supported by the PIBS program to promote diversity within the graduate programs through the recruitment and retention of historically underrepresented groups. Their primary role is to assist the membership in the successful completion of the Ph.D. by offering programs and support which will meet academic, social, and professional needs in an atmosphere of cultural context and comfort.

Biomedical Graduate Student Government (BGSF) – The purpose of BGSF is to promote and represent the interests of graduate students in the biomedical sciences. They provide an organized way for graduate students to voice their opinions on their education and to provide services and programs which enhance their graduate experiences.

SACNAS – In the Fall of 2015, a group of CMB and other students established a University of Michigan Chapter of the national organization, SACNAS, the Society for the Advancement of Hispanics/Chicanos and Native Americans in Science. SACNAS at UMich is an inclusive organization dedicated to fostering the success of underrepresented scientists in attaining advanced degrees, careers, and positions of leadership in STEM.. The purpose of the UMich chapter is (1) to promote recruitment and retention of underrepresented minorities in STEM and (2) to provide a forum for students from different science majors to come together for academic, community service and social activities at the University of Michigan.

More organizations popular with biomedical graduate students can be found on the [PIBS student organization website](#).

More U of M organizations can be found on [MaizePaiges](#).

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

PROFESSIONAL DEVELOPMENT

Career and Presentation Opportunities

- [OGPS Career Team Events](#)
- CMB Career Committee Events – can be found on the CMB [Events](#) page
- CMB Travel Grants - The CMB program will grant a \$300/year contribution to assist students in traveling meetings/conferences where they will attend career development events, or present their research. Contact cmbgrad@umich.edu for more info.
- [Rackham Travel Grants](#) - Students can also apply to Rackham Graduate School for travel support
- CMB 850 Seminars – Students will be asked to present their research in their 2nd/G1 year, and again in their 4th/G3 year.
- Some departments/faculty mentors also provide conference funding for their students as well.
- [Fall Retreat and Spring Symposium](#) – Students can present a talk or poster each Fall at the retreat, and are required to present a poster at the CMB Spring Symposium each year.

Dual Degrees and Certificates

The University of Michigan and the Medical School have many dual degree and certificate opportunities that will allow you to gain skills in areas of interest, such as teaching, DEI, and bioinformatics. More information can be found [here](#).

Outreach and Recruiting Opportunities

- Many organizations at U of M, or in cooperation with U of M, work on outreach efforts with students of all age levels to promote success, diversity and interest in STEM fields
 - A few examples of these organizations can be found on the CMB [Outreach](#) page
- CMB sends a couple students and faculty each year to national conferences for the Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS) and Annual Biomedical Research Conference for Minority Students (ABRCMS) to recruit students
- The CMB Recruitment Committee is made up of students interested in serving as lead hosts, and coordinating recruitment activities for PIBS interview weekends
- CMB students can serve as hosts for PIBS candidates each year, or PIBS recruitment reps
- Students can get involved in CMB DEI Task Force initiatives, like peer mentoring or facilitation for a pre-candidate student's "mock prelim" exam

Teaching and Mentoring Opportunities

- CMB students are required to teach as a graduate student instructor (GSI) for one term – students can teach at any level, in a variety of subject areas. Contact CMB for a list of previous opportunities and contact information for where to apply.
- The CRLT (Center for Research on Learning and Teaching) has many resources and events designed to assist graduate students learning to enhance their teaching skills and experience, including a Graduate Teaching Certificate. Click [here](#) for more information.
- CMB Mentorship Program – contact the CMB DEI Task Force to participate in this program, where you can provide mentorship as an upper-level PhD student to a new CMB or PIBS student
- CMB Practice Preliminary Exams – contact the CMB DEI Task Force to act as a member of a mock prelim committee, and provide feedback and practice opportunities to students going through their prelim exam year.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

COMMUNITY BUILDING

The CMB program has over 175 faculty from around 20 departments across campus, and around 75 students at any given time, so it is important for CMB to bring the program together several times each year to promote community.

Annual community-building activities include the following:

Annual Fall CMB Retreat:

- *Attendance at the Retreat is mandatory for CMB students.*
- Takes place in October each year
- Students and faculty interact in an informal setting with recreational activities
- A weekend (Friday-Sunday), off-site retreat alternates annually with a one-day, in-town retreat
- The Retreat Committee invites and hosts a keynote speaker. The keynote address, "The Jessica Schwartz Lectureship," was named in honor of former CMB Director Jessica Schwartz.
- Advanced students often give short formal research presentations, as they would at a national meeting. Several select CMB faculty are also invited to present talks as well.
- New PIBS and MSTP students are invited and will have opportunities to interact with faculty who are looking for rotation students.

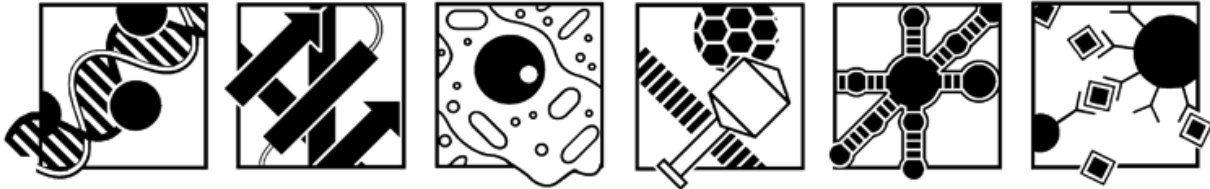
Annual Spring CMB Symposium and Poster Session:

- *Attendance and presentation of a poster are mandatory for CMB students. CMB faculty who do not have students are strongly encouraged to have a poster presented by their lab.*
- Takes place in May each year
- Includes a keynote by a prominent scientist – "The Myron Levine Lectureship" was named in honor of former CMB Director Myron (Mike) Levine.
- CMB students and faculty participate in a dynamic poster session. Awards are given for the top three poster presentations; students present their posters to CMB faculty judges as they would at a national meeting. The poster session also provides an opportunity for incoming students and others in the university community to find out about research in the laboratories of CMB faculty.

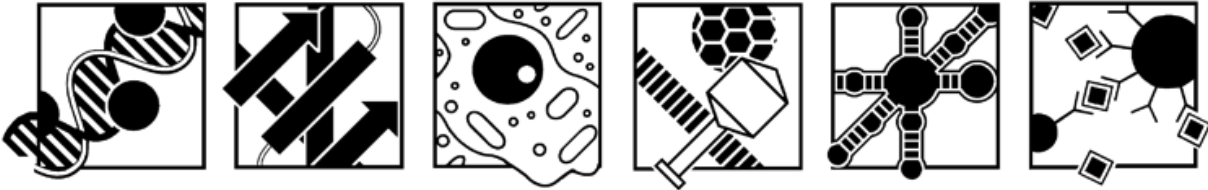
CMB Social Committee Events

Common events planned by the CMB Social Committee include the following:

- Welcome Picnic in August
- Holiday Party in December
- Monthly social events, including happy hours, bowling, whirlyball, and many other events



DEI AND CONFLICT RESOLUTION



GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

MISSION AND DEI STATEMENT

Diversity, Equity and Inclusion (DEI) in CMB

CMB believes that it is essential to its training mission that students, faculty and staff of all identities and perspectives feel welcome. In recognition of this belief, it is important that we articulate our commitment to diversity, equity, and inclusion.

We commit to increasing diversity within the CMB community by seeking out and supporting members from a vast range of cultures, identities, and beliefs.

We commit to actively challenging and responding to bias, discrimination, and harassment.

We commit to pursuing efforts to develop and maintain a community where everyone is included and valued.

Discrimination and harassment are contrary to the standards and values of CMB and the University of Michigan communities. Discrimination or harassment in any form, including but not limited to race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, ability, religion, height, weight, or veteran's status, will not be tolerated.

Mission

A goal of CMB is to build and maintain a community that values diversity, develops inclusive and antiracist practices, and promotes a sense of belonging for every member of the community. To achieve this goal, we will work to engage with CMB members as well as University leadership to advocate for increasing diversity in the students, faculty, and staff population. We will consciously develop policies to ensure that all members feel that they belong, have equal access to opportunities, can express their opinions freely, and are fully engaged in the program.

CMB DEI Task Force

The CMB DEI Task Force was formed as a resource to advocate for diversity amongst CMB students, faculty and staff, and to promote equitable and inclusive practices within CMB to ensure that every member of the program feels welcome. To fulfill the program's DEI mission, the CMB DEI Task Force will interact closely with all members of the CMB community, gather and disseminate information, collaboratively identify the issues that need to be addressed, and advise CMB leadership on the best courses of action to address these issues.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

DISABILITY AND PARENTAL ACCOMMODATIONS

Disability Accommodations

The Services for Students with Disabilities (SSD) Office provides many resources and support for students with different abilities and has recently implemented a new system on their website to request accommodations for students. Visit the [SSD website](#) for more information.

CMB is willing to work with students on individual needs to make seminars, web pages and events more accessible. For example, CMB will enable audio transcripts on all seminars and lectures.

Feel free to contact CMB if you have any additional accessibility recommendations.

Parental Accommodation and Students with Children

All eligible students will be granted a Parental Accommodation period up to six weeks long immediately following the birth of a child or the adoption of a child under the age of 6 for whom the student has parental responsibilities. During this period of accommodation, the student may continue to be enrolled as a full-time student. Additional information can be found at the following Rackham website [here](#).

Students with Children Website:

This [site](#) is dedicated to the needs of students at U-M who juggle parenting/family care, study, and work. Resources include childcare, financial assistance, social support, housing, and health care information. For additional information on work/life supports for faculty, staff and students, please also visit [the Work/Life Resource Center site](#) and the [U-M Child Care Gateway](#).

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CONFLICT RESOLUTION POLICY

As a community made up of students, faculty, and staff, CMB recognizes that conflicts may arise between members of different groups, including between students, between students and faculty, and between faculty. CMB also recognizes that in instances of conflict between students and faculty, the power differential plays an important role in decisions on how to manage the conflict. CMB structures its program elements, including regular individual advising meetings, the MORE committee Shared Expectations mentoring plan, and an opportunity in committee meetings for the student to meet with the committee without the advisor, around reducing potential conflicts. If a conflict arises, several approaches are available to members to resolve the conflict.

Guidance is always available from the CMB Director or Associate Directors. Please seek guidance.

1. Initial approaches to resolution.

CMB strongly encourages attempts to resolve the conflict through guided discussions and mediated negotiation as the first step. In addition to helping solve the conflict, open discussion and/or negotiation can lead to better communication, aligned expectations, and more positive working relationships.

Some guidelines on how to approach the conversation:

- Before the conversation, gather your thoughts and composure.
- Develop a plan for what you want to convey.
- In your conversation, focus on the issue over which you have a conflict.
- If possible, bring specific examples that illustrate the issue.
- Refrain from personal attacks, assumptions, or presumptions of guilt.
- Think about how best to present the situation in a way that helps the person understand your perspective.
- Give the person the chance to explain their perspective about the situation. Listen actively.
- Think of the conflict as an opportunity for all of you to develop a better understanding of each other and a better working relationship.

Regardless of the outcome of this meeting, follow it up with a document (via email or hard copy) to the other person, describing the situation (dates, events) that you discussed, and what was decided after the meeting. Ensure that both parties are on the same page regarding the recap of the meeting. If there is a misunderstanding, assess if future conversation can reconcile the misunderstanding. Documenting your efforts to resolve the situation helps in case similar situations arise in the future.

CMB realizes that a direct discussion might not be comfortable for students in many cases. If the student is uncomfortable approaching the other party, a mediator may be used for this discussion.

2. Informal complaint to program leadership.

If you feel that the conflict has not been satisfactorily resolved despite your best efforts, you can lodge an informal complaint with the CMB program. An informal complaint is handled primarily within CMB, with the program leadership and dissertation committee acting as independent resources for you. Unless the complaint involves a conflict between you and your thesis advisor, you are encouraged to ask for support from your thesis advisor.

To arbitrate as best as possible, the informal complaint should clearly detail the nature of the complaint, including details of the events that transpired and when. Provide any evidence you have to support the

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CONFLICT RESOLUTION POLICY (continued)

complaint. If you have documentation of your efforts to resolve the situation directly with the other party, please provide them. Please also indicate what you would consider as a satisfactory resolution.

You are highly encouraged to contact the CMB Director or the Associate Director who acts as the advisor for your cohort unless that person is part of the conflict. You can contact any of the following members, as you are comfortable, to lodge an informal complaint.

- CMB Director or Associate Directors
- Dissertation committee members.
- CMB Program Manager/Graduate Coordinator
- CMB Faculty Ally for Diversity
- The Department Chair of your advisor's department

Each person should: 1) acknowledge receipt of your complaint, and 2) describe the actions taken.

3. Informal discussion or formal complaint to campus resources.

If your problem cannot be resolved at the program level, or if you prefer discussing the matter with someone from outside the program, the following resources are available:

On Campus Conflict Resolutions Resources:

- **Office of the Ombuds:** Student questions, complaints and concerns about the functioning of the University can be discussed confidentially in a safe environment. 6015 Fleming, Phone: (734) 763-3545 <https://ombuds.umich.edu>
- **Office of Student Conflict Resolution (OSCR):** Promotes justice by facilitating conflict resolution for the Michigan community and creating a just and safe campus climate. 100 Student Activities Building, Phone: (734) 936-6308. <https://oscr.umich.edu/>
- **Rackham Resolution Services/Resolution Officer (RO):** Advises faculty, staff and students on matters related to student emergencies, crisis situations, disputes, and student conduct violations. The RO also provides information about Graduate School and University policies and procedures, makes referrals, and provides resources when appropriate.
- **Dean of Students** - can moderate issues with other students, faculty or staff, that disrupt their Michigan experience, such as: quarantine or isolation needs, academic support, financial concerns, including emergency funding, campus climate concerns, off-campus roommate concerns or questions, direct referrals to health and well-being resources
- **ECRT Office (Equity, Civil Rights, and Title IX) (Formally Office of Institutional Equity/OIE)** – Provides support, resources and education to promote a safe and non-discriminatory learning, living and working environment; ensures equal opportunity for all persons regardless of identity in employment educational programs and activities and admissions. ECRT can answer questions about who qualifies as an [IRO](#) (Individual with Reporting Obligations, *formally "responsible employee"*)
 - [Submit a Report Here](#) (to report discrimination, harassment, and sexual misconduct)
- **Clery Compliance Officer (DPSS)**
In compliance with [Clery Act](#), the Division of Public Safety and Security (DPSS) and the university track crimes occurring on and near campus and offer that information to the U-M community and the public. The Clery Act Compliance Officer can answer questions about who qualifies as a [CSA](#) (Campus Security Authority), and what kinds of disclosures need to be reported.
 - [Submit a Report Here](#) (to report criminal activity)

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

MENTOR/LAB CHANGE POLICY

Statement of Principles:

Occasionally, a student may consider leaving their dissertation lab. CMB strives to use a no-fault policy in these circumstances, assuming the student is in good academic standing. This policy is not intended to relieve the student of the responsibility or the choice for finding a new mentor, but to provide access to resources in a supportive and positive environment to move the student forward in the program.

Change of Mentor/Laboratory Policy:

A student considering changing mentors should consult with the CMB Director as soon as possible to discuss all options, recognizing that changing dissertation labs can have significant consequences, including a delayed time to degree. If the student and the CMB Director determine that a change of mentors is warranted, the program will provide the following assistance:

1. CMB will support a formal, but flexible, timeline of rotations to aid in identifying a new dissertation mentor, e.g., 2 one-month rotations with a negotiable third rotation.
2. CMB will assign one or more faculty advisors to assist the student in identifying possible rotation mentors, if needed.

The student is expected to provide a document that summarizes their reasons for leaving their lab. In addition, they should indicate the reason(s) that changing labs will help them achieve their short- and long-term goals. This provides a formal process through which students and advisors will be more likely to make decisions and recommendations consistent with the students' long-term goals. This will be a confidential document* that will be used solely to assist the Director or a surrogate in providing the best possible guidance for the student.

**Note that certain disclosures may require CMB leadership to submit a report with ECRT or DPSS, depending on the circumstances.*

3. CMB will offer to mediate discussions between the former mentor and student regarding the disposition of the student's data, including possible recognition in publications. The mediator could be a member of the CMB Program Committee, the dissertation committee or another faculty member. Any agreement made would have to be satisfactory to both student and mentor.
4. CMB will assist in identifying additional resources and/or mentors to support the student in negotiating the change of labs.
5. CMB will encourage the student to request 2 letters of support from faculty who are well-suited to evaluate the student. These letters are not mandatory or meant to be an additional burden, but to provide potential rotation mentors additional perspective/context.
6. CMB acknowledges that the process of changing labs is stressful. The CMB Director and Associate Directors will serve as resources to support and help the student navigate the process as easily as possible. Students are also strongly encouraged to take advantage of [OGPS](#), [Rackham](#), [Michigan Medicine](#), and other [campus wellness resources](#) available to them.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

DISCRIMINATION, HARASSMENT, & SEXUAL MISCONDUCT

The priority of the CMB program and the University of Michigan is to maintain an environment free of discrimination and harassment for all students, faculty, and staff. Discrimination and harassment are unacceptable to the CMB and the University community. This policy includes discrimination or harassment based on race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, height, weight or veteran's status as set forth in the [SPG 201.35, Nondiscrimination Policy Notice](#), of the University of Michigan.

A claim under this policy may be brought by faculty, staff, or students, or by the University itself. Complaints involving students who are not acting as University employees are described in the Statement of Student Rights and Responsibilities, which is administered by the Office of Student Conflict Resolution (OSCR). The Rackham Graduate School has created a [Discrimination and Harassment Resource Guide](#), as well as a website with information on how to file a formal complaint, resources and university policies and reporting procedures.

The university's [Sexual and Gender-Based Misconduct Policy](#) applies to all students, faculty, staff and third parties on the Ann Arbor (including Michigan Medicine), Dearborn and Flint campuses. It includes information about reporting options and obligations as well as available support for those impacted by misconduct.

Members of the CMB community who witness or experience any type of discrimination or harassment *are encouraged to file a verbal or written complaint. They can either:*

1. File a complaint with the Director or one of the Associate Directors of CMB, who will work with the appropriate resources to resolve the issue. For graduate students, the Director or the Associate Director will meet with the student to fully understand the situation, and to see if bringing other members of the community into the discussion is beneficial.

CMB leadership, including the Director, Associate Directors and Program Manager are IROs (Individuals with Reporting Obligations) and CSAs (Campus Security Authorities), who are required to report issues disclosed to them about prohibited conduct and criminal activity in the scope of their employment DPSS. See the next page for more information on confidentiality and reporting.

Reporting an issue does not necessarily initiate an investigation, but allows a trained person to reach out to offer options/resources.

When an issue is disclosed to CMB leadership, the Director will respond to the student in writing, summarizing the discussion and next steps. The Director will involve campus offices as appropriate on a case-by-case basis. The Director or the Associate Director will follow up with the student to update them of progress and to discuss whether the problem has been resolved.

2. Alternatively, the student may consider filing a formal complaint with the Rackham Graduate School Resolution Officer, or the ECRT Office. In case of a complaint against another student, a student may also file a complaint through the Office of Student Conflict Resolution (OSCR).

The Standard Practice Guide for the University of Michigan outlines the full University policy on [discrimination and harassment](#).

On Campus Resources

- [ECRT Office](#) (Equity, Civil Rights, and Title IX) (Formally Office of Institutional Equity/OIE)
- [SAPAC](#) (Sexual Assault Prevention and Awareness Center)

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

CONFIDENTIALITY & REPORTING

[Several resources](#) are available for students, faculty and staff who experience conduct issues, discrimination, sexual assault, relationship violence, stalking and sexual or gender-based harassment.

All members of the U-M community are encouraged to share any information about possible misconduct with the Equity, Civil Rights, and Title IX Office (ECRT), and to contact DPSS with information about any criminal conduct. Some members of our community are **required** to report based on their employment position within the university. **There are 2 types of reporting responsibilities:**

- **Individuals with reporting obligations (IROs)**

IROs are required, within 48 hours, to share any information they receive about sexual or gender-based misconduct with the ECRT office. IROs include supervisors (including faculty), university administrators (executive officers, deans, department chairs, program admin, and supervisors) and employees in certain designated positions (including resident advisors and human resources staff) and units or departments.

ECRT seeks to support those impacted by misconduct and offers resources and supportive measures even if an individual chooses not to file a report or participate in a formal resolution process. Available support includes academic support and accommodations, university employment modifications, university housing modifications, counseling and/or medical services, security measures, contact restrictions, and advocacy and assistance with legal or other external processes such as seeking a personal protection order. To see the formal Student Process Overview in filing a report, visit this [ECRT Student Process Flow Chart](#).

- **Campus Security Authorities (CSAs)**

CSAs, because of their job functions, have an obligation to notify the university of alleged Clery Crimes reported to them, including second-hand reports and crimes they have personally witnessed.

Generally, the following units or positions are CSAs: CMB program manager and faculty directors, Office of Student Conflict Resolution (OSCR) staff, Equity, Civil Rights and Title IX Office (ECRT), university deans, department chairs, those involved with research involving minors, advisors to sponsored student organizations, and Division of Public Safety and Security (DPSS) employees

How to file a report

- [Submit a Report Here](#) (to report discrimination, harassment, and sexual misconduct – sent to ECRT)
- [Submit a Report Here](#) (to report both sexual/gender-based misconduct, and Clery/criminal misconduct – sent to both ECRT and DPSS)

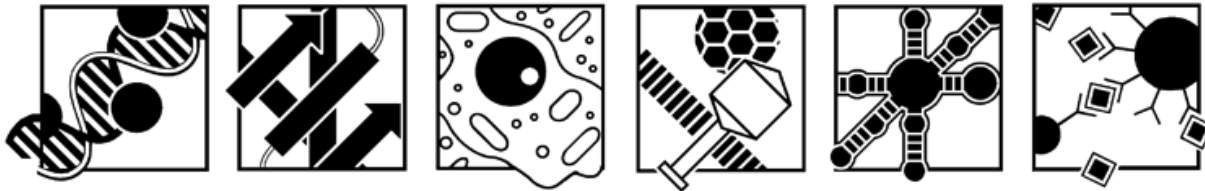
The following offices are designated as “confidential”:

- SAPAC
- Counseling services such as CAPS, med school counseling, OGPS counselors
- Office of the Ombuds
- Student Legal Services
- UHS
- SafeHouse Center

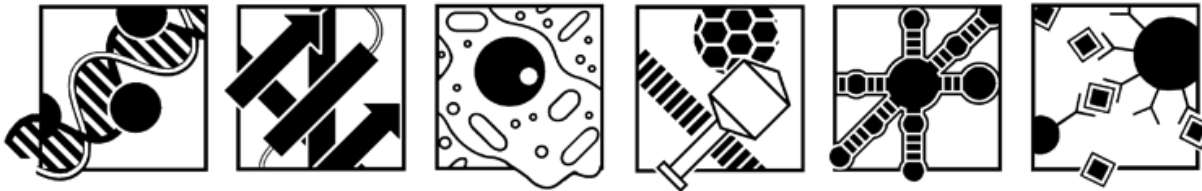
May have reporting obligations (not confidential):

- ECRT
- CEW+ (except CEW counselors)
- Dean of Students
- OSCR
- DPSS
- Identity-related offices (MESA, Spectrum Center, etc.)

[Click here for more information](#) about support options, contact info, confidentiality and reporting.



APPENDICES



GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 1: CMB Program Timeline

Student Name: _____ Mentor: _____

The following are benchmarks the student should use to record accomplishments according to their own experience. It should be used to facilitate discussion with committee members or thesis advisors about progress, and help them stay on track.

| Benchmark | Target | Actual (Year & Date) |
|-------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------|
| <i>Year 2/G1 (Pre-Candidate)</i> | | |
| Present CMB seminar (CMB 850)** | Nov - Jan | |
| Search for GSI appointment for Year 3/G2 | By March | |
| Attend MORE Mentorship Workshop** | Before May | |
| Create IDP** (Science Careers or MSTP IDP) | Before May | |
| Apply for Rackham Pre-Candidate Research Grant (before advancing to candidacy) | Before candidacy | |
| Prelim Passed & Candidacy approved by CMB Program Committee** | By May | |
| Dissertation Committee formed and approved by CMB Program Committee** | By July | |
| Attend Fall Retreat (Oct) & Present Poster at Spring Symposium (May)** | Oct/May | |
| Attend 4 CMB Dissertation Defenses** | Per AY | (Note Dates Below) |
| | | |
| <i>Year 3/G2 (Candidate)</i> | | |
| Update IDP** | Annually | |
| 1st Dissertation Committee meeting.** <i>Present detailed thesis proposal</i> (set up 2-3 months ahead). | By Nov | |
| 2nd Dissertation Committee Meeting** | By May | |
| Teaching Requirement (or Keep Looking for Year 4/G3) | Year 3/G2 | |
| Attend Fall Retreat (Oct) & Present Poster at Spring Symposium (May)** | Oct/May | |
| Attend 4 CMB Dissertation Defenses** | Per AY | (Note Dates Below) |
| | | |

****Required for CMB Program**

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 1: CMB Program Timeline

| <i>Year 4/G3 (Candidate)</i> | | |
|---------------------------------------------------------------------------|-----------|--------------------|
| Update IDP** | Annually | |
| Present research seminar (CMB 850)** | Year 4/G3 | |
| 2 Dissertation Committee Meetings Per Academic Year** (Record Dates Here) | | |
| Attend Fall Retreat (Oct) & Present Poster at Spring Symposium (May)** | Oct/May | |
| Attend 4 CMB Dissertation Defenses** | Per AY | (Note Dates Below) |
| | | |

| <i>Year 5/G4 or Later (Candidate)</i> | | |
|---------------------------------------------------------------------------|----------|--------------------|
| Update IDP** | Annually | |
| 2 Dissertation Committee Meetings Per Academic Year** (Record Dates Here) | | |
| Attend Fall Retreat (Oct) & Present Poster at Spring Symposium (May)** | Oct/May | |
| Attend 4 CMB Dissertation Defenses** | Per AY | (Note Dates Below) |
| | | |

| <i>Other Milestones Before Defense (No Specific Timeline)</i> | | |
|---------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------|
| Complete 4 CMB 630 Short Courses** | 4 Times | (Enter Semesters Below) |
| | | |
| Participate in a CMB committee** (2 or more years) | Ideally 2 nd /G1– 4 th /G2 years | |
| One first-author research publication submitted** | Before Defense | |
| Present at national meeting (oral or poster) (Apply for student travel funding) | Before Defense | |
| Apply for fellowship (see “Common Funding Opportunities” in handbook) | Apply 2 nd /G1 - 4 th /G3 Year | |
| Apply for Rackham Candidate Research Grant | Usually Year 3/G2 or 4/G3 | |
| Write review article | Before Defense | |
| Additional research publications (Bring updated CV & Bibliography) | Before Defense | |
| Supervise other trainees in lab | Note dates | |

**Required for CMB Program

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 2: SAMPLE COURSES

These are course suggestions based on previous years' offerings – discuss any course selections with your academic advisor and check the current course catalog in Wolverine Access for the most updated listings of course numbers and titles. Contact CMB to set up an advising meeting any time.

Biochemistry (1 course required)

- Level 1. BIOLCHEM 515-Introductory Biochemistry (FA/WI terms 3 cr)
- Level 2. BIOLCHEM/CHEMBIO 501/502-Chemical Biology I/II (FA/WI 3 cr/3 cr)
- Level 3. BIOLCHEM 528 Biology and Chemistry of enzymes 2 cr 1st half of WI semester
BIOLCHEM 640-Post-transcriptional mechanisms (WI term 2 cr)
BIOLCHEM 650-Mechanisms of Eukaryotic Gene Expression (WI term 3 cr)
BIOLCHEM 660- Molecules of Life (FA term 2 cr)
BIOLCHEM 673- Kinetics & Ligand Binding (WI term 2 cr)
BIOLCHEM/CDB/M&I 675 - Advanced Topics in Protein Trafficking and Localization (WI term 2 cr every other yr)
BIOLCHEM 690 Biochemical Regulatory Mechanisms (FA term 2cr)

Cell Biology (1 course required)

- Level 1. MCDB 428-Cell Biology (WI term 4 cr)
- Level 2. CDB 530-Cell Biology (FA term 3 cr)
PHYSIOL 576/578-Signal Transduction/Membrane and Cellular Physiology (1/2 cr)
- Level 3. CDB 560 – Quantitative Fluorescence Microscopy (WI term 3 cr)
CDB 581 – Developmental Genetics (FA term 3 cr)
CDB 582 – Organogenesis: Stem Cells to Regenerative Biology (WI term 3 cr)
MICROBIOL 640-642- Molecular and Cellular Immunology I/II/III (3 cr/1 cr/1 cr)
CANC BIO 553-Molecular Biology of Cancer (2 cr)
CDB 550-Histology (4 cr)
BC/PHYS/PHRM 591 – Special Topics in Signal Transduction (2 cr)

Genetics (1 course required)

- Level 1. MCDB 427-Molecular Genetics (FA term 4 cr)
- Level 2. HUMGEN 541-Molecular Genetics (FA term 3 cr)
CDB 581 – Developmental Genetics (FA term 3 cr)
- Level 3. BIOLCHEM 650-Mechanisms of Eukaryotic Gene Expression (WI term 3 cr)
HUMGEN/PHYSIOL 555- Integrative Genomics (WI term 3 cr)
HUMGEN 542-Genetic Basis for Disease (WI term 3 cr)
HUMGEN 544 – Basic Concepts in Population and Statistical Genetics (3 cr)
CDB 582 – Organogenesis: Stem cells to Regenerative Biology (WI term 3 cr)

Grant Writing (Additional options; only Pharm 502 is required)

- PHYS/HG 555 – Integrative Genomics (WI)
- CDB 582 – Organogenesis: Stem Cells to Regenerative Biology (WI)
- BIOLCHEM 650 – Mechanisms of Eukaryotic Gene Expression (WI)
- BIOLCHEM 640 – Post-transcriptional mechanisms (WI)
- PIBS 502 – Introduction to Scientific Communication (WI)
- MCDB 615 – Topics in Cellular & Molecular Biology (WI)

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 2: SAMPLE COURSES (continued)

Quantitative Training

CMB students are required to take 2-3 credit hours of coursework that provides quantitative training. This requirement can be met by taking courses, either as electives or CMB core courses, from any one of the 4 areas below, or any other course approved by the CMB Director.

Coursework in statistics/biostatistics is highly recommended for any student without undergraduate statistics. Advanced training in statistics and/or statistical genetics is recommended for students whose research involves human and animal models or large scale datasets (genomic, proteomic, etc.).

Biostatistics/Statistics

Biostatistics

- 501 – Introduction to Biostatistics (prereq: algebra) (4 cr) Fall
- 512 – Analyzing Longitudinal & Clustered Data Using Statistical Software (prereq 501, 521 or equiv) (3 cr) Winter
- 521 – Applied Biostatistics (Fundamental statistics, prereq: calculus) (4 cr) Fall
- 522 – Biostatistical Analysis for Health-Related Studies (prereq: 521 or 501 w/permission) (3 cr) Winter
- 601 – Probability and Distribution Theory (prereq: 3 terms of calculus) (4 cr) Fall
- 602 – Biostatistical Inference (Fundamental theory of inferential statistical procedures, prereq: 601) (4 cr) Winter
- 646 – High Throughput Molecular Genetic and Epigenetic Data Analysis (prereq: Stat 400, Biostat 521, 522 or permission) (3 cr) Winter

Statistics

- 400 – Applied Statistical Methods (4 cr)
- 401 – Applied Statistical Methods II (4 cr)
- 470 – Introduction to the Design of Experiments (4 cr)

Bioinformatics/Computer Science

Computational Medicine and Bioinformatics

- BIOINF 524 – Foundations in BIOINF and Systems Biology (intro to statistics and bioinformatics tools on the web) (3 cr) Winter
- BIOINF 527 – Introduction to Bioinformatics and Computational Biology (for students with basic statistics and some programming knowledge who want to go deeper into bioinformatics) (4 cr) Fall
- BIOINF/PHYSIOL 520 – Computational Systems Biology in Physiology (3 cr)
- BIOINF 528 – Advanced Applications of Bioinformatics (3 cr) Fall
- BIOINF 545 – Data Analysis in Molecular Biology (3 cr)
- BIOINF 551 – Proteome Informatics (3 cr) Fall every other year
- BIOINF 575 – Programming Lab in Bioinformatics (introductory computer programming course for those interested in getting more involved in analysis) (3 cr)
- EECS 498 – Introductory Computer Programming (introductory computer programming course for those interested in getting more involved in analysis)
- Physiology 519 – Systems Biology (introduces relevant biochemistry and mathematical modeling before delving into systems biology applications)

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 2: SAMPLE COURSES (continued)

PHYSIOL/BIOINF 520 - Computational Systems Biology for Physiologists
HUMGEN 551 – Computational Genomics (2cr) Winter

Quantitative Genetics

HUMGEN 544 – Basic Concepts in Population and Statistical Genetics (3 cr) Fall
BIOSTATS 666 – Statistical Models and Numerical Methods in Human Genetics (3 cr/Fall)

Biophysics/Quantitative Biochemistry and Cell Biology

BIOLCHEM 528 – Biology and Chemistry of Enzymes (2 cr) Winter
BIOLCHEM 530 – Structural Biology in Solution (3 cr) Fall
BIOLCHEM 673 – Kinetics & Mechanism (2 cr) Winter
BIOLPHYS 520 – Biophysical Chemistry I (3 cr)
BIOLPHYS 521 – Biophysical Chemistry II (3 cr)
BIOIPHYS 550 – Intro to Biophysics Laboratory (3 cr)
BIOIPHYS 602 – Protein Crystallography (3 cr)
BIOIPHYS 608 – Biophysical Principles in Microscopy (3 cr)
CDB 560 – Quantitative Fluorescence Microscopy (3 cr) Winter

Alternative Courses (up to 3 credits)

To facilitate the ability of students who did not follow the CMB curriculum at the outset to switch into CMB from other PIBS programs, in some cases the basic coursework may be fulfilled with an introductory survey class(es) from other PIBS programs that are typically used to fulfill elective credits. This is discussed on a case-by-case basis. Examples:

BIOINFO 525 or 527-Introduction to Bioinformatics
BIOPHYS 520- Energetics, Interactions, and Dynamics of Biomacromolecules
BIOSTAT 501-Introduction to Biostatistics
MCDB 614-Experimental Models in Molecular, Cellular and Developmental Biology
MICROBIOL 640-642-Molecular and Cellular Immunology
NEUROSCI 601-Principles of Neuroscience
PATH 581-Tissue, Cellular and Molecular Basics of Disease
PHARMACOL 611-Principles of Pharmacology
PHYSIOL 510- Systems & Integrative Physiology

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 3: Sample Academic Plans Based on Interest

| <u>EXAMPLE 1. FOR A CMB STUDENT INTERESTED IN CANCER BIOLOGY</u> | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>First year (PIBS)</u> | <u>Second year (CMB)</u> |
| <p><u>FALL TERM</u> PIBS 503 – Research skills / Research responsibility and Ethics (1 cr) PIBS 600 – Research Rotation (variable cr) CMB 850 – CMB student seminar (optional, 1 cr) CMB 630 – CMB Short Course (optional, 1 cr)</p> <p>BCHM 550 – Macromolecular Structure & Function (3 cr) HumGen 541 – Molecular genetics (3 cr) Or BCHM 550 – Macromolecular Structure & Function (3 cr) CDB 530 – Cell Biol (3 cr)</p> | <p><u>FALL TERM</u> CMB 850 – Student seminar (1 cr) CMB 630 – Advanced topics in Molecular Biology (1 cr) CMB 990 - Precandidate dissertation research (variable cr) Pharm 502 – Grant Writing</p> <p>MI/Path 553 – Molecular Biology of Cancer (3 cr) CDB 530 – Cell Biology (3 cr) or MI/Path 553 – Molecular Biology of Cancer (3 cr) Physiol/BCHM 591 – Special Topics in Signal Transduction (2cr) Or Pharm 612 – Antimicrobial & cancer pharmacol (2 cr)</p> |
| <p><u>WINTER TERM</u> PIBS 600 – Research Rotation (variable cr) CMB 850 – CMB student seminar (optional, 1 cr) CMB 630 – CMB Short Course (optional, 1 cr) PIBS 504 – Rigor & Reproducibility</p> <p>Path 581 – Tiss, Cell and Molec Basis of Disease (3 cr) Bioinf 525 – Foundations in Bioinformatics & Systems Biology (3 cr) or Bioinf 551 – Proteome Informatics (3 cr)</p> | <p><u>WINTER TERM</u> CMB 850 – Student seminar (1 cr) CMB 630 – Advanced topics in Molecular Biology (1 cr) CMB 990 - Precandidate dissertation research (variable cr)</p> <p>BCHM 640 – Post-transcriptional mechanisms (2 cr) CanBiol 554 – Cancer Pathogenesis & Treatment (4 cr) or Physiol/HumGen 555 – Integrative Genomics (3 cr)</p> |

Shaded areas denote PIBS and CMB courses

CMB 630 – Short Course is formally titled: Advanced Topics in Molecular Biology.

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 3: Sample Academic Plans Based on Interest (continued)

| <u>EXAMPLE 2. FOR A CMB STUDENT INTERESTED IN STEM CELLS & DEVELOPMENTAL BIOLOGY</u> | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>First year (PIBS)</u> | <u>Second year (CMB)</u> |
| <p><u>FALL TERM</u> PIBS 501/503 – Research skills / Research responsibility & Ethics (1 cr) PIBS 600 – Research Rotation (variable cr) CMB 850 – CMB student seminar (optional, 1 cr) CMB 630 – CMB Short Course (optional, 1 cr)</p> <p>CDB 530 – Cell Biology (3 cr) BCHM 550 – Macromolecular Structure & Function (3 cr)</p> | <p><u>FALL TERM</u> CMB 850 – Student seminar (1 cr) CMB 630 – CMB Short Course (optional, 1 cr) CMB 990 - Precandidate dissertation research (variable cr) Pharm 502 – Grant Writing</p> <p>HumGen 541 – Molecular Genetics (3 cr) CDB 680 – Organogenesis of complex tissues (3 cr) or MCDB 614 – Experimental Models in Molecular, Cellular & Developmental Biology (3 cr)</p> |
| <p><u>WINTER TERM</u> PIBS 600 – Research Rotation (variable cr) CMB 850 – CMB student seminar (optional, 1 cr) CMB 630 – CMB Short Course (optional, 1 cr) PIBS 504 – Rigor & Reproducibility</p> <p>CDB 580 – Principles of Development (3 cr) Or CDB 550 – Histology (4 cr)</p> <p>BCHM 645 – Advanced Topics in Protein Trafficking (3 cr)</p> | <p><u>WINTER TERM</u> CMB 850 – Student seminar (1 cr) CMB 630 – Advanced topics in Molecular Biology (1 cr) CMB 990 - Precandidate dissertation research (variable cr)</p> <p>Physiol/BCHM 576 – Signal transduction (1 cr) Bioinf 525 – Foundations in Bioinformatics & Systems Biology (3 cr)</p> |

Shaded areas denote PIBS and CMB courses

CMB 630 – Short Course is formally titled “Advanced Topics in Molecular Biology”

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 3: Sample Academic Plans Based on Interest (continued)

| <u>EXAMPLE 3. FOR A CMB STUDENT INTERESTED IN GENETIC/EPIGENETIC MECHANISMS</u> | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>First year (PIBS)</u> | <u>Second year (CMB)</u> |
| <p><u>FALL TERM</u></p> <p>PIBS 503 – Research skills / Research responsibility and Ethics (1 cr) PIBS 600 – Research Rotation (variable cr) CMB 850 – CMB student seminar (optional, 1 cr) CMB 630 – CMB Short Course (optional, 1 cr)</p> <p>HumGen 541 – Molecular Genetics (3 cr) BCHM 550 – Macromolecular Structure & Function (3 cr) or ChemBio 501 – Chemical Biology</p> | <p><u>FALL TERM</u></p> <p>CMB 850 – Student seminar (1 cr) CMB 630 – Advanced topics in Molecular Biology (1 cr) CMB 990 - Precandidate dissertation research (variable cr) Pharm 502 – Grant Writing</p> <p>CDB 530 – Cell Biology (3 cr) Physiol/BCHM 591 – Special Topics in Signal Transduction (2 cr)</p> |
| <p><u>WINTER TERM</u></p> <p>PIBS 600 – Research Rotation (variable cr) CMB 850 – CMB student seminar (optional, 1 cr) CMB 630 – CMB Short Course (optional, 1 cr) PIBS 504 – Rigor & Reproducibility</p> <p>BCHM 650 – Mechanisms of Eukaryotic Gene Expression (3 cr) Bioinf 527 – Introduction to Bioinformatics & Computational Biol (4 cr) or Bioinf 545 – Data Analysis in Molecular Biology (3 cr)</p> | <p><u>WINTER TERM</u></p> <p>CMB 850 – Student seminar (1 cr) CMB 630 – CMB Short Course (1 cr) CMB 990 - Precandidate dissertation research (variable cr)</p> <p>BCHM 640 – Post-transcriptional gene regulation (2 cr) Physiol/ HumGen 555 – Integrative Genomics (3 cr) or Biophys 440 - Biophysics of Diseases (3 cr)</p> |

Shaded areas denote PIBS and CMB courses

CMB 630 – Short Course is formally titled “Advanced Topics in Molecular Biology”

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 3: Sample Academic Plans Based on Interest (continued)

| <u>EXAMPLE 4. FOR A CMB STUDENT INTERESTED IN TRANSLATIONAL RESEARCH</u> | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>First year (PIBS)</u> | <u>Second year (CMB)</u> |
| <p><u>FALL TERM</u> PIBS 503 – Research skills / Research responsibility and Ethics (1 cr) PIBS 600 – Research Rotation (variable cr) CMB 850 – CMB student seminar (optional, 1 cr) CMB 630 – CMB Short Course (optional, 1 cr)</p> <p>CDB 530 – Cell Biology (3 cr) HumGen 541 – Molecular Genetics (3 cr)</p> | <p><u>FALL TERM</u> CMB 850 – Student seminar (1 cr) CMB 630 – CMB Short Course (1 cr) CMB 990 - Precandidate dissertation research (variable cr) Pharm 502 – Grant Writing</p> <p>BCHM 550 – Macromolecular Structure & Function (3 cr) Physiol 510 – Systems & Integrative Physiology (4 cr) or MI/Path 553 – Cancer Biology (3 cr)</p> |
| <p><u>WINTER TERM</u> PIBS 600 – Research Rotation (variable cr) CMB 850 – CMB student seminar (optional, 1 cr) CMB 630 – CMB Short Course (optional, 1 cr) PIBS 504 – Rigor & Reproducibility</p> <p>PIBS 507 – Introduction to Translational Research (3 cr) Physiol 520 – Computational Systems Biology in Physiology (3 cr) MI 619 – Pathogenic Evaluation of Animal Models of Human Disease (1 cr)</p> | <p><u>WINTER TERM</u> CMB 850 – Student seminar (1 cr) CMB 630 – CMB Short Course (1 cr) CMB 990 - Precandidate dissertation research (variable cr)</p> <p>Physiol/HumGen 555 – Integrative Genomics (3 cr) or HumGen 542 – Molecular Genetic basis of human disease (3 cr)</p> |

Shaded areas denote PIBS and CMB courses

CMB 630 – Short Course is formally titled “Advanced Topics in Molecular Biology”

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 4: FUNDING CHEAT SHEET BY AWARD TYPE

| Student Payments Cheat Sheet - By Type of Award | | | |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of Award | Training grants, F30s/F31s/F99s, individual fellowships, CMB-administered Rackham funds (e.g. Regents), some external fellowships (e.g. NSF) | Rackham-Administered Fellowships (Rackham Merit, Rackham Predoctoral, etc.) <i>Apply Here:</i> https://rackham.umich.edu/funding/ | Graduate Student Instructors (GSIs)/ Graduate Student Research Assistants (GSRAs) <i>(Students on GSRAs are usually supported by faculty sponsored funds, e.g. R01 or other faculty sponsored funds)</i> |
| Paid by | Financial Aid | Financial Aid | Human Resources |
| Payment Plan | Standard Monthly | Special Monthly F/W, Standard Sp/Su | University Payroll |
| Pay Date | Usually mid-month | Special monthly is paid usually mid-month, with added "early Sept," and "early Jan" payments. Payments will be lower, as they are spread across 5 payments/semester instead of 4 (or monthly). Rackham switches to "standard monthly" plan for Sp/Su (May-Aug). | Last week day of the month |
| Benefit Elections beyond basic Gradcare <i>(Vision, Dental 2 or 3, etc.)</i> | Student must pay monthly from student account; past due charges can result in a hold on the account (cannot register for classes or receive diploma until paid) | Student must pay monthly from student account; past due charges can result in a hold on the account (cannot register for classes or receive diploma until paid) | Benefit elections beyond basic Gradcare are automatically withheld from paycheck. Some other things (e.g. parking) may be withheld via payroll and some may not - check student account regularly. |
| Taxes | Taxes are not automatically withheld like they are with an employee position; student should keep track of monthly stipend amounts for any tax reporting purposes <i>See https://rackham.umich.edu/rackham-life/finances/ for more info (see "Tax Information").</i> Consult a tax professional about what to report. 1098-Ts are available in Wolverine Access. | Taxes are not automatically withheld like they are with an employee position; student should keep track of monthly stipend amounts for any tax reporting purposes <i>See https://rackham.umich.edu/rackham-life/finances/ for more info (see "Tax Information").</i> Consult a tax professional about what to report. 1098-Ts are available in Wolverine Access. | Payroll taxes automatically withheld from paycheck. FICA taxes not withheld during Fall/Winter enrollment, but withheld during the summer months. GSRAs/GSIs can request a summer FICA exemption at: https://finance.umich.edu/finops/payroll/tax/studentemployeesficaexemption |
| Pay Stubs | Pay stubs are for employees (GSRAs/GSIs) only. But students can view account history in Wolverine Access: <i>Student Business>Financial Aid Information>select year>Award Summary>Account Inquiry>History</i> The amounts paid to you are represented in the "Refund" column. | Pay stubs are for employees (GSRAs/GSIs) only. But students can view account history in Wolverine Access: <i>Student Business>Financial Aid Information>select year>Award Summary>Account Inquiry>History</i> The amounts paid to you are represented in the "Refund" column. | Available in Wolverine Access <i>Faculty & Staff > Employee Self-Service > Payroll & Compensation > Pay</i> |
| W2s | You will not receive a W2 as they are for employees only. But trainees/fellows can find their 1098-T in Wolverine Access: <i>Student Business>Financial Aid Information>select year>Award Summary>Account Inquiry>1098T Tax Info</i> | You will not receive a W2 as they are for employees only. But trainees/fellows can find their 1098-T in Wolverine Access: <i>Student Business>Financial Aid Information>select year>Award Summary>Account Inquiry>1098T Tax Info</i> | Available in Wolverine Access <i>Faculty & Staff > Employee Self-Service > Payroll & Compensation > View W2</i> |

OTHER NOTES (ALL AWARD TYPES):

- 1) Some students may have a combination of these types of awards, so their funding may reflect a combination of these funding situations (for example, for someone with both an F31 and GSI, they will have multiple pay dates for different parts of their stipends) - contact CMB with any questions.
- 2) Tuition and fees are charged to your student account in August for Fall, and December/early January, for Winter semester. The balance may show on your student account a couple weeks before your funding source pays the balance. First - do not panic, and do not pay any tuition or registration fees (unless you have a late registration fee). Your tuition and fees balance should be paid by mid-Sept for Fall, and mid-Jan, for Winter. Please let us know if this is not the case.

CONTACT INFO:

| | | |
|-----------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------|
| CMB: <i>(how you are being paid, account or payment issues, etc.)</i> | (734) 764-5428 | cmbgrad@umich.edu |
| Student Financial Services: <i>(student account issues)</i> | (734) 764-7447 | um-sfo@umich.edu |
| Academic HR: <i>(info about being a student employee, GEO)</i> | (734) 763-8938 | hr-acadhr@umich.edu |
| University Payroll: <i>(for help deciphering GSI/GSRA paychecks)</i> | (734) 615-2000 (select option for Payroll Office) | payroll@umich.edu |
| University Benefits: <i>(questions about benefit options/charges)</i> | (734) 615-2000 (select option for Benefits Office) | |
| | (734) 764-5182 (direct line for student insurance) | (Tell them you're a grad student on GradCare) |

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 4: FUNDING CHEAT SHEET BY AWARD TYPE (continued)

| 2024-2025 Payment Schedule | Standard Monthly (\$41,308.50/year or \$3,442.37/mo - Sept 2024 - August 2025) Spread across 12 monthly payments | "Special Monthly" Fall & Winter / "Standard" Sp & Su (\$41,308.50/year - Sept 2024 - August 2025) \$2,753.90/mo spread over 5 payments/semester instead of 4 in Fall and Winter ; then \$3,442.37/mo monthly during Sp/Su) | Payroll (\$41,308.50/year - Sept 2024 - August 2025, or \$3,442.37/mo minus payroll tax and other deductions) Spread across 12 monthly payments |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| "Early September" | N/A | 8/22/24 | N/A |
| September | *9/23/24 | 9/23/24 | Last week day of the month |
| October | 10/21/24 | 10/21/24 | Last week day of the month |
| November | 11/18/24 | 11/18/24 | Last week day of the month |
| December | 12/13/24 | 12/13/24 | Last week day of the month |
| "Early January" | N/A | 1/6/25 | N/A |
| January | 1/27/25 | 1/27/25 | Last week day of the month |
| February | 2/24/25 | 2/24/25 | Last week day of the month |
| March | 3/24/25 | 3/24/25 | Last week day of the month |
| April | 4/21/25 | 4/21/25 | Last week day of the month |
| May | 5/19/25 | 5/19/25 | Last week day of the month |
| June | 6/16/25 | 6/16/25 | Last week day of the month |
| July | 7/14/25 | 7/14/25 | Last week day of the month |
| August | *8/11/25 | 8/11/25 | Last week day of the month |
| Other notes | *On the Financial Aid Office's disbursement calendar, August is usually paid out the first week of the month while September pays out at the end, resulting in a larger pay gap than usual (an extra 2-3 weeks). Please budget for this annually. Programs cannot disburse this to everyone earlier but can advance money to individual students if necessary. Please contact CMB if this poses an issue paying bills. | Occasionally, other Rackham awards will use the "Special Monthly" format for Spring/Summer semesters as well. In this case, you would receive an additional "Early May" and "Early July" payment, and all Sp/Su payments would be reduced accordingly to allow the additional payments (6 total payments for Sp/Su instead of 4). PIBS students are on the Special Monthly system for the 10 months they are funded by PIBS. | If your appointment is "per term" (GSIs and some GSRAs), you may get paid a "compression rate" for Fall. You will receive a separate paycheck for the first couple days of the Fall semester in August (e.g. 8/26-8/31), and then a slightly reduced paycheck for Sept-Dec . This should not change the amount you receive overall (\$3247.50 for Aug; and \$13,769.50 for Fall semester, before deductions). |

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 5: ADDITIONAL RESOURCES FOR STUDENTS

Campus Information Center (CIC)

Need information about a service, contact information, or location on campus? The Campus Information Center has maps and can help get you connected with the right place. Visit their [website](#) or dial (734) 764-INFO.

Center for the Education of Women (CEW+)

[CEW+](#) empowers women and underserved individuals in the University of Michigan and surrounding communities by serving as an advocate and providing resources to help them reach their academic, financial, and professional potential.

Center for Research on Learning and Teaching (CRLT)

[CRLT](#) has many resources and events designed to assist graduate students learning to enhance their teaching skills and experience, including a Graduate Teaching Certificate.

Center for Statistical Consultation and Research (CSCAR)

CSCAR provides free statistical consulting to all UM faculty, staff, and graduate students with the design, planning, analysis, and presentation of research studies. CSCAR also offers workshops on statistical methods, statistical software, and qualitative data analysis. Spring workshop offerings include Statistics Review, SAS, SPSS, Stata, SEM and Analysis with R. Visit the [CSCAR](#) website for current offerings and more information.

Career Center – The [University Career Center](#) offers job searching help, plus career resources and events for all student levels (including PhD)

Conflict Resolution (see “*Conflict Resolution*” for listing of confidential offices)

- [Dean of Students](#) - can help moderate issues with students, faculty or staff, that disrupt their Michigan experience, such as:
Quarantine or isolation needs, academic support (including academic notifications for absences from class or academic stress), financial concerns, including emergency funding, campus climate concerns, off-campus roommate concerns or questions, direct referrals to health and well-being resources
- [Office of the Ombuds](#) – a place where student questions, complaints and concerns about the functioning of the University can be discussed confidentially in a safe environment. The Office offers informal dispute resolution services, provides resources and referrals, and helps students consider options available to them. The Office of the Ombuds can be reached through the web or by calling (734) 763-3545.
- [Rackham Resolution Services/Resolution Officer \(RO\)](#): Advises faculty, staff and students on matters related to student emergencies, crisis situations, disputes, and student conduct violations. The RO also provides information about Graduate School and University policies and procedures, makes referrals, and provides resources when appropriate.
- [OSCR \(Office of Student Conflict Resolution\)](#) – offers a spectrum of conflict resolution pathways that are educationally focused, student-driven, community owned, and restorative in nature, which are adaptable to meet the needs of individuals experiencing conflict.
- [ECRT Office \(Equity, Civil Rights, and Title IX\)](#) (*Formally Office of Institutional Equity/OIE*) – s Provides support, resources and education to promote a safe and non-discriminatory learning, living and working environment; ensures equal opportunity for all persons regardless of identity in employment educational programs and activities and admissions. ECRT can answer questions about who qualifies as an [IRO](#) (Individual with Reporting Obligations, *formally “responsible employee”*)
 - [Submit a Report Here](#) (to report discrimination, harassment, and sexual misconduct)

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 5: ADDITIONAL RESOURCES FOR STUDENTS (continued)

- **Clery Compliance Officer** (DPSS)
In compliance with [Clery Act](#), the Division of Public Safety and Security (DPSS) and the university track crimes occurring on and near campus and offer that information to the U-M community and the public. The Clery Act Compliance Officer can answer questions about who qualifies as a CSA ([Campus Security Authority](#)), and what kinds of disclosures need to be reported.
 - [Submit a Report Here](#) (to report criminal activity)

Core Facilities

Core facilities at the University of Michigan are physical footprints on campus where researchers can pay to use equipment that would be too costly for any one single lab to maintain.

Some examples:

- 1) The microscopy core, where scientists (including CMB students) can sign up to use fancy microscopes (e.g., a lattice light sheet microscope), that would not exist at most institutions, let alone in individual labs.
- 2) The advanced genomics core, which uses advanced sequence analyzers to generate genome-wide data sets (single cell RNA sequencing data are often generated through the advanced genomics core).
 - [Medical School Core Facilities](#)
 - [Core Facilities Across Campus](#)

Disability Services/Accommodations:

All academic accommodations for students with disabilities are handled through the [Office of Services for Students with Disabilities \(SSD\)](#). The SSD staff will work with you to determine reasonable academic accommodations. SSD can be reached through the web or by calling (734) 763-3000.

English Language Institute:

The mission of [the English Language Institute](#) Instructional Division is to provide English language instruction to members of the University of Michigan community that promotes effective academic and intercultural communication within and across disciplines at the University of Michigan. They can be reached through the web or by calling (734) 764-2413.

Funding & Taxes

- [Academic HR](#) – For questions about GSRA/GSIs, and generally being an employee as a grad student.
- [Payroll](#) – For questions about your paycheck (if you are on the HR system as an employee and not on a fellowship/Financial Aid)
- [Benefits](#) – For questions about benefits, including GradCare and other elective options you can choose. Don't forget to tell them you are a graduate student on GradCare when you call.
- [Financial Aid](#) – For questions about your paycheck (if you are on a fellowship, not on a GSRA/GSI as a university employee). They would be able to answer questions about how you were paid from a student account (but not about GSRA/GSIs, or paychecks from university payroll).
- [Student Financial Services](#) – For questions about your student account, including fees on your account, balances, refunds, and credits. They will not know your funding situation but can see your account transaction history and make changes in some cases.
- [Tax Resources from HR](#) & [Tax Info From Rackham](#)
(Note, staff and faculty are not authorized to give tax advice – please consult a tax professional)

International Center:

The [International Center](#) advises international students, their dependents, and departments on compliance with U.S. immigration laws and regulations related to F and J visa categories, and advises on adjustment to U.S. society and American culture, academic concerns and community resources

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 5: ADDITIONAL RESOURCES FOR STUDENTS (continued)

Mental Health/Wellness Resources

- **Need help now?** If you think you or someone close to you is in immediate danger, call 911 or UMHS Psychological Emergency Services at 734-936-5900.
- **OGPS Counselors** – Click [here](#) to find out more about OGPS counseling services and wellness resources, and to schedule an appointment.
- **CAPS** - Consider talking with [Counseling and Psychological Services \(CAPS\)](#) to schedule a confidential 1 on 1 appointment with a licensed counselor. CAPS also offers special interest groups that offer supportive forums to share experiences, receive support, feedback and affirming strategies for navigating life experiences. Read about CAPS [groups or workshops](#), and give them a call at (734) 764-8312.
 - CAPS also has a [Rackham-designated counselor](#).
- [Rackham](#) and [Michigan Medicine](#) have websites with resources and mental health services
- The Campus Information Center has compiled a list of [campus wellness resources](#)
- [University Health Services \(UHS\)](#) is your campus health and wellness resource, offering comprehensive clinical services plus support for your well-being. And most services are free for currently enrolled U-M students (Ann Arbor campus).

MESA (Office of Multi-Ethnic Student Affairs)

[MESA](#) is an active partner in the development of students of color – addressing racial/ethnic identity development, cross-cultural competency and personal empowerment. MESA also exists to promote and sustain a sense of community and involvement for students, particularly students of color.

Rackham Website

[Navigating Your Degree](#) - offers a comprehensive guide to your PhD with deadlines, action items, and more
[Professional Development](#) – opportunities to attend trainings and events to help you grow professionally
[Rackham Life](#) – information about different communities, life in Ann Arbor, DEI, health and well-being, campus services, conflict resolution and more.

Sexual Assault Prevention and Awareness Center (SAPAC):

[SAPAC](#) offers prevention education for students, confidential support for survivors (students, faculty, and staff), and collaborates with other offices to offer trainings, programs, and innovative community engagement strategies to collectively create a campus free from violence.

Office Phone: 734-764-7771

24/7 Crisis Line: 734-936-3333

Email: sapac@umich.edu

Spectrum Center

The [Spectrum Center](#) works toward enhancing the campus climate and support services for LGBTQ+ students, staff, and faculty at the university through education, advocacy, and community building.

Student Legal Services -- [Student Legal Services](#) is a division of Student Life and is a full-service law office. Their services are available to currently enrolled students at the University of Michigan.

Student Life Offices – many university services fall in this category and are available to Rackham students too

Students with Children Website:

This [site](#) is dedicated to the needs of students at U-M who juggle parenting/family care, study, and work. Resources include childcare, financial assistance, social support, housing, and health care information. For additional information on work/life supports for faculty, staff and students, please also visit [the Work/Life Resource Center site](#) and the [U-M Child Care Gateway](#).

Sweetland Center for Writing:

The [Sweetland Center for Writing](#), a comprehensive writing center, exists to support student writing at all levels and in all forms and modes. They can be reached by calling (734) 764-0429

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 6: CMB STUDENT EXPECTATIONS AGREEMENT

The goal of this document is to clearly state the CMB program's expectations of you as a PhD student. Please read this thoroughly and ask questions if any item is unclear. Your signature below indicates you have read and understood all expectations.

- **Do high-quality, scientifically sound research** - that is, hypothesis-driven, justified and well-planned experiments
- **Do not “get by” on the bare minimum - engage each other scientifically and socially.** Seek out opportunities to learn and practice skills, and participate fully in the program (through committees, event attendance and discussions/Q&As).
- **Participate in at least 1 student committee** (ideally for 2 years) - required for all students. You are not limited after that and are encouraged to continue to participate, as committee service is the best way to make your voice heard in the program.
- **Be open to wide-ranging topics and learning opportunities** in areas outside of your own expertise. Presumably, you have joined CMB for its interdisciplinary nature and exposure to a broad variety of research.
- **Stay on top of emails:** For day to day communication, ***you are expected to check both your “umich” and your “med.umich” emails*** at least several times a week, throughout the Fall, Winter, and Spring/Summer semesters.
- **Demonstrate intensity and commitment.** Understand that this is not a Monday through Friday 9-5 job. Labs are open 7 days a week, and often you will be required to put in evenings or weekends to achieve success in your respective area. Academic research is challenging, exciting, dynamic, and offers flexibility in a lot of ways. It can also be stressful and time-consuming. Work demands will ebb and flow.
- **Schedule dissertation committee meetings every 6 months** (required by CMB)
- **Be a positive influence in the program, in the lab, and at the university.**
 - ***Promote a culture of respect*** by being fully attentive, putting technology away during talks, asking questions, being reliable and punctual, listening actively, etc.
 - ***Promote diversity, equity and inclusion*** by attending DEI activities, being an ally, and addressing problematic behavior or practices when possible.
 - ***Promote community*** by attending events, welcoming new students/faculty, and socializing both within and outside of your orbit (building, lab, cohort, etc.).

GRADUATE PROGRAM IN CELLULAR AND MOLECULAR BIOLOGY

APPENDIX 6: CMB STUDENT EXPECTATIONS AGREEMENT (cont'd)

- **Promote improvement** by giving feedback when requested (before, not *after* changes have been made). Respond to surveys and emails, and keep systemic constraints in mind to offer feedback that is actionable and realistic.
- **Represent CMB professionally** to others at the university, and to those visiting the university as guests or prospective students and faculty
- **Grow as a student and scientist** - take ownership of your work, transition from absorbing knowledge to creating knowledge, practice your skills, and develop organization and time management strategies to increase your productivity and make more time for yourself.
- **Submit at least one publication before defending your dissertation** (required by CMB)
- **Successfully complete 4 terms of the short course and 1 term of teaching, before scheduling your defense date** (required by CMB)
- **Present your work in oral or poster form in at least one national meeting** (this is in addition to attending the required annual retreats and symposia for CMB)
- **Be a strong communicator**
 - **Communicate your expectations up front, and learn what others expect of you.** Address potential issues before they arise.
 - **Ask for help when you need it.** Talk to CMB leadership, your mentor, or other students. Do not cultivate a culture of grievance. But do consult with those who can offer advice or assistance. Check out the many resources and offices available to you in the CMB Handbook's "additional resources" appendix.
 - **Accept constructive feedback gracefully, and commit to a personal growth mindset.**
 - **Offer feedback respectfully, honestly, and constructively.** Do not harbor resentment - address issues directly.
- **Take care of yourself.** Your physical and emotional well-being matters. If you are struggling, reach out to CMB, to the resources listed in the "Additional Resources" appendix of the handbook, or to others in your life. Let us know how we can help.

Indication of Acknowledgement:

"I have read thoroughly through the expectations listed above, clarified any points of confusion, and am in agreement."

Signature

Date