

# The 2024-2025 BMCDB Student Handbook



Biochemistry, Molecular, Cellular, and  
Developmental Biology

## Table of Contents

BMCDB Leadership Directory – Page 3
Frequently Used Terms – Page 3
Before the First Year – Page 4
End-of-Summer Events – Page 4
Meeting Your Advisor – Page 4
First-Year CRNs – Page 5
Joining a Lab – Page 5
Annual Progress Reports – Page 6
The Student Progress Assessment (SPA) – Page 6
The Individual Development Plan (IDP) – Page 6
The Dissertation Committee Report (DCR) – Page 7
The Qualifying Exam– Page 8
Advancement to Candidacy – Page 9
Completing Your Degree – Page 10
Filing Your Dissertation – Page 10
Where to Go if Problems Arise – Page 11
MD/PhD Students – Page 12
Completing the Program with an M.S. Degree – Page 13
Degree Checklist Form – Page 14
List of Advisor-Approved Electives – Page 15



## BMCDB Leadership Directory

<b>Graduate Group Chair:</b>	Bruce Draper	530-752-0833	<a href="mailto:bwdraper@ucdavis.edu">bwdraper@ucdavis.edu</a>
<b>Program Coordinator:</b>	Alyssa Parsons	530-752-9091	<a href="mailto:acparsons@ucdavis.edu">acparsons@ucdavis.edu</a>
<b>Graduate Advisors:</b>	Enoch Baldwin, Chair	530-752-1108	<a href="mailto:epbaldwin@ucdavis.edu">epbaldwin@ucdavis.edu</a>
	Sean Collins	530-752-7497	<a href="mailto:srcollins@ucdavis.edu">srcollins@ucdavis.edu</a>
	Elva Diaz	530-754-6080	<a href="mailto:ediaz@ucdavis.edu">ediaz@ucdavis.edu</a>
	Bruce Draper	530-752-0833	<a href="mailto:bwdraper@ucdavis.edu">bwdraper@ucdavis.edu</a>
	Qizhi Gong	530-754-7656	<a href="mailto:qzgong@ucdavis.edu">qzgong@ucdavis.edu</a>
	Mark Huising	530-754-8018	<a href="mailto:fjmcnally@ucdavis.edu">fjmcnally@ucdavis.edu</a>
	Frank McNally	530-752-4670	<a href="mailto:mhuising@ucdavis.edu">mhuising@ucdavis.edu</a>
	Jon Sack	530-752-4131	<a href="mailto:jsack@ucdavis.edu">jsack@ucdavis.edu</a>
	Sergi Simó	530-752-9056	<a href="mailto:ssimo@ucdavis.edu">ssimo@ucdavis.edu</a>

Current information about the Graduate Group can be found on the Graduate Studies Website: <https://grad.ucdavis.edu/programs/gbcb>.

Many BMCDB-specific resources can be found on the Advisor and Student resources page of the BMCDB website: <https://bmcdb.ucdavis.edu/advisor-student-resources>

All Graduate Studies forms can be found at <https://gradstudies.ucdavis.edu/forms>.

## Frequently Used Terms

- **PI (or major professor):** The faculty member overseeing your research, the chair of your dissertation committee, your primary mentor
- **Advisor:** A faculty member assigned to oversee your progress; this individual is largely active when you are rotating, at major program milestones (e.g., candidacy), and if there is a problem with your academic progress
- **[Graduate \(Program\) Coordinator:](#)** Often abbreviated as “grad coordinator” or “GPC,” this person is generally the first line of defense to help you with anything administrative
- **[Graduate Studies:](#)** The administrative unit overseeing every graduate program at UC Davis
- **[GradSphere:](#)** The forms processing website used by Graduate Studies; some forms are “smart forms” that work like DocuSign, whereas most are “legacy forms” that require a PDF upload
- **[GradHub:](#)** The website that faculty and staff use to check on your academic progress and financial aid

## Before the First Year

Prior to arrival on campus, you will receive a letter by early summer that will include:

1. Details of your financial aid package
2. A request from the BCB 220L instructor(s) to identify, schedule, and report your first rotation choice to the Graduate Coordinator
3. A list of CRNs (course registration numbers) for your fall coursework
4. A schedule of orientations and events prior to the first day of class
5. The name and contact information of your advisor - you should reach out to them ASAP to schedule an initial meeting at the start of the school year

### End-of-Summer Events

Instruction generally begins on the last or second-to-last Wednesday of September. As long as that continues to be the case, BMCDB's events will generally follow the same schedule from year to year:

- **Orientation** will take place on the Friday preceding the start of instruction – that's September 20<sup>th</sup>, 2024
  - The first of our monthly **TGIF** socials is the same evening! All members of the BMCDB community are welcome, including significant others.
- Our annual **colloquium** will take place the day before instruction starts – that's Tuesday, September 24<sup>th</sup>, 2024
  - The **College of Biological Sciences' Graduate Fall Welcome** is the same evening! Enjoy the free food and get to know your fellow CBS graduate students.
- Graduate Studies' **resource fair** is usually the week before instruction starts – that's **Monday, September 18<sup>th</sup>** this year. Lots of booths and swag!

### Meeting Your Advisor

You will need to schedule a meeting with your advisor that should take place the week prior to the start of instruction. In this meeting, you should address the following:

- Undergraduate preparation and the need for any supplementary courses
- Confirm your registration for all the appropriate fall classes
- Assessment of research interests
- The requirement for one quarter of TA experience

It is your advisor's responsibility to collaborate with you on an academic plan for the next two years that satisfies coursework requirements and prepares you adequately for your qualifying exam, to be taken at the end of the second year.

**Note:** Topics and committee members for the qualifying exam can be discussed at a subsequent meeting with your advisor, typically in fall or early winter of your second year.

## First-Year CRNs

Here are the CRNs for the 2024 – 2025 BCB core courses:

- Fall Quarter 2024
  - BCB 210, Molecular Genetics & Genomics: 23011
  - BCB 211, Macromolecular Structure & Interactions: 23012
  - BCB 220L, Rotations Course: 23013
  - MCB 291, Joint Seminars in Molecular Biology: 37843
- Winter Quarter 2025
  - BCB 213, Cell Biology: 13428
  - BCB 214, Developmental Biology: 13429
  - BCB 220L, Rotations Course: 12430
  - MCB 291, Joint Seminars in Molecular Biology: 29796
- Spring Quarter 2025
  - BCB 214, Molecular Biology: 32474
  - BCB 215, Untitled Methods Course\*: 32475, 32476, 32477, 32478
  - MCB 291, Joint Seminars in Molecular Biology: 46270
  - BCB 299, Research: Depends on whose lab you join! I send out a list of 299 CRNs to the student body on a quarterly basis.

\* Until last academic year, BCB 215 was a journal club-style course that took place in the last two weeks of spring quarter; the schedule will likely stay the same, but the course is being revamped. The class was always split into small sections, but rather than being based on topics of interest, they will be based around applicable topics such as light microscopy and imaging, bioinformatics, -omics approaches, etc.

## Joining a Lab

You will get *much* more guidance on this matter in BCB 220L, but here is a general overview of the process:

- All students complete four rotations that roughly correspond to October, November, early January to mid-February, and mid-February to mid-March.
- A spreadsheet of faculty who are (not) open for rotations can be found at <https://ucdavis.app.box.com/file/1513314789456>.
  - If you cannot access the spreadsheet, make sure you are logged in with your UC Davis (Kerberos) ID and password.
  - Try clearing your cache or cookies, or try a different Internet browser.
- If you need additional rotations in spring quarter, that is possible, but please let [the BCB 220L instructors and the Graduate Program Coordinator](#) know as soon as you think you might need them.
- The first two weeks of March are “open season” to commit to a lab. We encourage you to talk early and often with your rotation supervisors about the long-term potential of you joining their lab, but early March is the soonest we allow you and a faculty member to make a formal commitment to one another.
- Unsure about rotating in a lab? Talk to the students who have rotated there; the Graduate Program Coordinator will have a list of any students who are still in the program and rotated in the lab.

## Annual Progress Reports

Campus policy requires that you, your mentor, and graduate academic advisor complete an annual **Student Progress Assessment (SPA)**. Completion of the SPA entails completing one to three annual progress assessments. To complete these items, you must meet with your PI to complete the SPA and IDP, followed by a meeting with your advisor, who will determine:

- In the first year:
  - The requirements for the degree that remain to be completed,
  - If you are making normal progress toward the degree,
  - That you have joined a lab,
  - That you and your PI have agreed on how you will be supported for the remainder of your tenure in your PI's laboratory, and
  - That you and your PI have completed the BMCDB mentoring plan.
  
- In the second year:
  - Topics for the qualifying exam
  - Possible examiners for your QE; you get to choose 3/5 committee members
  - Any remaining degree requirements, which must be completed before the oral exam and advancement to candidacy. Note that the TA requirement must be fulfilled prior to your QE; a grader or reader position does **not** satisfy the TA requirement.

On **April 1<sup>st</sup>** of each year, you will receive an automated notification that your SPA is available. You are responsible for completing the first portion, in which you self-assess your progress; the SPA is subsequently routed to your PI and advisor for feedback, and then back to you for final acknowledgment.

Please note that you need to meet with your advisor and review your IDP before they can sign off on your SPA.

**The deadline to acknowledge your SPA is the second Friday of June.** The SPA is completed entirely online.

### The Individual Development Plan (IDP)

- A template of the IDP form can be found as an appendix to this Handbook, as well as at <http://bmcdb.ucdavis.edu/advisor-student-resources>.
- The specific date of completion does not matter, as long as the IDP is completed annually. For example, our IDP is identical to the eMCDB T32 IDP, which is completed at the start of the academic year; in the spring “SPA season,” participants in the eMCDB T32 are allowed to submit the IDPs they wrote in fall.

## The Dissertation Committee Report (DCR)

Once you have advanced to candidacy, you will be working full-time on your dissertation research, although you are still encouraged to participate in seminar courses and journal clubs. Your only formal requirement during this time is to meet regularly with your dissertation committee. The following is required for each committee meeting:

1. You must provide the committee with a written summary of the research accomplished in the previous year and work that must be finished.
2. You must meet with the committee to provide an oral presentation of progress to date on your research.
3. The dissertation committee will advise you about your progress, provide written comments on the Dissertation Committee Report (DCR) under “Recommendations to Student,” and all members will sign the report. In addition, your PI must also sign the report, indicating your progress as satisfactory, marginal, or unsatisfactory.
4. Depending on what year you are in, you may or may not be working on your annual progress reports (i.e., SPA & IDP) at the same time as the dissertation committee meetings and report; your PI and advisor will not sign off on your SPA without your most recent IDP and DCR.
5. When your committee has signed your DCR, please email the DCR and written research summary to the Graduate Coordinator.

### Third and Fourth Years:

- SPA, IDP, and DCR are due by the end of spring quarter.

### Fifth Years and Beyond:

- Two DCRs are due: one by the end of fall and one by the end of spring quarter.
- Advisors may waive the fall meeting if they feel there is clear evidence of progress and graduation is imminent.
- IDP and SPA are due by the end of spring quarter, unless you are graduating in spring or summer.



## The Qualifying Exam

A step-by-step guide to the QE is available on the Student Resources page of the BMCDB website.

### Scheduling the Qualifying Exam

You should take your qualifying exam (QE) in spring quarter or summer of your second year. Only exceptional circumstances will exempt you from the summer deadline, which may include serious illness, temporary withdrawal from the program, or a change in PI. You are required to submit your QE application to [GradSphere](#) **at least 30 days** before your exam date.

### Qualifying Exam Committees

Your committee will consist of 5 faculty.

- Your PI cannot be a member of the committee.
- With the input of your PI and advisor, you will choose 3 committee members.
- If you are pursuing a Designated Emphasis (DE), one of the committee members you choose must be affiliated with the DE.
- You may select 1 committee member who is not affiliated with BMCDB; if you are interested in more than 1, ask the [Student Affairs & Advising Chair](#).
- 2 faculty are selected by the Student Affairs Committee to ensure coverage of the core areas of BMCDB.

### The Qualifying Exam

1. First, you will submit a **research proposal** to each committee member. It should be 5 pages at most, written in the format of the Research Plan of an NIH proposal. The page limit includes tables and figures, but not references. It must be sent to the committee at least 2 weeks before the QE. Data is not required; the proposal is used to demonstrate to the committee that you can formulate hypotheses and designs to experimentally test them. The writing should be yours and not from your PI's grant. You cannot delay the QE if you have not generated what your or your PI consider sufficient preliminary data.
2. The **oral portion** of the QE is intended to demonstrate your critical thinking ability, synthesis, and broad knowledge of the field of study. Questions will generally focus on the content of the written proposal that is presented, as well as areas that emerge from questioning during the exam.

### Results of the Qualifying Exam

There are three possible results: Pass, Retake, and Fail. If you receive a Retake, you are not alone; this is a common outcome! Your committee, advisor, and PI are here to help you navigate next steps. Note that guidelines for how to proceed are at the campus level, not specific to BMCDB; please see [the Graduate Studies website](#) for further guidance.



## Advancing to Candidacy

After your QE pass report form is submitted, you will receive an email from Graduate Studies letting you know that you are eligible to advance to candidacy. You will be required to [pay a candidacy fee online](#) (\$90 for 2024 - 2025) and apply on [GradSphere](#); your advisor must confirm that you have satisfied all degree requirements, and you will need to list the members of your dissertation committee on the application.

If you are an international student or non-resident of California, it is crucial that you apply as soon as possible after passing your QE, as your PI will no longer be charged non-resident supplemental tuition (NRST) once you have advanced to candidacy.

### Forming Your Thesis Committee

This will largely be done in consultation with your PI, but please take this guidance into consideration:

- **How many people on the committee?**
  - Number of committee members: Three minimum, four or five are fine
    - You will be attempting to schedule meetings with these individuals for the next ~3 years. If you have several prospective members and one has an extremely busy schedule, consider asking them to give you guidance in a less formal capacity.
  - Non-members of BMCDB: One maximum
  - If you are in a Designated Emphasis, at least one member of the committee needs to be affiliated with the Designated Emphasis.
    - If more than one committee member is in the DE, you will be asked to select one “DE member” when you apply for candidacy.
- **Who is eligible to be on my committee?**
  - For the nitty-gritty, see the [Policy on Advanced Degree Committee Service](#).
  - Faculty from other *UCs* **don't** need special approval to be on your committee.
  - Faculty from other *institutions* require special approval from Graduate Studies; you should emphasize that their research covers a specialty not easily found at UC Davis. You will need to send the prospective committee member's CV and a petition along with your candidacy application.
  - Visiting Professors are okay, Visiting Other Things are generally not.
  - Faculty affiliated with the Academic Senate – that's your garden-variety, tenure-track assistant/associate/professor/emeritus – are always eligible.
    - Every member of BMCDB is in this category!
  - Academic Federation members can't join BMCDB, but members with specific job titles are allowed to serve on your dissertation or thesis committee. Sometimes, there are specific conditions; e.g., a Professional Researcher must also have an Educator Without Salary position to be on your committee. The individual needs to work with their home department to see if this is possible.

## Changing Your Thesis Committee

- You will need to file a reconstitution of your committee and submit it to [GradSphere](#).
- Advisor approval is required, but it's not too difficult! Email the Graduate Program Coordinator to get the process going.

## Completing Your Degree

BMCDB does not require a certain number of publications for completion of the degree. Rather, the status of thesis chapters is left to the discretion of your PI and dissertation committee, and should be discussed the committee well in advance of when completion is expected. We recommend that you provide your committee with an outline of the thesis at least 6 months prior to the expected completion date that was noted on your last DCR. **Note:** Your progress will be reported as unsatisfactory if you do not give an oral presentation of their research to your committee.

## Filing Your Dissertation

You will have completed all the requirements for the degree when your dissertation is signed by your PI and the other thesis committee members. While there are no explicit rules defining an adequate dissertation, it is expected that your research will be of publishable quality, and it represents a significant contribution to the literature. **You are required to give your committee at least two weeks to review the thesis before filing.**

The thesis itself is submitted to ProQuest.

The following forms should be [submitted to GradSphere](#):

- A PDF of the abstract only, with your name and student ID number at the top
- [The thesis/dissertation release agreement](#), to be signed by you and your PI
- The Contact Information form
- A screenshot of the four digit-confirmation code that you receive upon completion of the [Graduate Studies Exit Survey](#)
- A PDF or screenshot of the final certificate page that you'll get when you complete the [National Science Foundation's Survey of Earned Doctorates](#)
- [The dissertation title page with digital signatures](#)
- If you are enrolled in a Designated Emphasis, use GradSphere to separately submit the [Designated Emphasis Report](#) (if the link to this template breaks, you can click the "DE Final Verification" link in GradSphere, and there will be a template link at the top of the webpage). As of December 2024, this form has not yet been converted to a smartform; you will need the DE Chair to sign the form and return it to the Graduate Program Coordinator.

You are also asked to present an exit seminar. The exit seminar should be a widely advertised event held on campus. It does not have to occur before you submit your thesis to Graduate Studies; the timing is up to you. You are responsible for booking the room; please reach out to the Graduate Program Coordinator to advertise the seminar.

These [guidelines for completing the dissertation](#) were sourced from the Graduate Studies website; this page is also where you can find information about how to receive your diploma.

### **Where to Go, and What to Do, If Problems Arise**

It is everyone's desire for you to successfully obtain your Ph.D. in a timely manner. The best way to ensure this is to take advantage of the resources available throughout your tenure in graduate school.

- Meet regularly with your advisor, especially in the early stages of the Ph.D. program. This will ensure that you are enrolled in the correct courses and are in good academic standing.
- Your advisor can also help you in selecting a lab in which to perform your thesis work.

The qualifying exam in the second year can be a very stressful experience. Here is what you can do to help manage the stress:

- Communicate with your PI about the time you need to study and prepare.
- Engage your fellow students and lab mates who can provide advice and help with studying general knowledge and practicing presentations.
- Hold mock QE exams, with a variety of people, to practice answering questions.

Once you have advanced to candidacy, yearly meetings with your thesis committee is essential to make sure you are on track to complete your degree. If necessary, more frequent meetings can be scheduled. If you find that you are not progressing as expected, or have conflicts with your major professor:

- Reach out to your committee. They can help to determine a course of action.
- Talk to your advisor for additional help and support; they can act as an impartial mediator throughout your graduate career and should be used as general resource if any questions or problems arise.
- The Graduate Coordinator has training in mental health crisis management, and can also help you find campus resources and report instances of discrimination, microaggression, and/or bias.
- In cases where you have a conflict with your PI and need guidance, you can also reach out to the Program Chair. The Graduate Coordinator can facilitate this contact as well.

Finally, the university has counseling services free of charge. To learn more about the services provided by Student Health and Counseling Services, visit <https://shcs.ucdavis.edu/counseling-services>. You can call (530) 752-0871 or visit 219 North Hall. Graduate Studies also offers [counseling services](#).

## **MD/PhD Students**

Due to the nature of the MD/PhD program, there are some differences with the normal course of progression to your PhD.

### **Core Courses:**

MD/PhD students in BMCDB will be required to take the Medical School 410B and BCM405 courses and all of BMCDB's first-year core courses (see degree checklist). The IOR for Medical School 410A has agreed to accept B or better grades in the core courses for 410A credit. The BCM405 Medical School course can be taken to satisfy elective credits.

### **Lab Rotations:**

Students will complete four 5-week rotations in at least 3 different laboratories. These laboratory rotations will not be restricted to the fall and winter quarter and may include rotations taken as part of a required Summer MD/PhD Research Training Program immediately preceding formal matriculation. However, MD/PhD students will be required to prepare a written and oral report of their research to be arranged during the subsequent fall or winter quarters in which BCB 220L is in session. Please note that MD/PhD students must be registered for BCB 220L for two quarters and present a total of 4 written and oral reports to fulfill the requirements; however, as the lab rotations will be spread out in time the presentations can be given in quarters in which the student is not registered for the course. It is the students' responsibility to contact the instructors of BCB 220L in the quarter they wish to present their rotation talks and to make sure that a record of participation is recorded with the Graduate Program Coordinator.

### **Teaching Assistant Responsibilities:**

Not required for MD/PhD students, but highly recommended.

### **Course and Advancement Requirements:**

MD/PhD students will have the same requirements as other BMCDB students with respect to other course and advancement requirements. This includes 2 electives and ethics training. These requirements can be fulfilled with Medical School courses. Please consult with your academic advisor about the specific courses that are eligible. Further, the qualifying exam will be conducted as with other BMCDB students.

## Completing the Program with an MS Degree

Some students realize through their studies that they don't want to complete a PhD. If you are considering leaving the program, you should meet with your advisor to discuss your options.

In many cases, it is possible for a student to exit the program with a MS degree. If you make this decision before advancing to candidacy, you must decide whether a Plan I (thesis) or Plan II (exam) MS would be preferable for you; this is generally dependent on your individual circumstances, so we encourage you to consult with your PI and advisor.

If you wish to leave the program with a MS *after* having advanced to candidacy, please let us know as early in the quarter as possible, so we can work with Graduate Studies to process your change of degree. Since you will have already fulfilled all degree requirements for the MS, with your QE serving as the Plan II qualifying exam, all of the paperwork involved entails switching you to the MS program and filing graduation forms.

Please feel free to reach out to the [Graduate Coordinator](#) if you are struggling with this decision; Alyssa left her PhD program with a MS in her seventh year of study, amid a multitude of mental health problems and external stressors. She is especially open to talking about her experiences and would be happy to listen.

## BMCDB Degree Checklist

Use this form to review your completion of the BMCDB degree requirements.

**These do not all need to be completed by the time of your QE, but they do all need to be completed before you advance to candidacy!**

- First-year core coursework
  - Fall: BCB 210, BCB 211, BCB 220L (rotations course), MCB 291 (seminar)
  - Winter: BCB 212, BCB 213, BCB 220L (rotations course), MCB 291 (seminar)
  - Spring: BCB 214, BCB 215, MCB 291 (seminar)
- Second-year coursework
  - Six credits of graded (A – F) electives
    - Required classes for a Designated Emphasis or T32 do **NOT** satisfy elective requirements for the PhD!
  - One year of attendance at a graded (Satisfactory/Unsat.) seminar
    - Most students keep going to MCB 291, but feel free to seek your advisor's approval to attend another seminar
  - Fall: BCB 290 (colloquium credit)
- Ethics requirement
  - Responsible Conduct of Research online series, **OR**
  - GGG 296 course
  - Either one satisfies degree requirements for the PhD, but many T32s require GGG 296!
    - If you are interested in a T32 and don't want to run the risk of having to do both, check with the T32 program coordinator
- TA requirement
  - Just one quarter; email Alyssa to notify her
  - Participants in most T32s, **but not all**, get the TA requirement waived; check with the T32 program coordinator

## List of Advisor-Approved Electives

BMCDDB students are required to take six credits of elective courses. While a list of approved electives has been provided below, please discuss with your PI and advisor if you feel that a course not listed here would be appropriate for your studies.

This list is updated annually by the Graduate Coordinator, but you are encouraged to consult the most recent General Catalog for course availability. The General Catalog, including updates, can be found at <http://catalog.ucdavis.edu>.

Course	Course Name	Units	Next Offered	Offered
BCB 255	Molecular Mechanisms in Pattern Formation and Dev.	3	Winter 25	Winter every other year
BCB 256	Cell and Molecular Biology of Cancer	3	Winter 26	Winter every other year
BCB 257	Cell Proliferation and Cancer Genes	3	Fall 24	Fall
<b>BIM 228</b>	<b>Skeletal muscle mechanics: Form, function, adaptability</b>	<b>4</b>	<b>?</b>	<b>Last offered Fall 2024</b>
BIM 242	Biomedical Imaging	4	Fall 24	Fall
BPH 231	Biological Nuclear Magnetic Resonance	3	Spring 25	Spring
BPH 241	Membrane Biology	3	Spring 25	Spring
CHE 217	X-Ray Structure Determination	3	Spring 25	Spring
CHE 219	Spectroscopy of Organic Comps	4	Winter 25	Winter
<b>CHE 221D</b>	<b>Special Topics in Organic Chemistry</b>	<b>3</b>	<b>?</b>	<b>Last offered spring 2022</b>
CHE 237	Bio-organic Chemistry	3	Winter 25	Winter
CHE 238	Introduction to Chemical Biology	3	Fall 24	Fall
CHE 241C	Mass Spectrometry	3	Spring 25	Annually, quarter varies
CHE 245	Mechanistic Enzymology	3	Fall 24	Fall
CLH 212	Introduction to Stem Cell Biology	3	Fall 24	Fall
CLH 230	Congestive Heart Failure, Mechanism of Disease	3	Winter 25	Winter
ECS 124	Theory and Practice of Bioinformatics	4	Winter 25	Varies; last offered fall 2023
FST 201	Food Chemistry and Biochemistry	4	Fall 24	Fall
FST 204	Advanced Food Microbiology	3	Spring 25	Spring
FST 211	Lipids: Chemistry and Nutrition	3	Winter 25	Winter



GGG 201A	Advanced Genetic Analysis	5	Fall 24	Fall
GGG 201B	Genomics	5	Winter 25	Winter
GGG 201D	Quantitative And Population Genetics	5	?	Last offered fall 2023
IMM 201	Introductory Immunology	4	Fall 24	Fall
MCB 123	Behavior and Analysis of Enzyme and Receptor Systems	3	Spring 25	Spring and fall
MCB 124	Macromolecular Structure and Function	4	Fall 24	Fall
MCB 126	Plant Biochemistry	3	Winter 25	Winter
MCB 143	Cell and Molecular Biophysics	3	Spring 25	Spring
MCB 162	Human Genetics and Genomics	3	Fall 24	Fall
MCB 163	Developmental Genetics	3	Fall 24	Fall
MCB 182	Principles of Genomics	3	Spring 25	Spring and fall
MCP 200L	Animal Cell Culture Laboratory	4	?	Last offered winter 2021
MCP 210A	Advanced Physiology	4	Fall 24	Fall
MCP 210B	Advanced Physiology	5	Winter 25	Winter
MCP 210C	Advanced Physiology	6	Spring 25	Spring
MCP 220	General and Comparative Physiology of Reproduction	3	Spring 25	Spring
MCP 222	Mammalian Gametogenesis and Fertilization	4	Spring 25	Spring every other year
MIC 200B	Advanced Bacteriology	3	Winter 25	Winter
MIC 215	Recombinant DNA	3	Fall 24	Fall
MIC 262	Advanced General and Molecular Virology	3	Fall 24	Fall
MIC 263	Principles of Protein-Nucleic Acid Interactions	3	Spring 25	Last offered winter 2019
MIC 276	Advanced Concepts in DNA Metabolism	3	Winter 25	Winter
MMI 200D	Mechanisms for Microbial Interactions with Hosts	3	Winter 25	Winter
MMI 280	The Endogenous Microbiota in Health and Disease	3	Spring 25	Spring
NPB 107	Cell Signaling in Health and Disease	3	Winter 25	Winter
NPB 270	How to Write a Fundable Grant Proposal	3	?	Last offered spring 2023
NSC 201	Neuroanatomy	3	Winter 25	Winter
NSC 221	Cellular Neurophysiology	4	Fall 24	Fall

NSC 226	Molecular And Developmental Neurobiology	4	Fall 24	Fall
NUT 252	Nutrition and Development	3	Winter 25	Winter
PBI 214	Higher Plant Cell Walls	3	Winter 25	Winter
PBI 220	Plant Developmental Biology	4	?	Last offered winter 2023
PHA 207	Drug Discovery and Development	3	Winter 25	Winter
PHA 208	Advanced Cardiac Physiology and Pharmacology	3	?	Last offered spring 2023
PHA 225	Gene Therapy	3	Spring 25	Spring
PLB 113	Molecular and Cellular Biology of Plants	3	Spring 25	Spring
PSC 209A	Introduction to Programming: Matlab	4	?	Last offered fall 2021
PTX 202	Principles Of Pharmacology And Toxicology 2	4	Winter 25	Winter
STA 100	Applied Statistics for Biological Sciences	4	Fall 24	Every quarter
STA 237A	Time Series Analysis	4	?	Last offered fall 2023