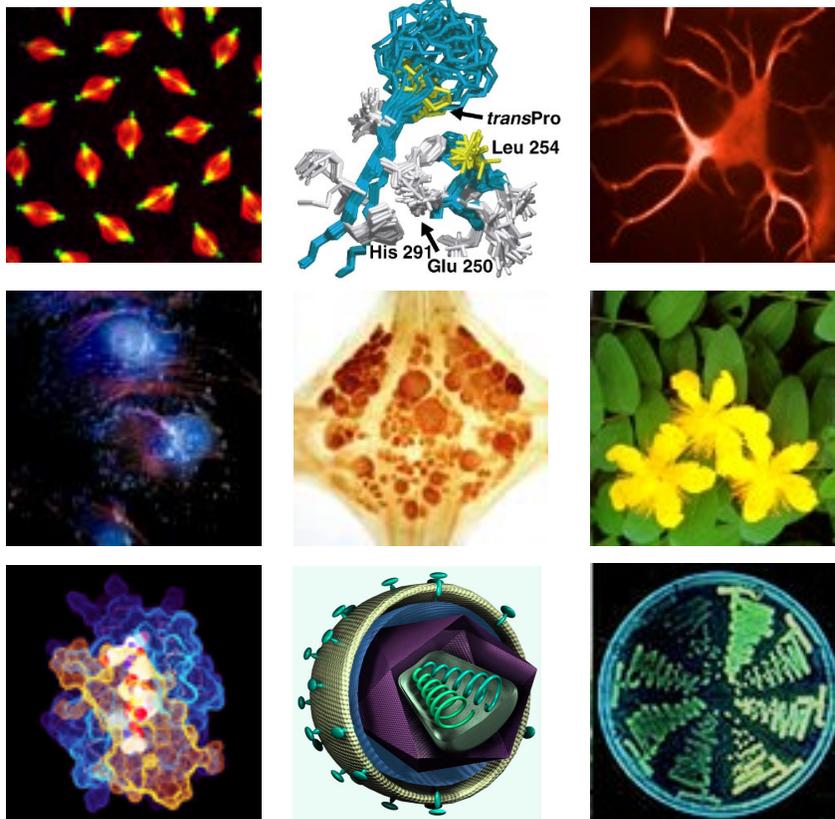


# IOWA STATE UNIVERSITY

## Molecular, Cellular & Developmental Biology

### Interdepartmental Graduate Program



Discovering the mechanisms of life  
2019 – 2020

<http://www.mcdb.iastate.edu/>

# The MCDB Student Handbook

2019 – 2020

Molecular, Cellular and Developmental Biology  
Interdepartmental Graduate Major

Iowa State University

This Handbook . . .

This student handbook is provided to give general guidance about important issues and activities that you will encounter in your graduate career. Because the MCDB interdepartmental graduate major continually seeks to improve, as does the entire graduate education program at Iowa State, some changes may occur between the times of the annual printing of this handbook. You are expected to stay in close communication with your major professor and MCDB program staff regarding important issues. You are also encouraged to bring questions and comments to the Chair and members of the Supervisory Committee of MCDB at any time.

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## INTRODUCTION

### The MCDB Major

The graduate major in Molecular, Cellular and Developmental Biology is an interdepartmental and interdisciplinary training program at Iowa State University that offers the Master of Science and Doctor of Philosophy degrees. The MCDB training program offers a broad spectrum of MCDB research opportunities, ranging from the molecular to the cellular to the systemic level of analysis. The program includes over 70 faculty members from the following departments:

- Agronomy
- Animal Science
- Biochemistry, Biophysics & Molecular Biology
- Biomedical Sciences
- Chemistry
- Chemical & Biological Engineering
- Ecology, Evolution, & Organismal Biology
- Entomology
- Food Science & Human Nutrition
- Genetics, Development, & Cell Biology
- Horticulture
- Kinesiology
- Physics & Astronomy
- Plant Pathology
- Veterinary Microbiology & Preventive Medicine
- Veterinary Pathology

The strength of the MCDB major lies in the combined expertise of its diverse faculty. This ensures a broad education while offering flexibility in choice of specialization. The large number of MCDB faculty in a variety of disciplines will provide you with a wide choice of research projects and major professors. Other activities and organizations in the program bring faculty and students together and provide opportunities for personal and professional interaction. These interactions are central to our goals, which are to provide broad and robust graduate student training while stimulating excellence in MCDB research.

### **Administration**

A Program Chair and Executive Committee oversee the activities of MCDB. Feel free to contact them if you have any questions about the program. For the 2018-2019 academic year, the Chair and Executive Committee are:

<b>Program Chair &amp; Director of Graduate Education</b> Maura McGrail Associate Professor, GDCB 638 Science II (515) 294-4445 <a href="mailto:mmcgrail@iastate.edu">mmcgrail@iastate.edu</a>	<b>Associate Chair</b> Jason Ross Associate Professor, Animal Science 2356E Kildee (515) 294-8647 <a href="mailto:jwross@iastate.edu">jwross@iastate.edu</a>
<b>Executive Committee Members</b>	
W. Allen Miller Professor, Plant Pathology & Microbiology 413 Bessey Hall (515) 294-2436 <a href="mailto:wamiller@iastate.edu">wamiller@iastate.edu</a>	Ravi Singh Professor, Biomedical Sciences 2034 Vet Med Building (515) 294-8505 <a href="mailto:singhr@iastate.edu">singhr@iastate.edu</a>

## UPON ARRIVAL AT IOWA STATE

When you first arrive, you may find yourself overwhelmed by the number of things you must do. Here is a list of some of the most important.

1. Introduce yourself to the MCDB Program Coordinator in 1137 Pearson Hall. The Chair and Director of Graduate Education (DOGE) can answer many questions you have about your academic program. The Program Coordinator can help you find your way around the University administrative offices and answer your questions regarding MCDB and/or the University.
2. **Read this Handbook.** It is especially important to read the section on Administrative Matters during your first few days.
3. Register for e-mail and plan to check it regularly (at least daily). E-mail is the most common means of communication at Iowa State University.
4. Access the following references and examine them carefully. These documents contain all the University regulations and requirements for graduation. Most of these items come directly from the Graduate College and Office of the Registrar. **All items in bold are required and students are expected to be familiar with this information, using them as references throughout their time as a graduate student.**

### **Graduate College Handbook**

<http://www.grad-college.iastate.edu/>

### **Graduate College Thesis/Dissertation Website**

<https://www.grad-college.iastate.edu/current/thesis/>

### General University Catalog

<http://catalog.iastate.edu/>

### Schedule of Classes

<http://classes.iastate.edu/>

### Iowa State University Semester Calendar

<http://www.registrar.iastate.edu/calendar/>

### Iowa State University phone/e-mail directory

<http://www.info.iastate.edu/>

## GETTING STARTED – YOUR FIRST YEAR

### **Graduate Student Orientation**

For new graduate students, the academic year begins with an orientation period which is designed to ease the transition to graduate study at Iowa State. It is a time to become acquainted with the MCDB program and its members and to prepare for registration and the start of classes. Along with this handbook, you should have received a schedule of important orientation activities from MCDB, as well as the Graduate College. Please refer to them for information about your responsibilities during Orientation.

Which of the following sections you need to read is determined by how you are being funded. Students may enter MCDB by either of two routes: direct admission into MCDB or admission after acceptance into a department. Students entering MCDB directly are usually supported for their first year on an MCDB Research Assistantship and spend their first year doing rotations and choosing a major professor. They should read the entire handbook. Students entering after acceptance into a department arrange for a major professor and financial support through their home department. The latter students may skip sections dealing with temporary advisors, research rotations, and choosing a major professor.

### **Assignment of a Temporary and Advisor and Graduate Student Mentor**

If you have entered the MCDB program directly, the chair of the major or another faculty mentor will serve as your temporary advisor until your major professor is selected. The temporary advisors are well acquainted with the MCDB laboratories at Iowa State. The responsibilities of the advisors are to guide you in selecting courses during your first year, to discuss with you the research opportunities in MCDB, and to suggest laboratories for visits and rotations.

Toward the end of the first week of the orientation period, you will meet with your advisor for counseling and preparation of your schedule for the fall semester. If it is necessary to add or drop a course, or change sections of a course or the number of credits, you may do so through AccessPlus, the University registration system.

## **Research Rotations—MCDB 697**

First year students who enter MCDB directly as Research Assistants are required to complete laboratory rotations (MCDB 697) to help them choose their major professor. First-year students who have already entered a department, having a major professor, and do not receive financial support directly from MCDB are not required to take MCDB 697 or do MCDB rotations; rather these students should register for the appropriate section of MCDB 699. The section of 699, MCDB Research, is determined by the faculty member in whose lab the student has joined.

Research rotations, in addition to helping you choose your major professor, provide you with an interdisciplinary research experience, give you an opportunity to actively participate in the research program of the laboratories in which you are interested, and promote interaction and exchange of information among research groups.

MCDB rotation students must do three laboratory rotations during their first year (MCDB 697). Each rotation should be about 8 weeks long, with the exact length determined by agreement between the student and the professor hosting the rotation. A good schedule is two rotations during the first semester and a third during the first part of the second semester. If desired, a fourth rotation can be added in the spring semester. Total credits of MCDB 697 per semester should be 2 to 6, to bring the total number of semester credits up to 12.

## **Choosing Your Major Professor**

If you have entered MCDB directly on rotation, much of your first year will be devoted to the important process of selecting a major professor, the person who will guide you in your graduate studies and whose research group you will join. Activities during orientation week provide you an opportunity to meet individual faculty members and discuss their research. You should also make appointments for additional conferences with the professors whose work interests you. The initial rotation arrangements (consent of faculty and start date) should be made by the second week of classes.

First-year graduate students in MCDB must choose a major professor by the end of their first year at Iowa State. However, it is highly recommended that the student choose a major professor by mid-March.

You should make use of the following information to help you decide on a research group and a professor with whom to rotate:

- The MCDB website, which has brief research descriptions of each faculty member. <http://www.mcdb.iastate.edu/>

- Curriculum vitae and referencing recent publications of the MCDB faculty, available on many professors' homepages and through publication search engines.
- Discussions with individual faculty members. (This is very important!)
- Potential that the faculty member will have space and funding for a new student, and what the level of financial support will be.

When you have decided with whom you would like to rotate, you need to personally ask the faculty member whether you can rotate in his or her laboratory. If you are interested in joining that faculty member's group, you should tell him or her of your interest and determine whether there might be space and funding for you after you finish your rotations. Also, discuss the project you might have for your research. Although research will be conducted during these rotations, the completion of a project is not required.

Part of the process of choosing a lab is learning what additional courses or other requirements, if any, must be met in the department of your chosen faculty mentor. These requirements vary with each department. This information can be obtained from the faculty mentor, his/her department, or the MCDB office.

After you finish your laboratory rotations, ask the faculty member with whom you would like to work whether he or she can accept you into his or her laboratory and arrange for your future financial support. Once a mutual agreement has been reached, please inform the MCDB Program Chair and the MCDB Program Coordinator. You will need to initiate a "Request to Establish a Home Department for Students Admitted to Interdepartmental Majors" form (available online from the Graduate College Forms webpage at <http://www.grad-college.iastate.edu/forms/forms.html>).

**NOTE:** You should wait to choose a major professor until *after* your rotations. If a faculty member attempts to get a commitment from you before the end of your rotations, don't do it unless you are absolutely certain it is what you want. It is best to reserve your decision until you are fully informed about the opportunities available to you.

## ACADEMIC MATTERS

### Degrees Offered

MCDB offers coursework and research experiences leading to the degrees of Master of Science and Doctor of Philosophy. Both PhD and MS students must prepare a written thesis. Because MCDB is a research-based discipline, non-thesis Master of Science degrees are *not* available.

## **Admission to a Degree Program**

The degree that a student may pursue in MCDB (that is, MS or PhD) is normally determined and specified at the time of the student's admission to the program. Although a prior MS is not required for admission to the PhD program, criteria for admission to the PhD program are more stringent than to the MS program. Earning an MS in MCDB does not automatically qualify a student to pursue the PhD degree in MCDB. Conversely, a student admitted to the PhD program may need to change to the MS program in MCDB. This decision may impact the student's funding as awarded based on pursuit of the PhD degree. Students should confer with their major professor, the MCDB chair, and notify the MCDB office if they are contemplating making such changes.

## **Required Courses**

It is expected that all graduate students entering the MCDB program will have a strong background in the biological sciences, including work in general biology, genetics and biochemistry. Your temporary advisor or major professor will help you determine if you have deficiencies in any of these areas and decide if you need to take additional background courses. If it is desirable to take such courses, you should take them as soon as possible.

To assure that all our students are trained in the major areas of MCDB, all students should include in their program of study a core of courses which will provide broad coverage of the basic program in MCDB. Formal courses include biochemistry, cell biology, molecular biology and developmental biology. All students will take the MCDB seminar course each year.

A summary of the curriculum requirements follows and can also be found on the form *Checklist for Completion of Graduate Requirements for MCDB Majors*, page 26 – 27.

## **Curriculum Requirements for MCDB Students**

**PhD:** 72 graduate credits of which 36 credits, including all dissertation research credits, must be earned under the supervision of the POS Committee.

Graduate credits of B or better in a relevant discipline but earned at another institution may be transferred at the discretion of the POS Committee and the approval of MCDB, the department and the Graduate College. Ph.D. students must take the complete core requirements.

Additional coursework for both the Ph.D. and M.S. degrees is selected by the student in consultation with his/her POS Committee to meet departmental requirements and to satisfactorily prepare the student for their research project.

Additional information relating to credits required for graduate degrees can be found in the ISU Graduate College Handbook, <http://www.grad-college.iastate.edu/publications/gchandbook/>.

**MCDB PhD Core Curriculum Requirements Include:**

<b>Two semester sequence of Biochemistry (either BBMB 404/405 or 500-level sequence)</b>			
BBMB 404	Biochemistry I	3 credits	Fall
BBMB 405	Biochemistry II	3 credits	Spring
<i>Students with a biochemistry background can elect to take the 500-level sequence</i>			
BBMB 504	Amino Acids and Proteins	2 credits	Fall
BBMB 505	Bioenergetics and Metabolism	2 credits	Fall
BBMB 506	Membrane Biochemistry	2 credits	Spring
BBMB 507	Biochemistry of Nucleic Acids	2 credits	Spring

**All PhD students must take one course from each of the following areas:**

**A) Cellular Biology, B) Developmental Biology, and C) Molecular Biology**

<b>A) Cellular Biology Course Options</b>			
GDCB 528	Advances in Molecular Cell Biology	3 credits	Alt. Fall, Even Years
BMS 575	Cell Biology	3 credits	Fall
BBMB 645	Molecular Signaling	2 credits	Alt. Spring, Odd Years
GDCB 545	Plant Molecular, Cell & Developmental Biology* <small>Footnote</small>	3 credits	Alt. Fall, Odd Years

<b>B) Developmental Biology Course Options</b>			
GDCB 533	Advances in Developmental Biology	3 credits	Alt. Fall, Odd Years
GDCB 545	Plant Molecular, Cell & Developmental Biology* <small>Footnote</small>	3 credits	Alt. Fall, Odd Years

<b>C) Molecular Biology Course Options</b>			
MICRO 502	Microbial Genetics & Genomics	3 credits	Alt. Fall, Even Years

GDCB 511	Molecular Genetics	3 credits	Spring
VMPM 608	Molecular Virology	3 credits	Alt. Fall, Even Years
BBMB 676	Biochemistry of Gene Expression in Eucaryotes	2 credits	Alt. Spring, Even Years
GDCB 545	Plant Molecular, Cell, & Developmental Biology* <sup>See</sup> Footnote	3 credits	Alt. Fall, Odd Years

\*Footnote: GDCB 545 - Plant Molecular, Cellular, and Developmental Biology may be used to fulfill any one of the required component areas. This course may only be used once.

In addition to the above course requirements, **MCDB graduate students are required to take:**

<b>Two semesters of research seminar every year</b>			
One of these seminars MUST be MCDB 698, Seminar in Molecular, Cellular and Developmental Biology.			
Subject to approval by the POS Committee, acceptable alternatives to fulfill the second seminar requirement include 1) a “for credit” research seminar series offered by the student’s home department, 2) a workshop comprised of a research seminar series, or 3) another ISU research seminar series.			
<b>One credit hour of ethics training. Possible ethics courses include:</b>			
GRST 565	Responsible Conduct of Research in Science & Engineering	1 credit	Fall & Spring
V PTH 554	Ethics in Scientific Research & Writing	1 credit	Alt. Spring, Even Years

**Not required, but highly recommended for MCDB graduate students:**

BCB 544	Introduction to Bioinformatics	4 credits	Fall
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Non-native English speakers must pass the English Requirement as established by the university. Depending on the results of this exam additional courses may be required to meet English proficiency standards.

MCDB graduate students are required to **teach one semester** as part of their training for an advanced degree. Students who are non-native English speakers, for whom English is not their first language, must take and pass the Oral English Certification Test (OECT) to be eligible to teach.

In addition to the above core requirements, your POS Committee and/or home department may have additional requirements or recommendations.

**MCDB Minor Curriculum Requirements at the PhD Level Includes:**

Graduate students studying at Iowa State University with an interest in completing a minor in MCDB for their PhD are required to complete the following curriculum requirements.

Students MUST be approved for the minor by the MCDB program and must follow Graduate College guidelines for POS Committee membership.

Graduate students wishing to seek a minor in MCDB are encouraged to contact the MCDB Interdepartmental Graduate Program Coordinator for further information. Inquiries can be submitted to [mcdb@iastate.edu](mailto:mcdb@iastate.edu).

**MCDB Minor Curriculum Requirements Include:**

<b>Two semester sequence of Biochemistry (either BBMB 404/405 or 500-level sequence)</b>			
BBMB 404	Biochemistry I	3 credits	Fall
BBMB 405	Biochemistry II	3 credits	Spring
<i>Students with a biochemistry background can elect to take the 500-level sequence</i>			
BBMB 504	Amino Acids and Proteins	2 credits	Fall
BBMB 505	Bioenergetics and Metabolism	2 credits	Fall
BBMB 506	Membrane Biochemistry	2 credits	Spring
BBMB 507	Biochemistry of Nucleic Acids	2 credits	Spring

**One course from two of the following three areas:**

**A) Cellular Biology, B) Developmental Biology, and C) Molecular Biology**

<b>A) Cellular Biology Course Options</b>			
GDCB 528	Advances in Molecular Cell Biology	3 credits	Alt. Fall, Even Years
BMS 575	Cell Biology	3 credits	Fall
BBMB 645	Molecular Signaling	2 credits	Alt. Spring, Odd Years
GDCB 545	Plant Molecular, Cell & Developmental Biology* <sup>See Footnote</sup>	3 credits	Alt. Fall, Odd Years

<b>B) Developmental Biology Course Options</b>			
GDCB 533	Advances in Developmental Biology	3 credits	Alt. Fall, Odd Years

GDCB 545	Plant Molecular, Cell & Developmental Biology* Footnote	3 credits	Alt. Fall, Odd Years
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<b>C) Molecular Biology Course Options</b>			
MICRO 502	Microbial Genetics & Genomics	3 credits	Alt. Fall, Even Years
GDCB 511	Molecular Genetics	3 credits	Spring
VMPM 608	Molecular Virology	3 credits	Alt. Fall, Even Years
BBMB 676	Biochemistry of Gene Expression in Eucaryotes	2 credits	Alt. Spring, Even Years
GDCB 545	Plant Molecular, Cell, & Developmental Biology	3 credits	Alt. Fall, Odd Years

\*Footnote: GDCB 545 - Plant Molecular, Cellular, and Developmental Biology may be used to fulfill any one of the required component areas. This course may only be used once.

In addition to the above course requirements, **MCDB graduate students are required to take:**

<b>In addition to the above course requirements, MCDB graduate minors are required to register once for:</b>			
MCDB 698	Seminar in Molecular, Cellular & Developmental Biology	1 credit	Fall & Spring

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### **MCDB Master's Degree Core Curriculum Requirements**

Students seeking an MS degree must take a total of 30 credits, with not less than 22 credits earned at ISU. MS students have the same core course requirements, including seminar courses, as PhD students, but may remove either the cellular, developmental or molecular biology requirement (however a course in each of these three categories is recommended.) MS students are not required to teach, but may apply for teaching assistantships if needed and, for those who are non-native English speakers, have appropriately passed the Oral English Certification Test (OECT) to be eligible to teach.

Non-native English speakers must pass the English Requirement as established by the university. Depending on the results of this exam additional courses may be required to meet English proficiency standards.

In addition to the above core requirements, your POS Committee and/or home department may have additional requirements or recommendations.

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### **MCDB & Neuroscience Co-Major Requirements**

MCDB doctoral students who wish to co-major in Neuroscience should discuss their interests with their major professor followed by communication with the MCDB program office to coordinate an official request to co-major. All requests to co-major are reviewed by the proposed graduate major and require approval.

In addition to the below curriculum changes for MCDB/Neuroscience co-majors, it is important for students to understand the research and thesis expectations as a co-major.

#### **Curriculum changes for students who wish to co-major in MCDB and Neuroscience:**

1. NEURO 556 – Cellular, Molecular & Developmental Neuroscience – is acceptable in fulfilling one course in one of the following areas: A) Cellular Biology, B) Developmental Biology, or C) Molecular Biology.
2. Alternate between MCDB 698 and NEURO 690 – Journal Club in Neuroscience. Each must be taken once per academic year (one in the fall, one in the spring).
3. GDCB 528, Advances in Molecular Cell Biology, may be taken as a Neuroscience elective course.
4. Three credits of Neuroscience electives will be waived to fulfill the MCDB requirements.
5. Remainder of Neuroscience curriculum requirements must be completed. Please refer to the Neuroscience program for more information on these courses.  
<http://www.neuroscience.iastate.edu/>

#### **MCDB 698**

##### Journal Discussion/Student Presentations

MCDB 698 is a student seminar series. Students present their research to the other students in the class. The purpose of MCDB 698 is to help you develop formal oral and visual communication skills that you will use at scientific conferences, for teaching, and for job interviews after you graduate from the program. In addition, other members of the class are expected to participate and gain experience in thoughtfully critiquing the presentation and asking questions. Students in the audience are encouraged to ask questions to foster thought-provoking discussion on the speakers' research. The audience

consists only of other students and the instructor so that students will not be intimidated by senior faculty or other scientists. Students can feel free to ask “dumb” questions, which almost always are not so dumb.

First or second year students may present a journal paper or other research that is not their own, if they do not have enough of their own data to present. If a journal paper is used, the other students in the class will read the paper before participating in discussion. The presenter is expected to present a brief review of the background material and then discuss the material presented in the paper.

## **Graduate English Requirements for Non-native Speakers of English**

### **English Placement Test**

Graduate students whose native language is not English and who do not have a bachelor’s or advanced degree from ISU or a U.S. institution, or do not meet the TOEFL or IELTS exemption score range, must take the **English Placement** Test at the beginning of their first semester of enrollment. This test is administered by the Department of English. It must be taken in addition to TOEFL (Test of English as a Foreign Language), which is taken as part of the admissions process. A student who does not pass this examination is assigned to one or more courses in the English 99 and 101 series. This coursework must be completed during the first year of study. Registration holds are placed on the student’s account if the student does not register for these classes during the first year of study. (There is a developmental course fee for the English 99 course.)

A graduate student whose native language is not English may be automatically exempted if one of the following is met:

1. Student has received a bachelor’s, master’s, or Ph.D. degree from a U.S. college or university
2. Student has received a bachelor’s, master’s, or Ph.D. degree from an English-speaking university outside of the U.S. As of 2016, countries outside of the U.S. that ISU considers “English-speaking” are Canada, Great Britain, New Zealand, or Australia.
3. Student has a TOEFL score of 600 or above (paper-based TOEFL) or 100 or above (internet-based TOEFL)
4. Student has a score of 7.5 or above on the IELTS
5. Student has a score of 72 or above on the PTE (Pearson Test of English)

Testing Information for English Placement Test:

Email: [ept@iastate.edu](mailto:ept@iastate.edu)

Office: 226 Ross Hall (by appointment)

<https://apling.engl.iastate.edu/english-placement-test/>

**Oral English Certification Test (OECT):**

Center for Communication Excellence, Graduate College

1137 Pearson Hall

(515) 294-1958

[itas@iastate.edu](mailto:itas@iastate.edu)

<https://cce.grad-college.iastate.edu/speaking/oect-for-itas>

The Oral English Certification Test (OECT) is an academic test required for international teaching assistants (ITAs), i.e. graduate students who fit **both** of these categories:

- international graduate students who are not native speakers of American English (i.e., learned another language first), and
- international graduate students who are appointed to a teaching assistantship.

The OECT is administered before the beginning of fall and spring semesters for first-time test-takers, as well as at the end of these semesters for ITAs re-taking the test. The OECT testing dates can be found on the International Teaching Assistants Program website at <https://cce.grad-college.iastate.edu/speaking/oect-for-itas>. Registration for the OECT can be completed online through the program's website two to three weeks before the testing dates. International Teaching Assistants (ITAs) and faculty with questions about OECT should email [itas@iastate.edu](mailto:itas@iastate.edu) or call 515-294-1958.

A prospective ITA who does not pass OECT is required to successfully complete English 180 coursework and be retested. English 180 is a series of oral communication courses designed to help ITAs improve their English speaking skills by focusing on pronunciation, listening, classroom-communication strategies, question-handling, teaching and lecturing skills, and the culture of U.S. university life (<https://cce.grad-college.iastate.edu/speaking/english-180-courses/english-180>). Because enrollment is restricted, ITAs cannot register for English 180 courses online through AccessPlus. ITAs must go to the International Teaching Assistants Program Office, 1137 Pearson, upon receiving the OECT scores to obtain permission to enter the course by completing a course add slip.

## PROGRESSING THROUGH YOUR DEGREE PROGRAM

### **Program of Study Committee Appointment**

After you have chosen a major professor and home department, you will, in consultation with your major professor, appoint a graduate Program of Study (POS) Committee. The composition and responsibilities of the POS Committee will be in accordance with the Graduate College guidelines as detailed in the Graduate College handbook. The Program of Study Committee (POS Committee) provides oversight, advice, mentoring, and access to information and facilities. The committee is composed of faculty invited by the student to supervise their progress towards degree. The student's major professor chairs the committee. The POS Committee should include faculty whose research interests can aid and complement your research interests, as well as faculty whose expertise will ensure that you graduate with a breadth of knowledge. Specific rules govern the makeup of the committee. Current minimum requirements for the composition of Program of Study Committees are summarized below and on page 23 of this MCDB Student Handbook.

#### **PhD POS Committees must include:**

- At least five members of the ISU Graduate Faculty.
- At least three MCDB faculty members, including the major professor
- At least one graduate faculty member outside the student's field of emphasis to ensure diversity of perspective. The faculty member serving as the representative outside the student's field of emphasis may be an MCDB faculty member.

#### **MS POS Committees must include:**

- At least three members of the ISU Graduate Faculty.
- At least two MCDB faculty members, including the student's major professor)
- At least one graduate faculty member outside the student's field of emphasis to ensure diversity of perspective. The faculty member serving as the representative outside the student's field of emphasis may be an MCDB faculty member.

There are provisions to allow for co-major professors and for service of non-graduate faculty members on POS committees. For details, please consult the Graduate College Handbook – Chapter 6.

Within the first weeks of the second semester, students should make final member selections for their POS committee and convene a meeting to begin drafting their Program of Study and Individual Curriculum Plan. Regular meetings between a student and their POS committee are strongly recommended as one of the key steps in making progress towards a degree.

## **Program of Study**

The Graduate College Program of Study is one of the more important documents you will encounter while in graduate school. In essence, it is a contract between you and the Graduate College indicating the minimum course work and credits that must be taken to complete your degree (PhD or MS). No changes can be made to it without the mutual approval of the student, the Major Professor, the POS Committee, the major and when applicable co-major or minor graduate programs, along with the Graduate College.

Each student, in consultation with their POS Committee, formulates a POS, based on the curricular guidelines established by the major program, and when applicable co-major or minor programs, along with the ISU Graduate College. All the courses listed on the POS must be successfully completed to be eligible for graduation and obtaining the degree sought.

Students are advised to complete their POSC as soon as possible. The MCDB Program requires its students to submit their POSC for approval by the start of the third semester, or within six months of joining their home lab. The Graduate College requires that the POSC form must be approved by the Graduate College no later than the term before the preliminary oral examination (doctoral candidates) or final oral examination (master's candidates). In order for the POSC form to be approved in any given term, the form must be submitted to the Graduate College by the published deadline for that term.

POSC forms are available online through AccessPlus under the Student tab, Graduate Student Status. Each student's program of study should be designed to correct deficiencies in academic preparation, allow study of subject matter that most interests the student, and avoid repetition in areas where the student is well prepared. The POS committee assures that program requirements are met before approving the POSC form.

For additional information about the POSC please reference the Graduate College Handbook – Chapter 6 and POSC website.

<https://www.grad-college.iastate.edu/handbook/>

<https://www.grad-college.iastate.edu/posc/>

## **Evaluating Your Performance**

Continued membership in the MCDB program and financial support from the major professor or home department are contingent upon satisfactory progress towards your degree. Students are required to meet with their POS Committee at least once each calendar year. At the end of the first year, and thereafter, students will document their own progress by preparing a brief annual report of their coursework, research, exams, POS meetings, and other professional activities. This report will be due at the end of the spring semester. The "Annual Report of Academic and Professional Activities" is available from

the MCDB Program Coordinator, 1137 Pearson Hall. It will be evaluated by the MCDB Chair or Graduate Affairs Committee on the following basis and as outlined by the *Checklist for Completion of Graduate Requirements for MCDB Majors* on page 26 – 27 of this Student Handbook:

- Grades: A cumulative GPA of at least 3.0 is required by the Graduate College for continued appointment to an assistantship
- Performance in laboratory rotations and progress in selection of a major professor (when applicable)
- Progress in initiation of your research project
- Progress in forming POS Committee, completing a Program of Study, and completion of preliminary exam
- Progress in presenting research results

A notation of progress and recommendations for continuance in the major or corrections of deficiencies are sent to the major professor and are deposited in the student's file.

### **Dismissal Policy**

Students may be dismissed from the MCDB program, that is, removed from the degree program and not permitted to register as an MCDB graduate student. Dismissal may occur for any of the following reasons:

a) Failure to progress in his/her degree program

This may be evidenced by a lack of research progress, a lack of aptitude, or a failure to maintain satisfactory academic standing as defined by the Iowa State University *Graduate College Handbook*.

b) Lack of a major professor

Because graduate degrees in MCDB at ISU are centered about a mentored research project, it is impossible to complete a degree without a research mentor (major professor). To maintain membership in MCDB, a student must have a MCDB faculty member serving as his or her major professor. A student admitted to MCDB on rotation has up to 12 months to find a major professor. It is the responsibility of the student to find a faculty member willing to serve; faculty members have the right to refuse. Faculty members who have agreed to serve may choose to terminate their service by notifying and explaining to the MCDB Chair this intent, in writing. A student who has lost his or her major professor has up to 3 months after the date the MCDB Chair is notified by the faculty member to identify another MCDB faculty member willing to serve as his or her major professor. If the student desires assistance, the MCDB Chair will help the student search for a major professor; however, final responsibility for finding a major professor rests with the student.

### c) Academic Dishonesty

The proper conduct of science requires the highest standards of personal integrity. Because of this, the University and MCDB consider dishonesty in the classroom or in the conduct of research to be a serious offense. Students accused of academic dishonesty will be dealt with according to the procedures outlined in the University Catalog and the Faculty Handbook. Possible punishments can include dismissal from the program and expulsion from the University, depending on the severity of the offense.

### **Dismissal Procedures**

A student's POS Committee, or if the student has no POS Committee, the student's major professor, temporary advisor, or a member of the MCDB Executive Committee has the right to recommend dismissal of any student for any of the reasons listed above. Recommendations for dismissal are made by sending a memo to the MCDB Chair.

Procedures for dismissal are as described in the Iowa State University *Graduate College Handbook*.

<http://www.grad-college.iastate.edu/publications/gchandbook/homepage.html>

Before a dismissal is decided, the MCDB Chair must give the student a written notice explaining why dismissal is being considered. It is the responsibility of the MCDB Chair to discuss the situation with the student, as well as their POS Committee, major professor, temporary advisor, and/or Executive Committee, in an attempt to find a satisfactory resolution. This discussion constitutes the informal conference as described in the *Graduate College Handbook*. If a satisfactory resolution cannot be reached, and the Executive Committee votes to dismiss the student, either party may bring the issue to the attention of the Associate Dean of the Graduate College for a decision. The student may appeal the decision of the Associate Dean, as described in the *Graduate College Handbook*.

### *Responsibilities of MCDB and the Major Professor*

It is the responsibility of MCDB to counsel students who are having academic difficulties, to help students search for an acceptable major professor or, if students are unable to overcome these difficulties, to help the students identify and apply to other appropriate degree programs. It is the responsibility of the major professor and his/her department to seek funds for a student's assistantship and for the conduct of research.

### Relationship between Status in MCDB and Termination of Financial Support

Although students in MCDB are normally supported on graduate assistantships, this is not a requirement for continued participation in MCDB. Students not on assistantship will continue to have regular status in the major so long as they remain in good standing and are registered.

However, because assistantship support at Iowa State requires that a student be a member of a graduate program, dismissal from MCDB requires that assistantship support be terminated unless the student is able to transfer to another graduate program at ISU.

In addition, termination of financial support by a major professor does not necessarily imply that the faculty member is no longer willing to serve as the student's major professor or that the student's membership in MCDB will change. **Decisions regarding termination and renewal of assistantships are made by the department or program offering the assistantships, which in most cases is not MCDB.** Students with any doubt about their status should discuss their situation with their major professor, the MCDB chair, and/or the department or program providing their assistantship support. For further information on termination of assistantship appointments, see the *Graduate College Handbook*.

### Appeal Process

The University has established appeal processes for student grievances. These vary depending on the nature of the grievance, and are described in the *Graduate College Handbook*. Generally, these procedures begin with the program chair or the appropriate DEO. It is usually best for all parties if a satisfactory resolution can be reached without initiating a formal appeal process. The Associate Dean of the Graduate College is available to informally consult with students and faculty.

### **Graduate College Requirements for Composition of Program of Study Committees**

Below is listed the current minimum requirements for the composition of Program of Study Committees. The rules are established by the Graduate College, but are listed below in terms of a student majoring in MCDB. All individuals listed below must be members of the Graduate Faculty. See the *Graduate College Handbook* for a complete explanation and instructions on how to have co-major professors, additional members, etc.

		PhD	MS
Major Professor <sup>1,2</sup>	Inside MCDB	X	X
Committee Member	Inside MCDB	2X	X
Committee Member	<i>Either not MCDB or not</i> home department	X	X
Committee Member	Any Member of Graduate Faculty	X	X
Minimum Total		5	3

<sup>1</sup>The major professor, or one of the co-major professors, must hold graduate faculty status. The list of graduate faculty can be found in the Appendix of the *Graduate College Handbook*.

<sup>2</sup>If the major professor holds a Collaborator appointment, there must be a co-major professor who holds regular faculty status.

### **Dissertation Research Proposal**

PhD candidates majoring in MCDB must present a description of their proposed dissertation research to their POS Committees at or before the time they submit their proposed POSC. The proposal may include a written component submitted to the POS Committee prior to an oral presentation. The POS Committee will determine the length and formality of the written and oral components. Research proposal requirements, if any, for master's degree candidates are determined by their home departments.

Note: Some departments or POS Committees may require their students to present formal, detailed research proposals later in their degree program, for example, in conjunction with a formal departmental seminar, or as a part of the preliminary exam. If a POS Committee so desires, they can require an MCDB student to fulfill such additional proposal requirements.

### **Preliminary Examinations**

All graduate students must pass certain examinations before obtaining their advanced degrees. A preliminary oral examination is required of PhD degree students by the Graduate College. This examination should be completed by the end of your third year. Preliminary exams for students majoring in MCDB must include a written component as well as an oral component. The nature of the written component is determined by the POS Committee and home department. In some departments, part of the written component is given as periodic written examinations (called cumulative exams). The Preliminary Oral Exam is given by the student to his/her POS Committee. It is the student's responsibility to arrange an appropriate date, time, and location for the oral prelim. Students request their Oral Preliminary Exam via the *Online Preliminary or Final Oral Exam Request* link as found on the Graduate College forms webpage. *This request form must be submitted to the*

*Graduate College at least two weeks prior to the oral exam.*

Master's degree candidates are not required to take a Preliminary Examination.

Additional information about the University Oral Preliminary Exam requirement can be found in the Graduate College Handbook – Chapter 4.4.2 Examinations.

Graduate College Forms

[https://www.grad-college.iastate.edu/common/forms/student\\_forms.php](https://www.grad-college.iastate.edu/common/forms/student_forms.php).

### **Writing Your Thesis**

MCDB accepts theses written for MS or PhD degrees in either the traditional format or the so-called “alternative format”, which includes one or more papers designed for submission to a journal. Writing in “alternative format” will help you learn to write papers and, at the same time, shorten the time it takes for your thesis research to be published. The “alternative format” is more commonly used and is strongly encouraged. It is usual that some chapters of your dissertation will already have been published in peer-reviewed journals. The Graduate College Thesis/Dissertation website, <https://www.grad-college.iastate.edu/current/thesis/>, is a resource developed to help all Iowa State University graduate students with this important part of their degree.

### **Preparing for Graduation**

Each semester, the Graduate College publishes the deadline dates, <https://www.grad-college.iastate.edu/calendar/>, for submission of appropriate forms and paperwork. It is a good idea for students approaching their graduation term to review this information and be sure to observe all appropriate deadlines. Early in the semester in which you expect to graduate, you must Apply for Graduation with the Graduate College through AccessPlus – Grad Student Status Page. This form indicates your intended date of graduation, exact thesis or dissertation title and other relevant information. Currently, the deadline for submitting an Application for Graduation form is within the first couple weeks of the term. If you do not graduate at the expected time, a new application must be submitted. It is of note that you are charged a graduation fee when you submit your Application for Graduation form. This fee may be nonrefundable if graduation is not cancelled on or before the cancellation deadline.

After the dissertation or thesis has been completed and all the other requirements have been met, except for the Final Research Seminar and Final Examination, you should consult with your major professor and POS Committee to arrange a time for the Final Research Seminar and Final Examination. You **must** also request permission from the Graduate College to schedule the Final Examination. Students request their Final Oral Exam via the

*Online Preliminary or Final Oral Exam Request link as found on the Graduate College forms webpage. This request form must be submitted to the Graduate College at least three weeks prior to the oral exam.*

Graduate College Forms

[https://www.grad-college.iastate.edu/common/forms/student\\_forms.php](https://www.grad-college.iastate.edu/common/forms/student_forms.php).

### **Final Research Seminar**

All students are required to present a formal, public seminar describing their completed research. The seminar must be announced *at least two weeks in advance* to the MCDB faculty and students and other members of the Iowa State academic community. Please notify the MCDB office staff of the date/time, place of the seminar, and seminar title. The Program Coordinator will assist you in sending a seminar announcement to appropriate individuals.

### **Final Oral Examination (Defense)**

The Final Oral Examination for the PhD and MS degree is an oral defense of your dissertation or thesis given by you to your POS Committee and any other faculty who wish to attend. This examination reviews the dissertation or thesis and your knowledge of relevant subjects. In many departments, the oral defense follows immediately after the Final Research Seminar. Talk to your major professor to determine the best way to schedule your Final Research Seminar in relation to your defense. It is best to schedule the final defense and research seminar well in advance.

The results of the examination are reported on the "Report of Final Examination" form that will be sent by the Graduate College directly to the program and forwarded to you and your major professor.

### **Checklist for Completion of Graduate Requirements for MCDB Majors**

Student: \_\_\_\_\_  
Degree Sought: \_\_\_\_\_  
Date Started: \_\_\_\_\_  
Major Professor: \_\_\_\_\_  
Co-advisor (if any): \_\_\_\_\_  
Major: MCDB

Minor or Co-Major: \_\_\_\_\_

For each requirement in the following sections, list the term and year you met the requirement, for example, Fall Year, Spring Year, or Summer Year. If you have not completed a requirement yet, indicate when completion is anticipated. Program requirements for timely degree progress are indicated in parentheses.

### Academic Requirements

Joined Laboratory of Major Professor: \_\_\_\_\_  
(No later than May 31, 2019 for current rotation students)

POS Committee Formed: \_\_\_\_\_  
(Within six months of joining your major professor's laboratory)

Program of Study Approved by the Graduate College: \_\_\_\_\_  
(Within six months of joining your major professor's laboratory or by the end of the 3<sup>rd</sup> semester)

\*Note: The Graduate College requires the POSC to be approved at least the term before the Preliminary Oral Exam (PhD students) or the Final Oral Defense (MS students)

Annual Meeting of the POS Committee\*: \_\_\_\_\_  
\*For PhD students the annual meeting should include a research proposal

### Course and Training Requirements

If more than one course is possible to meet a specific requirement, circle course taken and indicate the semester completed. If a requirement has been waived, indicate date of approval for the waiver.

\*Note: All courses and non-course training taken during an MS program in MCDB counts towards the PhD

#### Core Courses

Biochemistry: Semester Completed (please list separately) \_\_\_\_\_  
(BBMB 404/405 or 500-level series)

Cellular Biology: Semester Completed \_\_\_\_\_  
(GDCB 528, BMS 575, BBMB 645, or GDCB 545)

Developmental Biology: Semester Completed \_\_\_\_\_  
(GDCB 533 or GDCB 545)

Molecular Genetics: Semester Completed \_\_\_\_\_  
(MICRO 502, GDCB 511, VMPPM 608, BBMB 676, or GDCB 545)

#### Other Required Courses

MCDB 698, repeated \_\_\_\_\_ (Seminar)

MCDB 699, repeated \_\_\_\_\_ (Research)

Ethics: Semester Completed \_\_\_\_\_  
(GRST 565 or VPTH 554)

Teaching

(One semester) \_\_\_\_\_

Preliminary Exam (PhD only): \_\_\_\_\_  
(By the end of the third year)

\*Notes: The preliminary exam must include a written component! Graduate College requires at least 6 months between the Oral Preliminary Exam and Final Oral Exam.

Dissertation Submitted to POS Committee: \_\_\_\_\_

\*Note: Unless an exception has been approved, your thesis must include one or more first author papers written in a form suitable for submission to a journal. The thesis must be given to your POS Committee at least two weeks prior to your defense.

Final Research Seminar: \_\_\_\_\_

\*Note: This must be a public seminar and the announcement must be given to the MCDB Office to distribute to all MCDB faculty and students. If possible, the seminar should be given during a regularly scheduled seminar series.

Name of Seminar Series and Date Given: \_\_\_\_\_

Defense Date: \_\_\_\_\_

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\*The transferability of credits from other institutions will be determined on a case-by-case basis by the student's POS Committee and the MCDB Chair. To waive a course requirement, send a memo, signed by your major professor (on behalf of your POS Committee) and the instructor of the course you wish to waive, to the MCDB Chair. The memo should state that you have already received satisfactory instruction in the subject matter covered by the required course. Credits for seminars, workshops and colloquia are not transferable.

**Surviving It All**

One of the first genuine shocks for many students in graduate school is how hard they need to work to keep up with all their classes, research, and other responsibilities. The pressures on individual students vary with their departments, professors and projects. However, most students find that they need to work harder as graduate students than at any time before in their lives. The number of hours per week can be staggering. If you are like most students and discover there simply aren't enough hours in the day, the best way to survive is to learn how to select your priorities and focus on them. Your professor and/or more experienced students can give you advice. You are also encouraged to seek

advice from the MCDB Chair or members of the MCDB Executive Committee. If you are feeling overwhelmed with personal or professional obligations and stress, the Iowa State University Student Counseling Services office offers additional, confidential resources. Student Counseling Services are available on the third Floor of the Student Services Building. Their phone number is (515) 294-5056. You may also access additional information on their program website, <https://www.counseling.iastate.edu/>

## FINANCIAL MATTERS

### **Your Appointment**

The majority of MCDB graduate students enter as doctoral students via research rotations, receiving financial support during the rotation period directly from the MCDB Program. For students entering directly into a faculty member lab financial support is provided by the faculty. The source of the support and the responsibilities associated with it vary by appointment, research assistantship (RA) vs. a teaching assistantship (TA). Additional information about these forms of support is available in the *Graduate College Handbook*.

Upon joining a lab, the student's stipend is determined by the major professor according to the professor's department's policies, unless the student has been awarded a special or supplemental fellowship. This stipend may be lower than the stipend provided while on rotation. Funding situations may change for students during their years of study. Each fiscal year (beginning July 1) the student signs a new Letter of Intent that specifies the terms of funding for the coming year. Letters of Intent generally extend 6 or 12 months.

All graduate students receiving support through an assistantship will sign a Graduate Assistantship Letter of Intent that lists the terms and conditions of their appointment. Generally, graduate assistantship appointments are on a one-half time basis. Although technically this means that a student being paid through an assistantship is expected to work 20 hours per week (half time) on the project for which the assistantship is given (the other half being classroom training), in practice the student is expected to work more than 40 hrs per week on classroom learning and lab research.

After the first year, the vast majority of the student's time is spent doing laboratory research. A Teaching Assistantship is for work in an assigned class; a Research Assistantship is for the research of the major professor. The research project for which the RA is given will usually (but is not required to) coincide with the student's thesis research. Most often the half-time appointment is the maximum for a graduate student in order to allow the remainder of the student's time to be spent on graduate courses and research. Appointments may be terminated by mutual consent or for cause as described in the *Graduate College Handbook*. If you have any questions regarding your appointment, speak with the MCDB Program Chair and/or Program Coordinator as well as with whomever is providing your assistantship (faculty or department).

PhD graduate students appointed on a half-time assistantship (either RA or TA) and who remain in good academic standing, receive a full tuition scholarship. This tuition scholarship covers 100% of tuition. The student fees, assessed once per term, are the responsibility of the student. These fees are assessed at the beginning of each semester and include charges for the health facilities, technology, etc. Additional information on fees and expenses can be found on the Tuition and Fees webpage from the Office of the Registrar, <http://www.registrar.iastate.edu/fees/>.

As graduate assistants you will be paid once per month. Iowa State University payday is the last working day of each month. You are advised to set up a direct deposit account with ISU Human Resources. Payroll will be automatically deposited into this account. Applicable deductions as well as Federal and State income taxes and Social Security withholdings apply.

### **Grants for Professional Travel**

The Graduate and Professional Student Senate, GPSS, provides Professional Advancement Grants (PAG) to support graduate student research. The Senate provides \$200 to each person submitting a research proposal. These professional development grants are generally allowed once per year and are on a first come, first serve basis. First year students are eligible to apply for these funds, even while completing research rotations. <http://www.grad-college.iastate.edu/gpss/>

Attendance and presentation of research results at professional meetings are essential parts of your training, helping to build your professional network. All students should, to the greatest extent possible, attend at minimum one national or international meeting during their degree program.

Students should seek funds for travel from a variety of sources to receive the greatest level of support – this should include their major professor, home department, graduate program, GPSS, etc.

Some funding agencies have a time limit for turning in travel expense vouchers. It is important to coordinate with the various funding entities *before* your travel. This helps ensure that you know what receipts and information are required and eligible for reimbursement. Travel reimbursements are processed only after your travel.

### **Benefits**

#### **ISU Student and Scholar Health Insurance Program**

Single coverage student health insurance, including prescription drug benefits, under the ISU Student Health Insurance Plan is provided at no cost to all graduate students receiving an assistantship (RA or TA). Additional information about the Student Health Insurance Program can be found on the Student and Scholars Health Insurance Program website. You will need to enroll in the Student Health Insurance Program, following appropriate annual renewal requirements.

Dental coverage is optional at a reduced premium. Students have the option of adding a spouse or applicable dependents to both health insurance and dental insurance programs, and are responsible for the associated premiums for selected coverage. Dependents can be added during the open renewal period or following a qualifying event.

All international students, whether on assistantship or not, are required to carry the ISU Student Health Insurance or to be covered by another health insurance policy. For more information, or if you have questions or concerns, please contact Room 3241 of the Memorial Union (294-1120).

**Student & Scholar  
Health Insurance Program**

<http://sship.hr.iastate.edu/>

3810 Beardshear Hall

Phone: (515) 294-4800

Email: [isusship@iastate.edu](mailto:isusship@iastate.edu)

**International Students & Scholars Office  
(ISSO)**

<https://www.isso.iastate.edu/>

3241 Memorial Union

(515) 294-1120

Email: [isso@iastate.edu](mailto:isso@iastate.edu)

**Health Service**

As a student, you are eligible to use ISU Health Services. A mandatory health fee and health facility fee are assessed once per semester/term to all students registered according to the number of credits registered and/or full-time enrollment status. These fees provide for services at Thielen Student Health Center, the first point of contact for student health needs and concerns. Please note that these fees can change without notice.

**Thielen Student Health Center**

<http://www.cyclonehealth.org/>

Student Health, 2647 Union Drive

Emergency: 911

Appointments: (515) 294-5801

After Hours Advice: (800) 524-6877

Billing Questions: (515) 294-7523

Pharmacy: (515) 294-7983

Physical Therapy: (515) 294-2626

## **Vacations and Sick Leave**

Vacation and sick leave is set at the discretion of your major professor. One possible scenario is that a research assistant with a half-time appointment (C base) will earn vacation at a rate of eight hours per month. Because you are half time, this would be equivalent to two calendar days. You can take vacation with the approval of your academic advisor and by notifying your departmental secretary or, in the first year, the MCDB office staff.

To obtain approval for vacation time you need to fill out an Absence Request card. In your first year, the card needs to be signed by your temporary advisor and submitted to the MCDB office at least three days before you leave. In later years, Absence Requests will be handled by your home department in coordination with your major professor. Students on assistantships are employees of ISU and therefore are allowed time off on university holidays. However, absences preceding or following the official holiday are to be taken as vacation.

**Teaching assistants** are subject to the academic calendar and do not accumulate vacation time. However, they are not required by the University to perform teaching duties when classes are not in session. Graduate assistants on teaching assistantships must, nevertheless, get permission from their major professor before taking a vacation from their thesis research responsibilities.

If you will be absent because of an illness, you should call your advisor or major professor as soon as possible on the day you are sick and must be absent. On your return, you will need to fill out an Absence Request form; these are available from your home department. You should also use the form in advance when you have a planned absence for medical reasons.

## **Injuries and Injury Reports**

All accidents and injuries occurring at work or in the course of employment must be reported to the employee's supervisor (your professor or the administrative offices of your home department or MCDB), even if no medical attention is required. The supervisor and/or employee are responsible for electronically completing a First Report of Injury via AccessPlus. The Supervisor is then responsible for reviewing this and electronically submitting it to the Human Resource Services *within 24 hours* of when the incident is reported. Incidents that are not reported may cause an employee to be ineligible for future benefits related to this injury or illness. The filing of an accident report is not an admission of liability. Each report will be evaluated by the state's third party administrator to determine whether the claim meets the criteria

to be classified as workers' compensation. Please refer to the University's Human Resources webpage for additional Worker's Compensation information, <http://www.hrs.iastate.edu/hrs/node/73>.

## ADMINISTRATIVE MATTERS

### **Administrative Assistance**

There are a number of offices on campus to help with the administration of your graduate program. The main one for MCDB students is the Interdepartmental Graduate Programs office, 1137 Pearson Hall. General program questions or questions relating to University requirements, procedures, and deadlines may be directed to the MCDB Program Coordinator. Academic advice about courses and rotations will be provided by your temporary advisor or major professor. See the Academic Matters section of this handbook.

Program Coordinator  
Interdepartmental Graduate Programs  
Molecular, Cellular & Developmental Biology  
1137 Pearson  
294-1170  
E-mail: [mcdb@iastate.edu](mailto:mcdb@iastate.edu)

### **Office and Home Addresses**

As an Iowa State University graduate student you will be listed in the ISU Online Directory – <http://info.iastate.edu/>. All students are advised to check their current university address in AccessPlus. Please make sure that the campus address and campus phone number on file are current and accurate. This will help ensure that university correspondences and paperwork are forwarded to the appropriate location. When logging in to AccessPlus, under the "Employee" tab, you will note an option on the left hand navigation bar which reads "Address Change". Following this link will allow you to update your local, permanent, and office/campus address and phone number information. Maintaining up-to-date information is very important. Students should plan to review this information annually for accuracy. For local and permanent address and phone information, you have the option of excluding that information from the university public directory.

### **Communications**

It is vital that you maintain good contact with MCDB personnel throughout your graduate program. There are a number of ways to do this:

**E-mail:** Upon enrolling as a graduate student you will be assisted in establishing an Iowa State University E-mail account. E-mail should be checked at least daily as this is the **primary means** of keeping our students informed about program activities and requirements.

**Internet:** The MCDB home page will contain most of the information that pertains to on-going program events. In addition, the Graduate College website provides a wealth of information for graduate students.

<http://www.mcdb.iastate.edu/>

<https://www.grad-college.iastate.edu/>

**Mail Service:** You will normally pick up your mail in your home department. If you have not yet chosen a home department, mail will be sent to you at 1137 Pearson. You will be notified when you receive mail.

**Telephone:** Local calls (phone numbers in Ames) may be made on most campus phones. Long distance calls must **not** be made on University phones without the prior approval of the person to whom the phone is assigned.

**Bulletin Board:** General messages about the MCDB program will be posted on a bulletin board located outside of 2018 Molecular Biology Building.

## **Transportation**

Parking Division

<http://www.parking.iastate.edu/>

27 Armory Building

(515) 294-3388

[parking@iastate.edu](mailto:parking@iastate.edu)

**Bicycles:** You can park your bicycle at many locations on campus. Except for walks labeled as bike paths, bicycle riders must not use campus sidewalks. A bicycle used between sundown and sunrise must be equipped with a headlight, taillights or an adequate reflector, and a warning device. Bicycles must be registered through the ISU Parking Division Office. Bicycles used off campus must be registered by the city of Ames.

The city of Ames requires that all bicycles be licensed. The licenses may be obtained from various locations in Ames or from the Parking Systems Office in the Armory on campus.

**Buses:** The city of Ames has an excellent bus system called CyRide. During the school year the buses leave from most locations every 20 minutes. The fare is free for students if you show a current, paid University fee card. The CyRide website is [www.cyride.com](http://www.cyride.com).

**Cars and Parking:** A copy of the ISU Traffic and Parking Regulations can be obtained from Public Safety, Parking Division, 27 Armory, or online at: <http://www.parking.iastate.edu/>  
*\*Consult the section covering students.*

### **Help in Preparing Material for Research Presentations**

The Instructional Technology Center on campus provides services relating to visual and audio media. For example, slide projectors, videotape players, etc. can be taken out on loan by departments, students, faculty, and staff. There is a section of the Instructional Technology Center, known as Creative Technology Services that prepares graphs and designs as requested by the purchaser.

### **Professional Ethics**

It is imperative that you understand the ethical standards of science and conduct your scholarly activities accordingly. Scientists who commit unethical acts, whether from carelessness, ignorance, or malice, quickly lose the respect of the scientific community and may be prevented from receiving funding support. Scientific misconduct includes such activities as: falsification of data, fabrication, deceptively selective reporting, purposeful omission of conflicting data with the intent to falsify results, plagiarism, representation of another's work as one's own, misappropriation of the ideas of others, the unauthorized use of privileged information, misappropriation of funds or resources for personal gain, and falsification of one's credentials. At ISU, these acts are taken very seriously and constitute "academic misconduct". Please refer to the ISU Faculty Handbook and the Graduate College Handbook:

<http://www.provost.iastate.edu/faculty-and-staff-resources/faculty-handbook>

<http://www.grad-college.iastate.edu/publications/gchandbook/>

Individuals found guilty of academic misconduct may suffer a variety of penalties, up to and including expulsion from the university.

Occasionally, you may be faced with situations in which you are tempted to act in a manner you think might be unethical. If this occurs, we recommend discussing the situation with your major professor, or another professor whom you trust, to determine whether the actions you are considering are unethical. He or she should be able to suggest alternative actions that will be free of ethical questions.

Unfortunately, not all people understand or care about ethical issues and, at some time in your career, you may be witness to an act you believe to be unethical. When the individuals committing the presumed unethical acts are members of your own laboratory, or worse yet, individuals with power over you, such as your major professor, the situation can be very awkward and you must proceed cautiously. You will find yourself torn

between a fear of retribution and a desire to stop the unethical behavior before it hurts you and other members of your laboratory.

If you believe that unethical behavior is going on in your laboratory, we recommend that you first attempt to discuss the situation informally with the person whom you think might be behaving unethically. Sometimes friendly questions will resolve the problem, such as “This data looks almost perfect; how did you do this experiment?” or “Are you sure that you can omit that data point? Won’t that prejudice your interpretation?” or “This paragraph doesn’t sound like your writing; are you sure you didn’t unintentionally copy some of this?” If you feel uncomfortable in this approach, or if you have tried this approach and it didn’t resolve the problem, we recommend that you discuss the situation informally with a professor whom you trust. You may also go directly to the Chair of MCDB or a member of the MCDB Executive Committee. All discussions with the Chair and the MCDB Executive Committee members will be confidential. You may also go directly to the Associate Vice Provost for Research, 2810 Beardshear Hall, who is responsible for investigating charges of academic misconduct on campus. No matter what you chose to do, you should take great care to ensure the rights of the individual whose actions you are questioning. Frivolous accusations of misconduct and vicious spreading of rumors are just as unethical as fabrication of data or plagiarism.

### **Discrimination, Sexual Harassment, Nondiscrimination and Affirmative Action**

The University Policy on Discrimination and Harassment can be read in its entirety at <http://policy.iastate.edu/policy/discrimination/>.

The University Nondiscrimination and Affirmative Action Policy can be found at the Iowa State University Policy Library website, <http://policy.iastate.edu/>. This policies website will provide guidance to you on how to proceed in addressing any concerns.

## NOTES