

# Handbook for Graduate Studies in the Department of Physiology



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Osteopathic Medicine.**

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# I. PROGRAM OVERVIEW

## A. Mission and Organization

***What is Physiology?*** The discipline of physiology today is uniquely positioned among the biomedical sciences to span the most fundamental aspects of basic biology and practical and applied problems of human and animal health. Because of this unique perspective, physiologists find themselves in demand as university, pharmaceutical and government researchers; professors and teachers; and consultants in an increasingly health-conscious world. As symbolized by the Departmental logo, "From Molecules to Man," modern physiologists investigate the entire array of biological processes, from the biochemical organization of the genome to the processing of complex information into memory engrams by the brain. Physiologists examine the means by which the vast array of molecular and cellular events successfully integrate to define the phenomenon of human existence. In addition, physiologists examine how dysfunctions in molecular and cellular events lead to diseases relevant to chronic inflammatory diseases, neuroscience, obesity, diabetes and other metabolic disorders, glaucoma, asthma, cancer, hypertension, cardiovascular disease and other human health conditions.

***What is the Mission of the MSU Department of Physiology?*** Michigan State University, founded in 1855 as the first land grant college, has awarded diplomas in undergraduate and graduate physiology since 1949. The Physiology Department serves the University in several capacities including: 1) offering degree programs at the undergraduate and graduate level; 2) teaching of "service courses" designed to meet the specific needs of other degree programs such as Biological Sciences, Nursing, Medical Technology, Human Medicine, Osteopathic Medicine, and Veterinary Medicine; and 3) conducting basic and applied physiological research. In 1982, the University's biophysics program was blended into the Department of Physiology. The Department presently has collaborative and administrative ties to the Colleges of Natural Science, Human Medicine and Osteopathic Medicine.

***How do Physiology Graduate Students Contribute to This Mission?*** All Physiology students are enrolled in the College of Natural Science while working on their graduate degrees. The Ph.D. and M.S. programs place heavy emphasis on original research that culminates in the preparation of a thesis. Most research is done in faculty laboratories, but the student is encouraged to make maximum use of the Department's close cooperation with other science Departments and University resources. In support of these research efforts, faculty and graduate students have received significant levels of extramural funding from the National Institutes of Health, National Science Foundation, National Aeronautic and Space Administration, American Heart Association, American Diabetes Foundation, Juvenile Diabetes Foundation-International, Arthritis Foundation, and Department of Defense-Army, as well as NIH Fogarty Foundation Sr. International Fellowships.

## B. Expectations of the Department: Meeting and Committee Participation

### 1. Seminars and Meetings

Seminars are held regularly in the Department of Physiology. All graduate students and faculty are expected to attend and participate. Seminars are presented by invited faculty speakers from other institutions, faculty members from our Department and by trainees.

### 2. Professional Meetings

Graduate students are encouraged to participate in state, national, and international meetings whenever possible, and to present talks at these meetings. Our graduate students have presented papers at meetings of the American Association for Cancer

Research, the Society for Neuroscience, Federation of American Societies for Experimental Biology, the American Physiological Society, and discipline-specific Gordon and Keystone conferences, as well as many others.

### **3. Committee Participation**

Graduate students in Physiology have the option of participating in the following committees:

#### **a. Physiology Graduate Student Committee**

This committee is composed of five Physiology graduate students. Its function is:

- i. To encourage student assemblies for open discussion of university, college and Departmental regulations and policies.
- ii. To communicate information queries and opinions between the faculty and student body.
- iii. To appoint representatives to fill vacancies on various university, college and Department committees.
- iv. To sponsor social functions.
- v. Select one graduate student to represent the department at the College of Natural Science Deans Student Advisory Council
- vi. Select one graduate student to represent the Physiology department graduate students at the University level at the Council of Graduate Students (COGS)

### **4. Graduate Student Elections**

The Graduate Student Committee, which is responsible for supervision of nominations and elections. A student may run for no more than two positions. The first meeting of the newly elected Graduate Student Committee will be held during the Fall semester. At this time the Graduate Student Committee will elect a chairperson who will be responsible for reporting the election results to the Departmental Chairperson.

## **C. Expectations of the Department: Academics**

To complete the Physiology doctoral program, each student must demonstrate a breadth of knowledge of physiology and depth of knowledge in the student's chosen field of physiology, and must demonstrate that they can conceive, execute, and report an original body of research.

### **1. Standards**

- a. Three (3) grades below 3.0 in the entire graduate program will remove the student from degree candidacy.
- b. The student must have at least a 3.0 grade point average over the entire graduate program.
- c. The student must adhere to all other University and College regulations for their graduate program as outlined in the Michigan State University Academic Programs.

### **2. Curriculum and Coursework**

- a. A course grade of 3.0 is considered the minimum satisfactory academic performance for a graduate student enrolled in any graduate level course that is part of their curriculum for their graduate degree.
- b. Students in the **Ph.D. Program** must have at least a 3.0 grade in all core courses required for the comprehensive exam. If the student obtains less than 3.0 grade in any of these courses, they have 12 calendar months in which to remediate by retaking the course and earning a 3.0 or higher, or they will be dismissed from the

Doctoral Program. Note: This may require override permission from the Dean's office if the grade is 2.0-2.5.

- c. Students in the **M.S. Program** must not accumulate more than 2 grades below 3.0 in courses earning credit toward the Master's degree (Department regulation). If either of these criteria is not met, the student will be dis-enrolled from the Program. MS students are not required to remediate a course in which they receive a grade below 3.0, if their overall GPA remains at 3.0 or above.

### 3. Grading Policies for Graduate Level Courses

Department of Physiology Graduate Policy for 400-900 Level Courses: The instructor in any course is considered to be the only authority for evaluating and/or assigning grades for their own examination(s). The person(s) involved in assigning grades will be aware of the University policies in "Grading Systems," General Procedures and Regulations, Academic Programs, Michigan State University: <https://reg.msu.edu/AcademicPrograms/>

### 4. Assessment of Progress

Before completing their laboratory rotations, students desiring to join the Physiology graduate program must inform the Physiology Graduate Program Director of their intent to do so, and obtain approval from their proposed Thesis Advisor.

- a. Physiology graduate students must submit an **ANNUAL GRADUATE STUDENT EVALUATION FORM** (see Appendix 1) from their thesis or dissertation advisor to the Physiology graduate program office. In this evaluation both the thesis advisor and student have reviewed and signed the form, and copies of the report should be given to the student and the major professor. The annual evaluation will be placed in the student's file. Students who wish to appeal any part of the major professor's evaluation may do so in writing to the Graduate Program Director within 2 weeks of receiving the report. If this does not resolve the issue, a meeting will be arranged between the student, their mentor, and the Graduate Program Director at the earliest time convenient for all parties. If no consensus is reached, the matter will be taken under consideration by the Graduate Affairs Committee for final resolution.
- b. Mastery of the materials at different stages of the student's graduate program are assessed by successful completion of:
  - i. the required coursework, and any additional coursework requested by the student's Guidance Committee.
  - ii. the Comprehensive Exam at by the end of the Fall semester in year 3 from the time that the student joined the MSU Ph.D. graduate program
  - iii. the annual Guidance Committee meeting
  - iv. presentation and defense of their thesis

## D. Summary

Students are encouraged to make maximum use of the consultation available through their major Thesis Advisor, Guidance Committee, and the Graduate Program Director. The Graduate curriculum (with exception of the required core courses) is tailored to meet the needs of the individual student and is chosen by the student in consultation with their Thesis Advisor, the Graduate Program Director, and the Guidance Committee.

Under either degree program, the major Thesis Advisor or Guidance Committee has the authority to interpret the Departmental guidelines, as set forth in Sections III to best suit the needs of the individual student. However, final certification for the M.S. or Ph.D. degree or any radical departure from the suggested program of study as outlined in the Department manual will need the approval of the Department chairperson or a faculty standing committee designated by the student. In addition to the Departmental regulations, the student must satisfactorily complete all

College and University requirements for a given degree and in general these requirements are fixed and are not subject to modification. A student is referred to the [Michigan State University Academic Programs](https://reg.msu.edu/AcademicPrograms/) for a complete description of the requirements, which override any inconsistent provisions of the particular departmental handbook:  
<https://reg.msu.edu/AcademicPrograms/>

## II. PROGRAM COMPONENTS / PLAN OPTIONS

### A. Programs of Study

The Department of Physiology offers graduate studies at 3 different levels, the linked BS/MS, MS, and PhD. Each of these plans is described briefly below, and in detail in Section III.

#### 1. Linked Bachelor's/Master's (MS/BS) Program

The Linked BS/MS degree in Physiology offers a unique opportunity to MSU students to pursue advanced training in Physiology. Students beginning in their junior year can enter a research laboratory and begin either a laboratory-based or library-based research project, together with accelerated enrollment in the course work required for completion of the MS degree. The required graduate courses can begin after the student successfully completes PSL 431/432 and BMB 461/462 or BMB 401. The student is advised to visit the Physiology Department web page (<http://physiology.natsci.msu.edu/research/>) to review the Physiology faculty and their research interests.

Applications for admission into the Linked BS/MS Program must be made during the prior Spring semester for an anticipated Spring graduation, or the prior Fall semester for an anticipated Fall graduation to allow admission before the final semester as a Physiology undergraduate. Admission to the program requires a minimum undergraduate grade-point average of 3.5 and an approved program of study for the Master of Science degree in Physiology at the time of admission. Admission to the Linked BS/MS program allows the application of up to 9 credits toward the Master's Program for qualifying 400-level and above course work taken at the undergraduate level at Michigan State University or at an external accredited institution. The number of approved credits, not to exceed 9, are applied toward the credit requirement of the Master's Degree. Credits applied to the Linked Bachelor's-Master's program are not eligible to be applied to any other graduate degree program.

A copy of the “**MS Plan of Study**” (see **Appendix 2**) must be submitted to the Registrar's Office & the Dean's Office before the first semester in which the student enrolls in graduate applicable credits. The Registrar keeps a separate record of the student's BS and MS Programs. The purpose of this is based on the fact that students are held to different academic standards for their BS and MS Programs. The course work and thesis requirements for the MS component of the Linked BS/MS degree are the same as those for the Master's Program and are described in Section III below.

#### 2. Master's Program

Students within the Physiology **Master's Program** must complete 30 credits. The program of study is planned by the student in consultation with a thesis advisor, the Graduate Program Director and a guidance committee that includes at least two faculty members in addition to the thesis advisor. Usually work in one or more supporting areas is required in addition to that taken in the major field. Completion of an original research problem and the writing of an acceptable thesis based upon a minimum of 8 credits of research are required.

#### 3. Doctoral Program

The primary objective of the doctoral program is to provide the student with a thorough knowledge of integrative, systems, cell, and molecular physiology, to prepare them for independent research and to provide scholarly experience in one of the specialized areas of physiology. The Program typically can be completed in about 5 years, includes prescribed coursework, a teaching requirement, completion of the Comprehensive Exam, a written thesis, and the oral presentation (see Section III).

#### 4. Dual Major

The Department recognizes that for certain students there is a distinct, professional advantage in earning a Ph.D. degree which is awarded jointly with another Department or program. Implementation of such a program requires the prior approval of the Graduate Program Director, the corresponding director in the other Department or Program, and the Dean of the Graduate School. However, such students must satisfy all the requirements for a Ph.D. degree in Physiology.

### III. DEGREE REQUIREMENTS

#### A. Graduate Program Requirements, Application and Grading

##### 1. General Entrance Requirements

An undergraduate major in physiology is not required as a prerequisite to graduate study. However, a broad background in the basic sciences, including biology, chemistry, physics and mathematics is essential. Students from undergraduate curricula in the animal, biological or physical sciences, medical technology, veterinary medicine, human medicine, and similar fields are qualified for admission provided they meet the minimum requirements. These include:

- a. 1 yr. of either physiology, biology, or zoology
- b. 1 yr. of physics, including laboratory experience
- c. chemistry, including quantitative analysis and organic chemistry
- d. mathematics through integral calculus
- e. 1 yr. introductory biochemistry
- f. courses in physical chemistry and computer science are recommended, but not required
- g. If the student has entrance requirement deficiencies, which when made up qualify for graduate credit, a maximum of 8 semester hours of those credits will be applicable toward the M.S. or Ph.D. degree.

##### 2. Application Process

- a. **Doctoral Program Application Process:** Applications are handled via the BioMolecular Science Program. <https://biomolecular.natsci.msu.edu/>
- b. **Master's Program Application Process:**
  - i. All application materials/forms are available via the Department of Physiology website (<https://physiology.natsci.msu.edu/students/graduate/physiology-m-s-program/application-process-prerequisites/>)
    - a. Submit Graduate School Application, Statement of Purpose, and required fee
    - b. Submit Departmental Questionnaire (**see Appendix 3**)
    - c. Submit at least 2 Letters of Reference, one of which should be provided by the student's prospective Master Thesis advisor.

- d. Submit Official Transcripts
- e. Provide current TOEFL scores or evidence of English language competency, if applicable (international students see <http://grad.msu.edu/english-language-competency>)
- f. GRE scores
  - i. Information regarding competitive scores is available from the Graduate Program Office; exam requirements and minimum scores may be waived by the Director of Graduate Studies
  - ii. Subject tests are not required
- g. GRE/TOEFL Codes:
  - i. MSU Institutional Code = 1465
  - ii. Physiology Departmental Code = 0217
- h. Graduate School Application-codes:
  - i. Linked BS/MS Program (CNS: use 7122 tracking code during UGR enrollment, followed by 3860 during GR enrollment)
  - ii. Master Program (CNS: use 3860)
  - iii. Doctoral Program (CNS: use 3861)
- i. Academic requirements
  - i. undergraduate and/or graduate GPA of 3.0 or above.

### 3. Transferring Credits

- a. Students in the Linked BS/MS Program are able to apply a maximum of 9 approved credits from the Undergraduate Level towards completion of the Master's degree. <http://www.reg.msu.edu/Read/UCC/unlinkedtransfer.pdf>
- b. Students are able to transfer a maximum of 9 approved credits to a Master's Degree Program from transfer courses, Lifelong Education enrollment status, and the Graduate Certificate level with no more than 9 credits from each category, except for 12 graduate certificate credits permitted in the College of Education. <https://reg.msu.edu/AcademicPrograms/Print.aspx?Section=383>

## B. Admission Process

### 1. Doctoral Program Admissions

Admissions are handled via the BioMolecular Science Program. <https://biomolecular.natsci.msu.edu/>.

### 2. Masters Program Admissions

Upon receipt of the completed application for admission to graduate school, the members of the Graduate Affairs Committee (GAC) will review the application and recommend one of the following actions: (1) further consideration for admission, or (2) refuse admission. If further consideration is recommended, the applicant may be invited for an interview, and/or the application will be evaluated by the faculty members in the sub disciplinary area(s) in which the applicant expresses an interest. The GAC then makes a final decision to (1) admit on a regular basis, (2) admit on a provisional basis, or (3) refuse admission. The Department complies with the federal mandate, Section 504 of the Rehabilitation Act of 1973, D.H.E.W., which prohibits discrimination.

### 3. Regular Admission

Students admitted to the program on a regular basis are deemed by the Graduate Affairs Committee to have an adequate background to pursue graduate study in the Department of Physiology. Typically, students are admitted in the fall, however spring semester admission is permissible with approval of the Physiology Graduate, and Director of BMS, if applicable. Attainment of an MS degree is not a prerequisite for entrance into the PhD program. In general, the student's academic background should be equivalent to the requirements for

completion of a bachelor's degree in sciences as outlined in Section III.A.1 above. Students admitted to the PhD program will be supplied with laboratory space and facilities, and are also eligible to apply to the Department for financial support.

Occasionally, students may be required upon admission to take courses to strengthen their background. Such courses will be listed at the time of admission as '**Required Collaterals**'. The students will be advised in the Department's acceptance letter of such requirements. They will also be advised to complete those required collateral courses within their first year. These courses, which are not part of the formal Graduate Program curriculum (see below), do not count toward the MS or PhD degrees.

At the time a student in the PhD program completes a Guidance Committee Report, the Required collaterals will be listed in addition to any recommended collaterals that the Guidance Committee sets forth. The required collaterals must be satisfied before the Guidance Committee Report can be approved by the Graduate Affairs Committee. The inclusion of required collaterals does not change the student's status.

#### **4. Provisional Admission**

Students whose available records are incomplete or who have an inadequate background to pursue graduate study in physiology but whose academic performance warrants their admission to the graduate program will be admitted on a provisional basis. The Graduate Affairs Committee will set forth provisions in the form of additional course work. At the time of satisfactory completion of the collateral courses, the student may petition the Graduate Affairs Committee for transfer to regular status. A student may not receive a degree while on provisional admission status. Admission to the Department on a provisional basis gives the student all the rights and responsibilities given to a student on a regular basis.

### **C. Specific Program Requirements and Detailed Descriptions**

#### **1. Linked Bachelor/Master's Program**

Students within the Linked BS/MS Program in Physiology must satisfy all of the requirements for the BS Degree in Physiology as well as all of the requirements for the MS Degree in Physiology, with the qualification that up to 9 credits of qualifying 400-level and above course work taken at the undergraduate level at Michigan State University or at an external accredited institution may be applied toward the credit requirement of the Master's Degree. (see <https://reg.msu.edu/AcademicPrograms/Print.aspx?Section=12060>)

#### **2. Master's Program**

##### **a. Requirements of the Master's Program**

During the Master's program, each student must demonstrate a breadth of knowledge of physiology, depth of knowledge in the student's chosen field of physiology, and must demonstrate that they can conceive, execute, and report an original body of research. To these ends, each Master's Degree candidate must successfully meet the following criteria:

- i. Establish a record to document all progress towards the degree (coursework, RCR, committee meetings, thesis defense)
- ii. Complete the required coursework and credits (see 2d below)
- iii. Complete and document responsible conduct of research (RCR) annually
- iv. Hold a yearly Guidance Committee meeting and have Committee submit a **Report of the Guidance Committee** form (See Part V, Section A).
- v. Submit a written thesis based on original research that makes a significant contribution to knowledge, present the thesis research at a public seminar, and pass the private final oral examination by the Guidance Committee, including formal acceptance of the written thesis (See Part VI, Section A).

##### **b. Duration of the Program**

- i. The nominal duration of the program is four semesters (see schedule below)
- ii. The actual time needed to complete all program requirements will vary from one student to another, however, the MS degree must be completed within six years, but can be completed in two years or less.

**c. University Requirements**

- i. Thirty (30) credits beyond the Bachelor's degree; minimum 15 credits of coursework (credits at the 800 level or above= 51%) and 8-15 credits of thesis research (PSL 899).
- ii. Transferring Credits: Students are able to transfer a maximum total of 9 credits to a Master's degree Program from transfer courses, Lifelong Education enrollment status, or the Graduate Certificate level-  
<https://reg.msu.edu/AcademicPrograms/Print.aspx?Section=383>

**d. Formal Course Work**

**Required Courses for Master's Students**

PSL 813: Molecular Mechanisms of Human Disease and Targeted Therapies	3 credits
PSL 828: Cellular and Integrative Physiology I	3 credits
PSL 829: Cellular and Integrative Physiology II	3 credits
PSL 950: Topics in Physiology (2 semesters; 1 cr/sem)	2 credits
One 800-900 level Elective*	3-4 credits
PSL 899: Master's Thesis Research	8-15 credits
	30 total

\* Permissible Elective courses include PSL 827, BMB 801, BMB 802, and BMB 825, or other courses approved by the Thesis Advisor in consultation with the student's Guidance Committee and the Physiology Graduate Program Director.

Students entering the PSL Master's program who already have successfully completed any of these required courses must select additional, advanced courses, with approval of the Guidance Committee and Director of Research and Graduate Studies.

**e. Master's Program Deadlines**

REQUIREMENT	DUE DATE/TIME LINE
Select a Thesis Advisor	Before acceptance into program
Secure a Guidance Committee	Within first semester
File Guidance Committee Report	After first committee meeting (by end of first year), then annually. Filed by Thesis Advisor, and signed by student, advisor and guidance committee members and submitted to the Physiology Graduate Program office.
Defense of Master's Thesis	Within 2-6 years from entry into the Master's program

ENVISIONED TIME LINE: (nominal enrollment is 7-8 credits per semester)		
Year:	Fall	Spring
1	PSL 829 – Cellular and Integrative Physiology II PSL 813 - Molecular Mech of Human Diseases Guidance Committee selection Thesis Research PSL 899	PSL 828 – Cellular and Integrative Physiology I First Guidance Committee meeting PSL 950 (1) – Topics in Physiology Thesis Research PSL 899
2	Graduate Level Elective (minimum of 1 required)* PSL 813 - Molecular Mech of Human Diseases (unless completed in Year 1) PSL 950 (2) – Topics in Physiology Thesis Research PSL 899	Thesis Specific Elective (if chosen) * Thesis Research PSL 899 Defend Master's Thesis

\* Electives can be taken in any semester depending on course availability.

### 3. Doctoral Program

#### a. Requirements of the Doctoral Program

During the doctoral program, each student must demonstrate a breadth of knowledge of physiology, depth of knowledge in the student's chosen field of physiology, and must demonstrate that they can conceive, execute, and report an original body of research. To these ends, each Ph.D. candidate must successfully meet the following criteria:

- i. Establish a GradPlan record to document all progress towards the degree (coursework, RCR, committee meetings, comprehensive and dissertation exams)
- ii. Complete the required coursework and credits
- iii. Complete and document responsible conduct of research (RCR) annually
- iv. Complete the required teaching experience, as applicable
- v. Pass the Comprehensive Examination by the fall semester of the third year, which measures breadth physiological knowledge and depth in the chosen field of research
- vi. Hold a yearly Guidance Committee meeting and have Committee submit a **Report of the Guidance Committee** form (See Part V, Section B).
- vii. Have at least one first author peer-reviewed research publication accepted and submission of at least one other manuscript by the time of the thesis defense is encouraged
- viii. Submit a written thesis based on original research that makes a significant contribution to knowledge, present the thesis research at a public seminar, and pass the private final oral examination by the Guidance Committee and their evaluation of the written thesis within 8 years of entry into the Ph.D. program (See Part VI, Section B).

#### b. Doctoral Program Deadlines

REQUIREMENT	DUE DATE/TIME LINE
Select a Thesis Advisor	Year 1 (BMS)
Secure a Thesis Committee	By end of fall semester of Year 2
First Thesis Committee Meeting	By the end of spring semester of Year 2, and thereafter annually
Comprehensive Exam	No later than the end of fall semester of Year 3
Required Teaching	During Year 2
Defense of Ph.D. Thesis	Within 8 years from Ph.D. program entry (starting from the first day in the BMS program)

#### c. Formulation of the Doctoral Program

Students will be considered by the Department to be Doctoral 'candidates' once they have:

- i. Selected a Thesis Advisor (See IV: SELECTION OF THE THESIS ADVISOR)
- ii. Completed required graduate coursework
- iii. Passed the Comprehensive Examination

#### d. Doctoral Course Credit Requirements

The University requires no specific number of course credits, other than a minimum of 24 PSL 999 research credits.

Basic Physiology Coursework: PSL 828 and 829; three electives (3 credit hour, 800 level and higher), and four topic courses (1 credit hour, e.g. PSL 950).

Physiology students must attain a minimum grade of 3.0 in any required (core) course (i.e., PSL 828, PSL 829). If a student receives below a 3.0 in a required course they have 12 months to retake the course. Failure to attain a 3.0 after retaking the course will result in dismissal from the PhD program. Additionally, accumulation of 2 or more grades in any graduate courses at/below 2.0 meets the criteria for dismissal from the Ph.D. program as listed in section L below.

Additional course requirements are recommended by the Guidance Committee in consultation with the student. The program of study will be based upon the needs of the individual student, taking into account previous academic background, research interests, and professional goals. Selection of courses should reflect the student's need for breadth of knowledge in physiology and depth of knowledge in the field of specialization.

<b>ENVISIONED TIME LINE:</b>		
<b>Year:</b>	<b>Fall</b>	<b>Spring</b>
1	Elective 1  Elective 2 (PSL 813 Molecular mechanisms of human disease and targeted therapies – recommended)	PSL 828 – Cellular and Integrative Physiology I  Elective 3
2	PSL 829 – Cellular and Integrative Physiology II  PSL 950 (1) – Topics in Physiology  Guidance Committee selection	PSL 950 (2) – Topics in Physiology  Thesis Specific Elective  First Guidance Committee meeting  TA Requirement  Thesis Research
End of year 2 – beginning year 3	Comprehensive Examination (written proposal, research presentation, committee questions)	
3	PSL 950 (3) – Topics in Physiology  Thesis Research	PSL 950 (4) – Topics in Physiology  Thesis Research
4 and 5	Thesis Research  Thesis Defense	Thesis Research  Thesis Defense

**e. Doctoral Responsible Conduct of Research (RCR) Requirements**

Per University policy, all graduate students must complete the RCR requirements listed below. Completion of training must be documented in the relevant database (ABILITY, Grad Plan, Grad Info) with the assistance of the Physiology Graduate Program office.

## RCR Requirements – Physiology PhD Program

Time Line:	Required Sections/Specific Description:	Alternatives:
<ul style="list-style-type: none"> <li>• BMS – first year</li> <li>• If not completed during that time – PSL committed students need to complete by August 1<sup>st</sup> before starting year 2</li> </ul>	<p style="text-align: center;"><b>CITI Modules Year 1: 4 Modules</b></p> <ul style="list-style-type: none"> <li>• <b>Introduction to the Responsible Conduct of Research</b></li> <li>• <b>Authorship</b></li> <li>• <b>Plagiarism</b></li> <li>• <b>Research Misconduct</b></li> </ul> <ul style="list-style-type: none"> <li>• <i>Tracked by ABILITY</i></li> <li>• <i>Checked by PSL grad secretary/director for all PSL committed students after BMS year 1</i></li> </ul>	<ul style="list-style-type: none"> <li>• NONE</li> </ul>
<ul style="list-style-type: none"> <li>• PSL – second year</li> <li>• PSL students need to complete by October 1<sup>st</sup></li> </ul>	<p style="text-align: center;"><b>CITI Modules Year 2 : 3 Modules</b></p> <ul style="list-style-type: none"> <li>• <b>3 additional modules selected by PSL student based on recommendation/discussion with mentor</b></li> </ul> <ul style="list-style-type: none"> <li>• <i>Tracked by ABILITY</i></li> <li>• <i>Checked by PSL grad secretary/director for all PSL students in fall of year 2</i></li> </ul>	<ul style="list-style-type: none"> <li>• NONE</li> </ul>
<ul style="list-style-type: none"> <li>• PSL – second and third year</li> <li>• PSL Workshop in February/March</li> </ul>	<p style="text-align: center;"><b>6 Hours Discussion Based Training (by completion of degree)</b></p> <ul style="list-style-type: none"> <li>• <b>3 hours/year of RCR workshop provided by Physiology Graduate Program</b></li> <li>• <b>Extends on CITI modules</b></li> <li>• <b>Topic discussions and role plays using NIH, Grad School, and literature material</b></li> <li>• <b>Mandatory for ALL PSL students independent of mentor's departmental affiliation</b></li> </ul> <ul style="list-style-type: none"> <li>• <i>Tracked by GradPlan/GradInfo</i></li> <li>• <i>Checked by PSL grad secretary/director for all PSL students at end of academic year</i></li> </ul>	<ul style="list-style-type: none"> <li>• 3 hours of RCR courses provided by Grad School</li> <li>• OR 3 hours of individual RCR training provided by mentor or journal club – needs to be well documented</li> </ul>
<ul style="list-style-type: none"> <li>• PSL – starting in fourth year</li> <li>• PSL Workshop in February/March</li> </ul>	<p style="text-align: center;"><b>3 Hours of Annual Retraining</b></p> <ul style="list-style-type: none"> <li>• <b>3 hours/year of discussion based RCR workshop provided by Physiology Graduate Program</b></li> <li>• <b>Mandatory for ALL PSL students independent of mentor's departmental affiliation</b></li> </ul> <ul style="list-style-type: none"> <li>• <i>Tracked by GradPlan/GradInfo</i></li> <li>• <i>Checked by PSL grad secretary/director for all PSL students at end of academic year</i></li> </ul>	<ul style="list-style-type: none"> <li>• 3 hours of RCR courses provided by Grad School</li> <li>• OR 3 hours of individual RCR training provided by mentor or journal club – needs to be well documented</li> </ul>

### f. Teaching Responsibilities

As part of their academic requirement each student (irrespective of their source of support) is required to participate in teaching (minimum of a 0.25 TA position for one semester). The teaching experience should be fulfilled during the second year in the program and must occur before the comprehensive exam. Students on select training fellowships may defer this training requirement with the approval of the Physiology Graduate Program Director. Dual-degree students are exempt from this teaching requirement. However, these students are strongly encouraged to pursue teaching experiences at some point during their graduate work.

The importance of this classroom experience as part of their professional development is noted during the student's orientation to the doctoral program. The course coordinator provides a pre-course orientation, regular observation and feedback during the course, and a written evaluation for each student at the conclusion of the course.

Students are encouraged also to seek other opportunities for gaining teaching experience, including the presentation of formal lectures, construction and evaluation of examinations, tutoring of students, and leading discussion sections. All of these opportunities are considered important aspects of professional development in preparation for future employment.

International graduate students must have a minimum score of 50 on the University's SPEAK test to qualify for teaching. For more information about the SPEAK test, contact the English Language Center at MSU, A714 Wells Hall or on the web at <http://elc.msu.edu/>.

#### **g. Doctoral Comprehensive Exam**

##### **i. Overview of the Comprehensive Exam Timing, Format and Expectations**

To pass the Comprehensive Exam the student must demonstrate defensible logic in the formulation of research questions/hypotheses and in the proposed approaches to answer these questions (or test these hypotheses) experimentally. The student must also demonstrate breadth of knowledge and understanding of fundamental physiological principles that are relevant to his/her research area.

By the end of the fall semester of the third year in the graduate program, the student must successfully complete the comprehensive exam. If a student recognizes that they will be unable to meet this deadline, they must submit a written request to the Physiology Chair and Graduate Director for an extension by Nov. 15 of the Fall semester. Granting of an extension will be decided by the Chair of the Physiology Department and Graduate Program Director and will not exceed 3 months. Failure to complete the comprehensive exam by the extension deadline will result in dismissal from the PhD program and the guidance committee will determine whether conditions have been met for a Master's degree.

The student's Guidance Committee plus a member of the Graduate Affairs Committee (GAC), who will serve as chair of the comprehensive exam committee, will administer the Comprehensive Exam. The student's thesis advisor will not be present during the oral exam that occurs after the student presents their thesis proposal to a general audience.

As part of the comprehensive exam the student is expected to submit two written documents one week prior to the comprehensive exam:

1. A dissertation proposal in the form of a current NIH predoctoral fellowship
2. A three-page topic grant proposal based on the topic/problem provided by the Guidance Committee

The comprehensive exam day will consist of 2 parts:

1. An oral presentation of the proposed research in seminar open to the public
2. A closed session meeting with the comprehensive examination committee. The examination committee will consist of the Guidance Committee plus a member of

the GAC. The student's thesis advisor is recused from participation in the preliminary examination.

## ii. Doctoral Written Thesis Research Proposal for the Comprehensive Exam

This document should provide the comprehensive examination committee with sufficient evidence to judge the student's potential (both intellectual and technical) to develop a first-rate dissertation research project. ***It is expected that the student will discuss this written proposal at length with their advisor and that the advisor will have significant input into the proposal.*** This is an educational opportunity for trainee to learn "grant writing skills" and therefore a perfect opportunity to learn from their advisor. It is recognized that this proposal could be used for fellowship application to grant agencies including AHA, ACS, JDRF, CCFA, NIH etc. However, the format of the thesis proposal should follow established fellowship guidelines such as those set for the pre-doctoral NIH F31 National Research Service Award (NRSA) Program (<https://grants.nih.gov/grants/how-to-apply-application-guide/forms-d/fellowship-forms-d.pdf>, pages F-55 and F-56).

At least seven days prior to the exam date, the student shall submit a written proposal to the members of the comprehensive examination committee.

The dissertation proposal should include these basic sections (the exact structure and length can vary depending on the fellowship type chosen):

- a. **Specific Aims:** Not exceed 1 page. List the broad, long-term objectives and what the specific research proposed in this application is intended to accomplish. State the hypotheses to be tested.
- b. **Significance:** Not to exceed 0.5 - 1 pages. Briefly describe the rationale leading to the present application, critically evaluate existing knowledge, and specifically identify the gaps in knowledge that the project is intended to fill. State concisely the importance and physiological relevance of the research described in this application by relating the specific aims to the broad, long-term objectives.
- c. **Preliminary Studies and Research Plan:** Not to exceed 5 – 5.5 pages. Use this section to provide an account of your preliminary studies pertinent to the research proposal that will help to establish your experience and competence to pursue the proposed project. Describe the research design and the procedures to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted. Describe any new methodology and its advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims.
- d. **Literature Cited:** List all references. Each reference must include the title, names of all authors, book or journal, volume number, page numbers, and year of publication. The references should be limited to relevant and current literature. While there is no page limitation, it is important to be concise and to select only those literature references pertinent to the proposed research.

## iii. Doctoral Topic Grant Proposal for the Comprehensive Exam

At the end of the first Guidance Committee meeting (or whichever Guidance Committee meeting precedes the Comprehensive Exam), the Guidance Committee will provide the subject for the topic grant proposal. The purpose of this exercise is to 1) assess the student's creative thinking and mastery of physiologic principles and 2) test the student's ability to develop and communicate in a written form a research proposal. The student will be expected to write a 3-page grant that has the following elements: Hypothesis and Specific Aims (0.5 page) and Experimental Approach (2.5 pages) and References. Students should be aware that the topic provided will be distinct from their research area and therefore, the student is expected to do significant reading of literature and develop experimental strategies to test the hypothesis for the question/problem provided. ***For this grant proposal, the student will not consult with their mentor, and the product***

**should be from their independent literature search and creative thinking.** Students are allowed to provide their grant for critique by their peers and are allowed to modify their grant based on their peers' critiques before submitting it to the committee.

**iv. Doctoral Public Presentation of the Thesis Research Proposal for the Comprehensive Exam**

The student is required to present their dissertation proposal in a seminar open to the public. The oral presentation of the dissertation proposal should be 40 - 50 minutes in length and will include a 10 - 15 minute question/answer period. Do not attempt to include all of the information from the written dissertation proposal in the oral seminar. The key to success in this portion of the exam is to give a clear and coherent presentation. The student should rehearse their presentation with their mentor, lab colleagues and/or fellow graduate students.

**v. Doctoral Oral Comprehensive Examination**

The student will have a closed exam with the comprehensive examination committee following the public seminar on their dissertation proposal. The length of the oral comprehensive examination is ~two hours.

The oral examination will assess the student's ability to:

- Formulate a thesis hypothesis and design rigorous experiments to test it.
- Predict expected outcomes based on literature and preliminary data, assess possible pitfalls and alternative approaches
- Demonstrate critical thinking and proficiency in the field relevant to their thesis research and fundamental physiological principles.

**vi. Doctoral Comprehensive Examination Outcome**

Following the oral examination with the student, the comprehensive exam committee will decide by simple majority vote on one of the following outcomes:

- **Pass:** the student satisfactorily demonstrated mastery of all aspects of the exam and is ready to pursue a dissertation
- **Pass with condition:** the student demonstrated mastery of some aspects of the exam but exhibited deficits in other necessary aspects. The student needs to demonstrate mastery of these aspects before moving forward as a Ph.D. candidate
- **Fail:** the student failed to demonstrate mastery of critical aspects necessary for successful completion of a Ph.D. dissertation

In the case of "pass with condition," the student will be expected to fulfill the conditions set by the comprehensive examination committee within ***three months*** of the exam (e.g. this could involve rewriting the dissertation or topic grant proposal, repeating the oral comprehensive exam, or both). Failure to fulfill the conditions set by the comprehensive exam committee will result in a failure of the exam and dismissal from the Ph.D. program. If the student fails the exam, the student will be dismissed from the Ph.D. program, but may be allowed to complete the MS program.

A **Doctoral Record of Comprehensive Examination form** (see Appendix 4) will be signed by the committee members and Physiology Department Chair and filed with the Physiology Graduate Program Director, the student, and the student's major advisor. ***It is the student's responsibility to submit the date of successful completion of the comprehensive exam to the Physiology Graduate Secretary for submission to GradPlan.***

Failure on the part of the student to fulfill the requirements of the comprehensive examination within the prescribed time limits will result in dismissal from the Ph.D. program. A student dismissed for this reason shall have the right to apply to the GAC for readmission.

A failure in the comprehensive examination also provides the option for an MS degree at the discretion of the committee and the mentor.

#### **h. Modification of Program and Final Certification**

Final certification of the Ph.D. degree or any radical departure from the suggested program of study as outlined in this handbook requires the approval of the Physiology Graduate Program Director and the Graduate Affairs Committee. In addition to Physiology Department regulations, the student must satisfactorily complete all College and University requirements for a given degree. These requirements can be found on the MSU Graduate School homepage (<https://grad.msu.edu/etd>).

## **IV. SELECTION OF THE THESIS ADVISOR**

### **A. Selection of the Master's Thesis Advisor**

1. It is the student's responsibility to secure a commitment from a member of the regular Physiology faculty to serve as the Thesis Advisor. The prospective student must identify a Thesis Advisor prior to entering the program. The student may contact the Graduate Director for assistance.
2. Thesis research must involve original scholarly work
3. The thesis research must be based on work done by the student after entering the Master's program.
4. Thesis is to be written under the guidance of the Thesis Advisor, in consultation with the Guidance Committee, and in accordance with: *The Graduate School Guide to the Preparation of Master's Theses and Doctoral Dissertations*.
5. Role and Responsibilities of Master's Thesis Advisor and Student:
  - a. The Thesis Advisor will oversee the student's academic and research progress.
  - b. The Student in consultation with Thesis Advisor is responsible for establishing a Guidance Committee.
  - c. The student, not the Thesis Advisor, is responsible for writing and editing the student's thesis.
6. The Department does not provide graduate assistantships or other stipends for students in the Master's program. This does not preclude a student from obtaining support from the thesis advisor, teaching assistantships, or other sources of academic financial support.

### **B. Selection of the Doctoral Thesis Advisor**

#### **1. Timing of Selection of Doctoral Thesis Advisor**

Students must select a doctoral Thesis Advisor by the end of their final laboratory rotation. Laboratory rotations are not required for students who have selected a Thesis Advisor at the time of admission. If a Thesis Advisor has not been selected by then, the student will be directed to investigate additional opportunities within the Department or to withdraw from the physiology graduate training program and consult with the BMS Program Director. The Physiology Graduate Program Director will assist with this decision. Resources available to the student are the detailed descriptions of faculty Research Interests provided on the [Department website](#), the [MSU Community of Science \(COS\) database](#), and the Joint Graduate Student Orientation program presented by the Biomedical Sciences Departments each Fall prior to the start of the school year.

#### **2. Who Can Serve as a Doctoral Thesis Advisor**

Faculty members that qualify to serve as Doctoral Thesis Advisors include regular and adjunct physiology faculty members. (Regular faculty members consist of all persons appointed under the rules of tenure and holding the rank of professor, associate professor or assistant professor.) A faculty member outside the Physiology Department can serve as a proxy Doctoral Thesis Advisor when approved by the Physiology Graduate Program Director and the Chair of the Department. To be considered as a proxy Doctoral Thesis Advisor, the faculty

member must provide the following documents to the Chair of Physiology and the Physiology Graduate Program Director:

- CV of the proposed proxy Doctoral Thesis Advisor
- Documentation of funding
- A letter documenting:
  1. How the research of the proposed proxy Doctoral Thesis Advisor fits with the goals of the Physiology department
  2. Their commitment to financially supporting the student throughout their doctoral program
  3. Explaining how the student's proposed research project will help them to develop a breadth and depth of knowledge in physiology, consistent with the goals of the Physiology graduate program.

### **3. Role of the Doctoral Thesis Advisor**

- a. The role of the Doctoral Thesis Advisor is to oversee the student's academic and research progress.
- b. The Thesis Advisor and student are responsible for establishing a Guidance Committee
- c. The student, not Thesis Advisor, is responsible for writing/editing the student's thesis.
- d. The Thesis Advisor, together with the student, is responsible for completing the **Annual Graduate Student Evaluation Form** which must be signed and submitted to the Physiology Graduate office every year (see Appendix 1).

### **4. Changing Doctoral Thesis Advisor**

There may be circumstances in which the student may voluntarily or involuntarily choose to change the thesis advisor. These circumstances may include, but are not limited to, irreconcilable differences between thesis advisor and student, change in research interest, or departure of the thesis advisor from the Physiology Department or MSU. Under such circumstances the Physiology Graduate Program Director will work with the student to identify a new thesis advisor. If a thesis advisor has not been selected by the end of the next full semester, the student will be directed to investigate additional opportunities within the Physiology Department or to withdraw from the graduate program.

If a student changes thesis advisor, all data, notebooks and research materials remain the property of the original thesis advisor. Notebooks and research materials may only be removed from the original thesis advisor's laboratory or offices after student has received written permission from the original thesis advisor.

There also may be circumstances in which a student voluntarily or involuntarily leaves MSU before completing all of the degree requirements. If a student leaves MSU for 2 consecutive semesters (non-enrolled), the student can be readmitted to the Physiology program. If a student is not enrolled at MSU for 3 consecutive semesters (including summer semester), readmission to the University is required. The original thesis advisor, however, is under no obligation to remain the student's thesis advisor. Under such circumstances the Physiology Graduate Program Director will work with the student to identify a new thesis advisor. If a thesis advisor has not been selected by the end of the next full semester, the student will be directed to investigate additional opportunities within the Physiology Department or to withdraw from the graduate program.

Should a student leave MSU before completing all of the degree requirements, all data, notebooks and research materials remain the property of the thesis advisor. Notebooks and research materials may not be removed from the thesis advisor's laboratory or offices without written permission from the thesis advisor.

## **V. FORMATION OF THE GUIDANCE COMMITTEE**

### **A. Master's Guidance Committee**

1. The Guidance Committee consists of the Thesis Advisor and at least two other regular faculty from the Physiology Department. Additional faculty from other University departments may be included on the Guidance Committee, at the discretion of the student and Thesis Advisor. The student and Thesis Advisor will arrange for the selection and first meeting of the student's Guidance Committee whose central role is to guide and report on the student's research progress. Any member of the committee or any other member of the faculty in the Department is available to any student for counsel or guidance throughout their graduate career. It is strongly suggested that the Guidance Committee be formed by the end of the first semester of the first year. Following the first meeting, the student must file a '**Annual Student Report of the Guidance Committee**'. The report form is available through the Graduate Program office.
2. The student together with the Thesis Advisor shall jointly design the student's course of academic study. They can be advised by the Graduate Program Director and the Guidance Committee.
3. The student then is required to meet annually with their Guidance Committee. The student will need to provide the Guidance Committee with a written progress report of their research, and the student's Advisor will need to file an annual summary report (see Appendix 5).
4. The Guidance Committee shall administer the Thesis Defense after the completion of the research.

## **B. Doctoral Guidance Committee**

### **1. Role of the Doctoral Guidance Committee**

The Doctoral Guidance Committee's role is to guide the student's academic and research progress. The student together with the Thesis Advisor shall jointly design the student's course of academic study. They can be advised by the Graduate Program Director and the Guidance Committee. Students must present their progress to the Guidance Committee annually. The Guidance Committee shall administer the Comprehensive Examination and the Final Examination.

### **2. Composition of the Doctoral Guidance Committee**

The Guidance Committee consists of at least five members, including the Thesis Advisor and at least two other regular faculty from the Physiology Department. The majority of the Guidance Committee members must be regular faculty from the Physiology Department. At least one member of the Guidance Committee shall be chosen from outside the Department of Physiology and represent a discipline closely related to the student's field of specialization. Additional regular faculty from other University Departments may be included on the Guidance Committee, at the discretion of the student and Thesis Advisor. In the case that the Thesis Advisor is not Physiology faculty, then at least three Guidance Committee members must be regular faculty within the Department of Physiology. The inclusion of a fixed term faculty as a Guidance Committee's member will require the approval by the Department and the Graduate School. Students opting to include a fixed term faculty in their Guidance Committee should notify and meet with the Graduate Program Director a month before the meeting in order to complete the required authorizations.

If a student wishes to have a non-regular faculty member serve on their Guidance Committee:

- The faculty member should submit a CV to the Graduate Program Director or Department Chair and a letter indicating why their membership will benefit the student's Guidance Committee and training.
- The Director and/or Chair will then submit a letter to the Graduate school asking for approval of that non-regular faculty member.
- Final approval is required from the CNS Associate Dean of Graduate Studies and the Graduate School.

**One of the Physiology faculty on the Guidance Committee will serve as the Chair of the Guidance Committee.** The Chair of the **Guidance Committee** will be responsible for completing the annual **Report of the Guidance Committee** form (see Appendix 6), and for summarizing the minutes of each annual Guidance Committee meeting. It is the responsibility of the student to obtain signatures from Thesis Advisor, committee members

and the student and return the fully signed report to the Physiology Graduate Program office. This documentation will be secured in the student's folder.

Changes to the Guidance Committee, once established, need to be approved by the Graduate Director.

### 3. First Doctoral Guidance Committee Meeting

**Prior to the first Guidance Committee meeting, the student must enroll in GradPlan and keep all academic records updated throughout their graduate career.**

The student should complete their first Guidance Committee meeting *during their second year and at the latest by the end of the spring semester of the second year.* For this first meeting, the student is required to:

- Submit a Specific Aims page to Guidance Committee members one week prior to the meeting.
- At the meeting, update the Guidance Committee on their progress on required coursework.
- Provide the Guidance Committee with an oral presentation on research progress and an outline of their thesis proposal.
- Define timeline for completing the comprehensive exam.
- Bring the **Report of the Guidance Committee** form to the meeting.

The Chair of the Guidance Committee is chosen at this first meeting. The Chair of the Guidance Committee will fill out the **Report of the Guidance Committee** form (see Appendix 6) and summary of the meeting, and then send it to the Guidance Committee members for approval and signatures. The Chair of the Guidance Committee will then give the documentation to the student, who is responsible for submitting it to the Physiology Graduate Program Office. The student is responsible for making sure that this is completed within two weeks of the meeting.

By the end of the first meeting, the Guidance Committee will decide whether the student is ready to proceed to the comprehensive exam or whether an additional committee meeting is necessary. If the committee agrees that the student is ready to proceed to the comprehensive exam they will, at this meeting, provide the student *with a topic for the 3-page proposal (see Section III.C.3.g Doctoral Comprehensive Exam).*

### 4. Subsequent Doctoral Guidance Committee Meetings

Following completion of the comprehensive exam, the student is required to meet annually with their Guidance Committee. One week prior to the meeting the student will need to provide the thesis Guidance Committee with:

- Description of the student's progress in the program, including coursework and fulfillment of requirements.
- List of any manuscripts and abstracts submitted, in press, published, or presented.
- A written progress report on their research (maximum 2 pages), submitted to the committee.
- The **Report of the Guidance Committee** form (see Appendix 6)

The student's yearly meeting should be a brief summary, which includes the following:

- All items from above
- Description of the thesis research project and update on all progress toward the completion of the Specific Aims. If there have been changes in the aims or direction of investigation, these changes should be well described. This section should also include a statement of the percentage of progress on the aims.

- Future studies/timetable: This section should briefly indicate the studies that are incomplete and the anticipated timetable for their completion.

After the annual Guidance Committee meeting, the Chair of the Guidance Committee will fill out the **Report of the Guidance Committee** form and summary of the meeting, and then send it to the Guidance Committee members for approval and signatures. The Chair of the Guidance Committee will then give the documentation to the student, who is responsible for submitting it to the Physiology Graduate Program Office. The student is responsible for making sure that this is completed within two weeks of the meeting. The student will ensure that the annual Guidance Committee meetings is entered into GradPlan.

Students who wish to appeal any part of the summary may do so in writing to the Graduate Program Director within 2 weeks of receiving the report. If this does not resolve the issue, a meeting will be arranged between the student, their mentor, and the Graduate Program Director at the earliest time convenient for all parties. If no consensus is reached, the matter will be taken under consideration by the Graduate Affairs Committee for final resolution.

## VI. THESIS DEFENSE AND FINAL ORAL EXAMINATION

### A. Master's Thesis Defense and Final Oral Examination

The thesis defense consists of an oral examination of the student's research. Passing this exam requires both approval of the written thesis and satisfactory oral examination. Pass/Fail will be determined by majority vote of the student's Guidance Committee. A student who fails the exam will be given one opportunity to retake the exam. If the student fails the second exam, the student will be dismissed from the Program. After the exam, the student is responsible for obtaining signatures from the thesis advisor and committee members on the **Master's Record of Dissertation & Oral Exam form (see Appendix 7)** and submitting the signed form to the Physiology Graduate Program office.

### B. Doctoral Thesis Defense and Final Oral Examination

The final oral examination in defense of the dissertation will be conducted and evaluated by the guidance committee which includes the thesis advisor. The oral examination will be scheduled for a date not earlier than two weeks after the dissertation and abstract have been submitted to the thesis advisor and guidance committee. This will allow time for the members of the guidance committee to review and evaluate the dissertation before the examination. Simple majority rule is in effect for all guidance committee decisions.

- Students must be registered for the semester in which they complete the final oral examination.
- Students must have one accepted first author, peer-reviewed research publication in order to successfully complete their dissertation and graduate. The submission of additional manuscripts is strongly encouraged. After the exam, the student is responsible for obtaining signatures from the thesis advisor and committee members on the **Doctoral Record of Dissertation & Oral Exam form** (see Appendix 8) and submitting the signed form to the Physiology Graduate Program office.
- For details regarding the recommended style for dissertations, see "The Graduate School Guide to the Preparation of Graduate Master's Thesis and/or Doctoral Dissertation." This manual is available from the Graduate School (<https://grad.msu.edu/etd>).

## VII. DEPARTMENTAL POLICIES: ACADEMIC PERFORMANCE

### A. Criteria for Dismissal-Remediation

- a. Accumulation of 2 or more grades at/below 2.0.
- b. GPA below 3.0 in any core course. In case of GPA lower than 3.0, the student has 12 months to successfully retake the course.
- c. Failure to fulfill the requirements for the Comprehensive Exam within the time limits. Comprehensive Exam is administered prior to or within first semester of 3<sup>rd</sup> year of study.
- b. Receive a Fail on the Comprehensive Exam. Student may be allowed to continue in the Master's Program
- c. Scientific misconduct (see Section VIII).

## VIII. DEPARTMENTAL POLICIES: INTEGRITY AND SAFETY IN RESEARCH AND CREATIVE ACTIVITIES

Students are expected to adhere to the high ethical principles of our Profession and University during conduct of research, scholarship, and professional activities. ([Integrity of Scholarship and Grades, Guidelines for Integrity in Research and Creativities, Guidelines for Graduate Student Advising and Mentoring Relationships](https://grad.msu.edu/researchintegrity)) (<https://grad.msu.edu/researchintegrity>).

### A. Graduate Student Responsibilities

#### 1. Integrity and Safety in Research and Creative Activities

- a. All graduate students are expected to complete the annual requirements for "Responsible Conduct of Research", offered by the Graduate School (<https://grad.msu.edu/>).
- b. All graduate students are expected to follow all applicable guidelines for Integrity and Safety in Research and Creative Activities. <https://grad.msu.edu/researchintegrity>

Criteria for dismissal from the program include, but are not limited to:

- i. plagiarism;
- ii. fabrication or falsification of data;
- iii. failure to disclose Conflicts of Interest;
- iv. inappropriate or unauthorized use of university property, including computers;
- v. destruction and/or theft of university property, including reagents;
- vi. failure to comply with the guidelines set forth in this manual;
- vii. violation of University personnel policy guidelines for acceptable behavior

#### 2. Department Plan for Responsible Conduct of Research and Scholarship

Pursuant to Michigan State University's recently implemented Institutional Policy for Training and Oversight in the Responsible and Ethical Conduct of Research, the Department of Physiology has developed the following plan:

## IX. STUDENT CONDUCT AND CONFLICT RESOLUTION

### A. Expectations for Graduate Student Professional Behavior

The university is a community of scholars and all graduate students are expected to conduct themselves in a professional and scholarly manner. All students are expected to conduct themselves in a manner consistent with the goals discussed in the Graduate School seminar series on Research Integrity and Safety. Specifics on students' rights and responsibilities are contained in the Bylaws of the Faculty of the Department of Physiology, the Academic Freedom Report (AFR), Students Handbook, and the document entitled Graduate Student Rights and Responsibilities (GSRR). Copies of the latter are obtainable from the Office of the Dean of the Graduate School. All students are urged to acquaint themselves with these documents.

## 1. Integrity of Scholarship and Grades Policy

([https://www.msu.edu/~acadgov/documents/ISGACapproved2\\_24\\_09final\\_polished\\_editedversion3\\_3\\_09.pdf](https://www.msu.edu/~acadgov/documents/ISGACapproved2_24_09final_polished_editedversion3_3_09.pdf))

## 2. Graduate Student Rights and Responsibilities

(<https://www.msu.edu/unit/ombud/GSRRfinal.html>)

### B. General Procedures for Conflict Resolution

In the event that interpersonal or professional conflicts arise, the first avenue taken by students should be consultation with their immediate advisor, or if unavailable, the Departmental Director for Research and Graduate Studies for advice. The Graduate School offers formal seminars and workshops on Conflict Resolution strategies that all students are encouraged to attend ([www.msu.edu/user/gradschl/conflict.htm](http://www.msu.edu/user/gradschl/conflict.htm)). It is strongly suggested that these avenues be exhaustively explored before the formal step of Grievance is pursued.

### C. Grievances

#### 1. Student Violations and Grievances

- a. Introduction: The fundamentals of fair play in the adjudication of student violations and student grievances shall prevail. This is in keeping with Article 6 of the *Bylaws for Academic Governance, 1992*.
- b. Student allegations may be classed as either grievances or complaints.
- c. A **complaint** is a general allegation which does not propose or permit a specific remedy, or which proposes a remedy beyond the authority of the hearing committee to recommend. A complaint cannot be acted upon by a hearing committee. Where appropriate, students may seek redress through informal resolution by first discussing the matter with the instructor; then, if necessary, with the chief administrator of the unit and/or the ombudsman.
- d. A **grievance** is a specific allegation of a violation of a student's academic rights or of the *Code of Teaching Responsibility* for which a remedy, specific to the situation being challenged and within the authority of the hearing committee to recommend, is sought. Details of the allegation and of the proposed remedy must be in writing before redress is sought.

#### 2. Grievance Procedures for BS/MS Students

- a. Grievances must normally be initiated no later than midterm of the semester following the onewherein the alleged violation occurred. Exceptions shall be made in cases where the involved instructor or student is absent from the university during that semester.
- b. Students must first seek to resolve any grievance informally by discussion with the instructor; if unresolved, then the chief administrator of the unit and/or the Ombudsman may be consulted.
- c. Grievances unresolved by the Ombudsman which seem to the Ombudsman to warrant a hearing will be reported in writing to the chief administrators of the teaching unit involved.
- d. The chief administrators of the teaching units or their designees are obligated to refer written grievances unresolved at the unit level or by the Ombudsman to the student-faculty committees. The Judicial Committee shall be composed of the Department chairperson or designated deputy (to act as chairperson) and an equal number of faculty and undergraduate Physiology majors selected by the Advisory Committee. A copy of any grievance transmitted shall be sent to the instructor.

e. A unit may, at its option, create an advisory subcommittee composed of undergraduate members of the unit hearing committee. A summary of the grievance may first be presented orally to this subcommittee, which would decide by majority vote whether the grievance warrants a hearing. Should the subcommittee decide against a hearing, the student may appeal the decision to the full committee.

f. Units shall establish their own hearing procedures according to their governance processes and shall file a copy of the procedures with the Office of the Ombudsman. Parties to the grievance shall be given timely notice of the hearing and copies of the written grievance; and opportunities to state their cases, present evidence, designate witnesses, ask questions and rebut contrary positions. A collegial atmosphere shall be maintained throughout the proceedings and, though parties to the grievance may solicit advice prior to hearing, normally the purpose of the hearings will be better served by proceeding without counsel. If counsel is to be involved, counsel shall be limited to a member of the student body, faculty, or staff of the University. To further the development and maintenance of this collegial atmosphere, each unit is encouraged to have student participation in all Judiciary committees.

g. A written report of the action or recommendation of the unit hearing committees will be forwarded to the student, the instructor, and to the Ombudsman in cases forwarded by that office, normally within **ten (10) class days** of the hearing of the grievance. All parties involved are expected to respect the confidentiality of this report.

h. Either party may appeal the action or recommendation of a Departmental committee to the college committee charged with hearing such appeals.

i. All appeals must be filed within **ten (10) class days** following notification of all parties of a hearing committee disposition. Dispositions are held in abeyance while the action of recommendation is being appealed.

j. Except in cases involving a charge of academic dishonesty, there shall be no appeal beyond the college committee except to the dean of the college, who may ask, upon a showing, that a given case be reconsidered.

### **3. Grievance Procedures for Graduate and Medical Students**

a. Judicial Structure: An appropriate judicial structure shall be established for hearing and adjudicating all cases brought by and against students in the following areas:

- i. Academic Rights and Responsibilities
- ii. Professional Rights and Duties of Assistants
- iii. Professional Rights and Duties of Other Graduate Students

b. Departmental level: Adjudication necessitated on the Departmental level should be handled informally if possible or, if a party or parties insist, formally through a Departmental Judicial Committee. The Judiciary shall comprise the Department chairperson or designated deputy (to act as chairperson) and an equal number of faculty selected by the Advisory Committee, and students selected by the Physiology Graduate Student Committee (in the case of a graduate student grievance) or from the relevant medical college (in the case of a medical student grievance) so as to reflect the composition of their groups.

c. The Judiciary shall provide for a suitable number of alternate members, chosen in accordance with the procedures established above.

d. Term of office: Judiciary members and alternates at all levels shall be selected in the Fall of the year, by the Department Advisory Committee and shall serve one year. The one-year term shall not preclude reappointment of any member the following year.

e. Conflict of interest. Members of a Judiciary involved in a case at issue shall be disqualified from sitting on the Judiciary for that specific case.

## **D. Judicial Process**

1. Any member of the academic community of Michigan State University may initiate a case involving the rights and responsibilities of graduate students. All such grievances must be initiated no later than the next academic semester exclusive of summer semester, following the term of the alleged violation.
2. Any of the parties may appeal a decision or the penalty to the next higher level within 10 class days after receipt of the decision or penalty.
3. The appellate body shall limit its jurisdiction to review of the prior adjudication.
4. A Judiciary hearing a case may decide as follows:
  - a. NOT PROVEN.
    - i. There has been no proven infringement of the rights of the graduate student.
    - ii. There has been no proven neglect of the graduate student's responsibilities.
  - b. PROVEN.
    - i. There has been a violation of the graduate student's rights.
    - ii. The graduate student has neglected the responsibilities of a graduate student.
5. In cases of proven violation of a student's rights, the Judiciary handing down the decision shall direct appropriate and expeditious redress.
6. In cases of proven neglect by the graduate student, the Judiciary may select from the following penalties:
  - a. Warning: an official written reprimand.
  - b. Probation: a period of probation with specific stipulations.
  - c. Dismissal from the academic program in which enrolled.

#### **E. Due Process**

1. Once a grievance has been filed with a Judiciary, it shall be the responsibility of the chairperson to notify, in writing, all parties involved within a period of **five (5) class days**.
2. If the party charged in the grievance chooses not to contest it, the Judiciary may be requested to take appropriate action. The penalty or redress may be appealed to the next higher Judiciary.
3. If the party charged in the grievance chooses to contest it, the Judiciary shall conduct a hearing according to the procedures outlined herein, based on the Ombudsman's **Model Grievance Procedures**, Developed October 2003:
  - a. The Chair of the Judicial Committee shall promptly negotiate a hearing date with the parties and schedule an additional meeting only for the Judicial Committee in the event that additional deliberations on the findings become necessary.
  - b. At least **3 class days** before a scheduled hearing involving an undergraduate student, the Chair of the Judicial Committee shall notify the respondent and the complainant in writing of (1) the time, date and place of the hearing; (2) the names of the parties to the grievance; (3) the names of the Judicial Committee members, including alternates; (4) the names of the witnesses and counsel, if any; and (5) the right to challenge Judicial Committee members because of a conflict of interest. (See AFR 4.2.7; 4.4.3.)
  - c. At least **6 days** before a scheduled hearing involving a graduate student, the Chair of the Judicial Committee shall notify the respondent and the complainant in writing of (1) the time, date and place of the hearing; (2) the names of the parties to the grievance; (3) the names of the Judicial Committee members, including alternates; and (4) the names of the witnesses and advisors, if any. (See GSRR 5.4.7.) This notification should also remind the parties to the grievance of their right to challenge the membership of the Judicial Committee, both for and without cause, under the rules prescribed in GSRR 5.1.7.

At its discretion, the Judicial Committee may set a reasonable time limit for each party to present its case and must inform the parties of the time limit in the written notification of the hearing.

4. Should the respondent fail to acknowledge the notice of a hearing, the Judicial Committee may either postpone or proceed with the hearing. (See AFR 4.4.5.)

If the complainant fails to appear at the hearing, the Department/School Judicial Committee may either postpone the hearing or dismiss the case. (See AFR 4.4.7a; GSRR 5.4.9a.)

If the respondent fails to appear at the hearing, the Judicial Committee may either postpone the hearing or hear the case in the respondent's absence. (See AFR 4.4.7b; GSRR 5.4.9b.)

In unusual circumstances, the Judicial Committee may accept written statements from either party to a hearing in lieu of a personal appearance. These written statements must be submitted to the Judicial Committee at least 1 day before the scheduled hearing. (See AFR 4.4.7c; GSRR 5.4.9c.)

Either party to the grievance hearing may request a postponement of the hearing. The Judicial Committee may either grant or deny the request. (See AFR 4.4.6; GSRR 5.4.8.)

Members of the Judicial Committee must not talk about the hearing with either party before the scheduled hearing.

## **F. Grievance Hearing Procedures**

### **1. General Procedures**

- a. The Chair of the Department/School Judicial Committee shall convene the hearing at the designated time, date and place. The Chair will ensure that a collegial atmosphere prevails. (See AFR 2.4.4, 2.4.4.2; GSRR 5.4.10.) During the hearing, parties to a grievance shall have an opportunity to state their cases, present evidence, designate witnesses, ask questions and present a rebuttal. (See AFR 2.4.4; GSRR 5.4.10.1.) The procedures may be taped.
- b. To protect the confidentiality of the information, the Chair of the Judicial Committee may limit attendance at the hearing to the Judicial Committee members, the complainant, the respondent, the witnesses for either party, if any, and the counsel/advisor for each party, if any. (See AFR 4.2.3 and 8.1.6; GSRR 8.1.4.)
- c. All witnesses shall be excluded from the proceedings except when testifying. Witnesses must confine their testimony to their own independent recollection and may not speak for others. The Judicial Committee may limit the number of witnesses. Unless otherwise approved by the Judicial Committee, counsel/advisors and witnesses shall be limited to members of the MSU community (faculty, students or staff). See AFR 4.3.5 and 8.1.6; GSRR 5.4.10 and 8.1.4.)
- d. Involvement of counsel/advisor normally should not be required. Each party must present her/his own case, and counsel/advisors may have a voice in the hearing. (See AFR 2.4.4.2, 4.3.5 and 4.4.8d)
- e. To assure orderly questioning, the Chair of the Judicial Committee shall recognize individuals before they speak. All parties have the right to speak without interruption. Each party has the right to question the other party and to rebut any oral or written statements submitted to the Judicial Committee. The Chair of the Judicial Committee will enforce any announced time limits on each party to present its case and, if necessary, extend equal time to each party.

### **2. Hearing Procedures**

- a. Introductory remarks by the Chair of the Judicial Committee: The Chair introduces hearing panel members, the complainant, the respondent and counsel/advisors, if any. The Chair reviews the hearing procedures, including time restraints, if any, for presentations by each party and witnesses. The Chair explains that the burden of proof rests with the complainant, with the exception of cases involving allegations of academic dishonesty, in which case the instructor bears the burden of proof, which must be met by a “preponderance of the evidence.” If the proceedings are to be taped, the Chair must inform the parties. (See AFR 2.4.9 and 8.1.16; GSRR 5.5.1 and 8.1.16.)
- b. Presentation by the Complainant: The Chair recognizes the complainant to present without interruption any statements relevant to the complainant’s case, including the redress sought. The Chair then recognizes questions directed at the complainant by the Judicial Committee, the respondent and the respondent’s counsel/advisor, if any.
- c. Presentation by the Complainant’s Witnesses: The Chair recognizes the complainant’s witnesses, if any, to present, without interruption, any statement relevant to the complainant’s case. The Chair then recognizes questions directed at the witnesses by the Judicial Committee, the respondent and the respondent’s counsel/advisor, if any.
- d. Presentation by the Respondent: The Chair recognizes the respondent to present without interruption any statements relevant to the respondent’s case. The Chair then recognizes questions directed at the respondent by the Judicial Committee, the complainant and the complainant’s counsel/advisor, if any.
- e. Presentation by the Respondent’s Witnesses: The Chair recognizes the respondent’s witnesses, if any, to present, without interruption, any statement relevant to the respondent’s case. The Chair then recognizes questions directed at the witnesses by the Judicial Committee, the complainant and the complainant’s counsel/advisor, if any.
- f. Rebuttal and Closing Statement by Complainant: The complainant may refute statements by the respondent and the respondent’s witnesses and counsel/advisor, if any, and present a summary statement.
- g. Rebuttal and Closing Statement by Respondent: The respondent may refute statements by the complainant and the complainant’s witnesses and counsel/advisor, if any, and present a summary statement.
- h. Final Questions by the Judicial Committee: The Judicial Committee may ask questions of all parties to the grievance.

### **3. Deliberations by the Judicial Committee**

After all evidence has been presented, with full opportunity for explanations, questions and rebuttal, the Chair will excuse all parties to the grievance and meet in executive session to determine its findings. When possible, deliberations should take place immediately following the hearing. If the Judicial Committee is unable to complete its deliberations and reach a decision at the meeting, the Judicial Committee should reconvene at the previously scheduled follow-up meeting.

### **4. Outcome**

If a majority of the Judicial Committee finds, based on a “preponderance of the evidence,” that a violation of the complainant’s academic rights has occurred and that redress is possible, it shall direct the Chair/Director of the Department/School to implement an appropriate remedy, in consultation with the Judicial Committee. If the Judicial Committee finds that no violation of academic rights has occurred, it shall so inform the Dean. (See AFR 2.4.5; GSRR 5.4.11.)

In cases in which the Judicial Committee is asked to resolve an allegation of academic dishonesty and finds for the student, the Judicial Committee may recommend to the Chair/Director that the penalty grade be removed, the written record of the allegation, if any,

be removed from the student's records and a good faith evaluation of the student's academic performance in the course take place. If the Judicial Committee finds for the instructor, the penalty grade shall stand and any written records of the allegation may remain on file. (See AFR 8.1.15 and GSRR 8.1.15.)

## 5. Written Report

The Chair of the Judicial Committee shall promptly prepare a written report of the Judicial Committee's findings, including redress for the complainant, if applicable. The report shall indicate the rationale for the decision and the major elements of evidence, or lack thereof, that support the Judicial Committee's decision. (See AFR 2.4.5; GSRR 5.4.11.)

The report also should inform the parties of the right to appeal within **10** class days following notice of a decision. (See AFR 2.4.7, 2.4.7.2, 2.4.7.3; GSRR 5.4.12 through 5.4.12.3.) The Chair shall forward copies to the parties involved, the Chair/Director of the Department/School, the Dean of the College, the Ombudsman and, in cases involving graduate students, the Dean of The Graduate School. All recipients must respect the confidentiality of the report. (See AFR 2.4.5; GSRR 5.4.11.)

## G. Appeals

1. Either party to a grievance may appeal the decision of the Department/School Judicial Committee to the College Judicial Committee. The request for a hearing on appeal must be in writing, signed and submitted to the Dean of the College within **10** class days following notification of the Judicial Committee's decision. While under appeal, the decision of the initial Judicial Committee will be held in abeyance. (See AFR 2.4.7 and 2.4.7.3; GSRR 5.4.12, 5.4.12.2 and 5.4.12.3.) [5]
2. A request for an appeal must allege, in sufficient particularity to justify a hearing, that the initial Department/School Judicial Committee had failed to follow applicable procedures for adjudicating the hearing or that findings of the initial Judicial Committee were not supported by a "preponderance of the evidence." The request also must include the redress sought. Presentation of new evidence normally is inappropriate. (See AFR 2.4.7.2 and 8.1.16; GSRR 5.4.12.1 through 5.4.12.2.)

## H. Reconsideration

If new evidence should arise, either party to a hearing may request the Judicial Committee reconsider the case within 60 days upon receipt of the hearing outcome. The written request for reconsideration is to be sent to the Chair of the Judicial Committee, who shall promptly convene the Judicial Committee to review the new material and render a decision on a new hearing. (See AFR 4.2.6; GSRR 5.4.13.)

### Explanatory Notes from the Ombudsman

**[1]** A student who believes an instructor, including a graduate teaching assistant, has violated her or his academic rights, or a student who wishes to contest an allegation of academic misconduct should first attempt to resolve the dispute in an informal discussion with the instructor. (See AFR 2.4.2 and 2.4.9; GSRR 5.3.1, 5.3.2 and 5.5.1.)

Students may not seek redress through a grievance hearing regarding alleged incompetence of instruction. (See AFR 2.2.1 and 2.2.2; GSRR 2.2.1 and 2.2.2.)

If the dispute remains unresolved after discussion with the instructor, the student should consult the Chair/Director of the Department/School and/or the University Ombudsman for assistance. (See AFR 2.4.2; GSRR 5.3.2.)

If the dispute remains unresolved after discussion with the Chair/Director or Ombudsman, the student may submit to the Chair/Director a written, signed statement requesting a grievance hearing. The statement must (1) specify the alleged violation(s) of academic rights to justify the hearing, (2) identify the individual(s)

against whom the complaint is filed and (3) state the redress the student seeks that could be implemented by the Chair/Director. (See AFR 2.4.2 and 2.4.2.2; GSRR 5.3.2, 5.3.5 and 5.3.6.)

A request for a grievance hearing must normally be initiated no later than mid-semester following the semester in which the alleged violation of academic rights occurred (excluding of summer semester). If either the student (the complainant) or the instructor (the respondent) is absent from the University during that semester, or if other appropriate reasons exist, the Judicial Committee may grant an extension to this deadline. If the University no longer employs the respondent before the formal grievance procedures are completed, the grievance may still proceed. (See AFR 2.4.2.1; GSRR 5.3.6.1.)

**[2]** *Disciplinary* hearings are initiated at the college level and are therefore included in college-level hearing procedures. (See AFR 2.4.6 and GSRR 5.5.2.) For hearings involving undergraduate students, follow the references below to the AFR; for graduate students, the GSRR. In some aspects of the process, the AFR and/or the GSRR make no specific reference to a particular recommended action. Units may decide to develop separate grievance hearing procedures for undergraduate and graduate students.]

**[3]** The references above to the AFR and GSRR documents are not exhaustive. Parties to the grievance hearing should consult the appropriate document. Use of the word “promptly” or the phrase “as soon as possible” above, rather than a specific number of class days, occurs in situations when neither the AFR nor the GSRR cites a specific time reference.

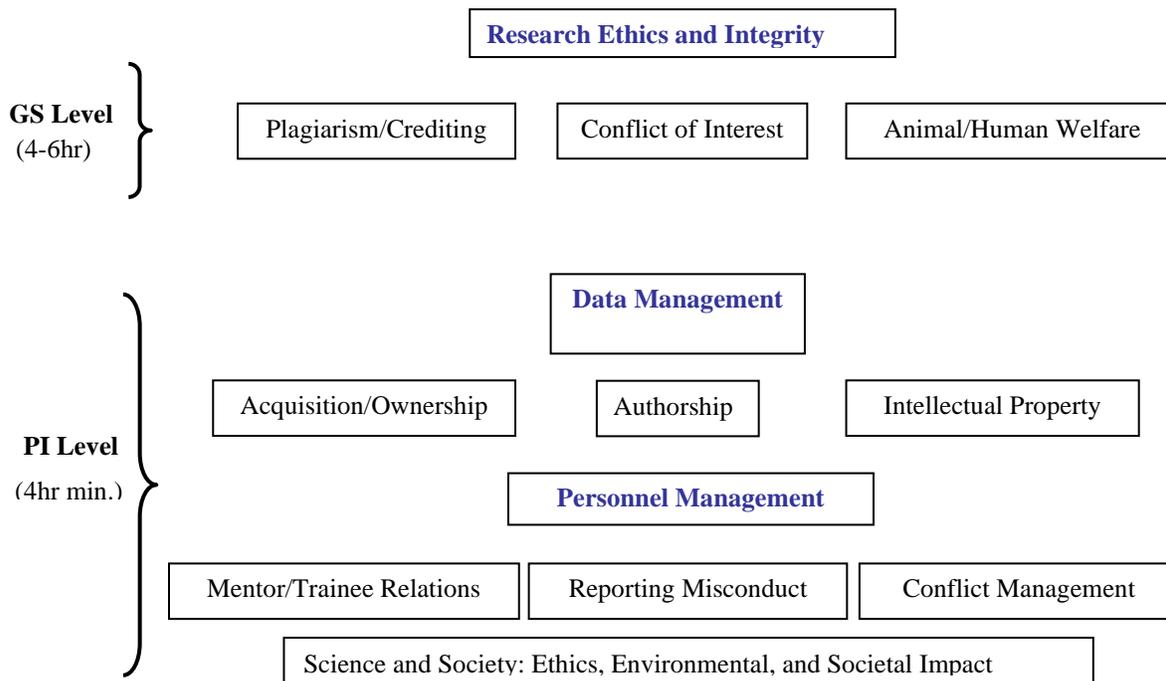
Copies of Department/School grievance hearing procedures for hearings involving undergraduate students should be sent to the Office of the Ombudsman. Copies of Department/School grievance procedures for hearings involving graduate students should be sent to the Office of the Ombudsman and the Dean of The Graduate School. (See AFR 2.4.4.1; GSRR 5.4.1.)

**[4]** The Department/School should insert here: (1) how it will select faculty representatives, including alternates, to the Judicial Committee; (2) the manner in which the undergraduate and graduate students are selected, including alternates, to the Judicial Committee; (3) a statement on whether the Chair of the Judicial Committee will vote on all matters or only to break a deadlock; (4) the length of term for each Judicial Committee member for hearings involving undergraduate students; and (5) the manner in which the Chair of the Judicial Committee for hearings involving undergraduate students will be selected. If a unit elects to conduct hearings during the summer sessions, procedures for empanelling a Judicial Committee in the summer, if different from the academic year, should be included in the unit’s grievance procedures.

**[5]** At this time, the Chair should also send the complainant and the respondent a copy of the approved Department/School’s Grievance Procedures document.

[Further note on appeals: Undergraduate students may appeal an appellate decision by the College Judicial Committee to the University Integrity Review Board only in cases involving (1) a penalty grade for academic dishonesty; (2) cases involving alleged violations of regulations prohibiting academic dishonesty, violations of professional standards or falsification of admission or academic records that are referred for disciplinary action. Undergraduate students also may request a review by the Provost’s Office of the University Integrity Review Board’s decision. (See AFR 2.4.7.1.)

In hearings involving graduate students that began at the department/school level, graduate students may appeal only to the College Judicial Committee and then may request a Provost Office review of the College Judicial Committee’s appellate decision. (See GSRR 5.4.12.)]



**Recertification** (3hr min.) Discussion of selected GS documents concerning professional development combined with actual cases of Research Misconduct obtained from the NIH website, along with materials obtained from the NIH Office of Research Integrity website.

**Program Resources:**

- GS Workshops
- GS Research Integrity website (Documents and PowerPoint presentations)

Undergraduates, Graduates, and Post-doctoral trainees working on projects supported by extramural and/or intramural funding are required to attend at least 4 hours of workshops provided by the Graduate School that cover the core topics of Plagiarism, Crediting of Work, Conflicts of Interest, and Human and/or Animal Welfare. In addition, through independent and/or joint lab meetings, either within the Department or across Biomedical Departments, each also will be required to participate in at least 4 hours of discussion on topics concerning Data Acquisition/Ownership, Identification of Authorship, Intellectual Property, Mentor/Trainee Rights and Responsibilities, Reporting Scientific Misconduct, Resolution of Conflicts, and the Scientist's Role in Society.

The materials for these discussions will be derived from the Graduate School Office of Research Integrity, as well as from the NIH Reports of Scientific Misconduct, the NIH Office of Research Integrity website (<http://ori.dhhs.gov/>), *On Being a Scientist* (3rd ed.), published online by the National Academy Press, and any additional sources the mentor and/or workshop leader deems relevant.

In all cases, the PI will be responsible for determining that the trainee has fulfilled their responsibility toward this requirement. Following completion, the trainee will be presented with a Certificate of Completion indicating the Title and Dates of participation.

Re-certification in subsequent years will require the trainee to participate in a minimum of 3 hours of group discussion concerning revised regulations, additional cases of scientific misconduct, and professionalism. Topic areas and materials will be selected from the Graduate School Research Integrity Resources website (<http://grad.msu.edu/researchintegrity/resources>), and NIH resources.

Required training and annual recertification, as it pertains to the use of specific animals in research, and the handling of different biological and/or radioactive materials, is provided by the Institutional Animal

Care and Use Committee ([www.iacuc.msu.edu](http://www.iacuc.msu.edu)) and Office of Radiation, Chemical, and Biological Safety ([www.orcbs.msu.edu](http://www.orcbs.msu.edu)) at MSU via both classroom and online mechanisms.

## **B. Animal and Human Use Approval**

1. All graduate students seeking approval to use animals for research purposes must first contact the All-University Committee on Animal Use and Care ([www.animalresearch.msu.edu](http://www.animalresearch.msu.edu)) and register for required training in Animal Use and Care.
2. All graduate students seeking approval to perform research with human subjects must first contact the University Committee on Research Human Subjects ([www.humanresearch.msu.edu](http://www.humanresearch.msu.edu)) and register for required training and application information.

## **C. ORCBS Training and Compliance**

All students working with or intending to work with chemicals, radioactivity, recombinant DNA and/or hazardous materials must first contact and register with ORCBS (Office of Radiation, Chemical and Biological Safety) for required training and certification at: [www.orcbs.msu.edu/training/training\\_toc.htm](http://www.orcbs.msu.edu/training/training_toc.htm). This training needs to be completed before they can begin work in the laboratory.

## **D. Graduate Student Rights**

Specifics on students' rights are contained in the Bylaws of the Faculty of the Department of Physiology, the Academic Freedom Report (AFR), Students Handbook, and the document entitled Graduate Student Rights and Responsibilities (GSRR). Copies of the latter are obtainable from the Office of the Dean of the Graduate School. All students are urged to acquaint themselves with these documents.

# **X. WORK RELATED POLICIES**

## **A. Rights & Responsibilities of Teaching Assistants under GEU contract**

Rights and responsibilities of graduate teaching assistants are described under the current version of the contract between MSU and the Graduate Employees Union (GEU). This document is available on the web at <http://www.grad.msu.edu/geu/agree.pdf>. The contract does not cover graduate students who hold research assistantships.

## **B. Health Insurance Options for Graduate Students**

(see MSU website: MSU Graduate School, "2004-2005 Graduate Assistantships")

Health insurance options for graduate assistants are described in a publication that can be accessed at <http://grad.msu.edu>. Briefly, domestic and international graduate assistants are automatically enrolled in a health insurance plan, the premium of which is paid by MSU. The plan provide the following coverage:

Fall appointment only: coverage from August 15 to February 14 of the following year.

Fall and Spring appointments: coverage from August 15 to August 14 of the following year

Spring appointment only: coverage from January 1 to August 14

Summer appointment only: coverage from May 15 to August 14

Enrolled students may also elect to insure their eligible spouse and/or dependent children. For general information concerning the health insurance plan contact the MSU Benefits Office at (517) 353-4434 or (800) 353-4434. The Benefits Office is located at 1407 S. Harrison Road, Suite 140

(Nisbet Building), East Lansing, MI 48823 and can also be reached on the web at <http://www.hr.msu.edu/depts/benefits>.

### **C. Graduate Assistant Leave, Vacations, and Professional Meetings**

Graduate assistants appointed for 12 months are expected to be on campus and actively pursuing graduate education for at least 11 months. Breaks between semesters, if taken, are considered part of annual vacation. Attendance at scientific or professional meetings, although not required, is encouraged, pending availability of adequate resources. Such attendance is not counted against annual vacation time. Students traveling on authorized University business must fill out a Travel Authorization form, available in the main office, prior to their trip.

A graduate student unable to fulfill the duties of his/her appointment because of illness, injury or pregnancy shall notify the major professor and Director of Graduate Studies as soon as circumstances permit. During the illness, injury or pregnancy the Department will adjust the graduate assistant's duties, in consultation with the student, as the individual's physical circumstances reasonably permit. If total absence from duties is necessary, the Department will maintain the stipend of the appointment, provided the graduate student is still enrolled, for a period of 2 months, or to the end of the appointment period, whichever is sooner. The graduate student will have the right to return to the assistantship, within the original semesters of appointment, at such time as he/she is able to reassume the duties of the position.

### **D. Outside Pay-for-Work**

Graduate students in good academic standing who are engaged in full-time research and/or class work in pursuit of their degree are not encouraged to undertake outside pay-for-work as a means for supplementing their livelihood. Employed persons admitted to the Department's graduate program normally plan a leave of absence to devote full-time to academics and research. International graduate students receiving University support in the form of either a teaching or research assistantship may be under additional work restrictions depending on the conditions of their visa. International students should consult with MSU's Office of International Students and Scholars (OISS), 103 International Center or on the web at <http://www.isp.msu.edu/oiss/>, for more information.

### **E. English-language Proficiency for Teaching Assistants**

MSU candidates for TA appointments who were required to demonstrate English proficiency as a condition for regular admission to Michigan State University must also demonstrate that they meet a minimum standard of proficiency in spoken English before they can be assigned teaching work that involves oral communication with undergraduate students.

Those international teaching assistants (ITAs) may meet this requirement in one of the following ways:

- Presenting a TOEFL iBT speaking section score of 27 or higher.
- Receiving a score of 50 or higher on the [MSU Speaking Test](#)
- Taking [AAE 451 or AAE 452](#) (ITA language support courses) and receiving a score of 50 or higher on the [ITA Oral Interaction Test \(ITAOI\)](#).

Those ITAs who received a waiver of the TOEFL or of other accepted tests of English proficiency for admission, must also meet the requirement of proficiency in spoken English before they are assigned to teaching work that involves oral communication with undergraduate students. To meet this requirement, those ITAs may use any of three options listed above. Individual exceptions from these requirements (on a case-by-case basis in rare circumstances) will be considered by the Graduate School in consultation with the ELC upon the request of the department and with the endorsement of the Associate Dean of the College.

## **XI. UNIVERSITY RESOURCES**

### **A. Animal Requisition, Care and Disposal**

1. The use of any vertebrate animals in research and/or teaching without prior approval or the All-University Committee on Animal Use and Care (AUCAUC) is a violation of MSU policies. Contact the Office of Vice President for Research and Graduate Studies (OVPRGS) for details to be found in the Research Handbook. An application to use vertebrate animals for research and/or teaching (animal use form-AUF) must be submitted for every project. Contact the AUCAUC, C-103, Clinical Center Building, or the relevant University Laboratory Animal Resources (ULAR) supervisor, Department office, or Operations and Safety Coordinator (OSC) for forms and questions.

2. Treatment of animals must follow the Institute of Laboratory Animal Resources (ILAR) Guide, the Animal Welfare Act regulations and the "Guiding Principles for the Care and Use of Laboratory Animals" by the American Physiological Society. There are simple techniques used in handling different species of laboratory animals. Familiarize yourself with these techniques by calling the ULAR Training coordinator. Humane treatment of animals is expected at all times.

3. Veterinary care is also available through ULAR. Animals must receive veterinary care, for humane reasons, for professional and legal reasons, and to ensure that the research is not compromised by concurrent or inadvertent diseases.

4. Requisition of animals for research and/or teaching purposes is the responsibility of the principal investigator (PI) or assigned personnel for the particular research program or course. Animals for student research projects must be cleared through the student's Advisor. Contact the OSC for the animal purchase request form (APRF) from ULAR.

5. A freezer is located in the ULAR (University Laboratory Animal Resources) cage washing area (Room 130J) for disposal of non radioactive dead animals. Contact ULAR or the OSC to obtain waste tags.

6. Animals are to be destroyed in a humane manner following the American Veterinary Medical Association (AVMA) Guidelines. Seek advice from ULAR if you are uncertain. Make absolutely sure the animals are dead before you bag for disposal.

7. Compliance with the federal regulations and funding agency guidelines is an important part of conducting research in today's sociopolitical environment. Professional behavior and respect for the animals is also required.

### **B. Controlled Substances**

Controlled substances are purchased through the Department's DEA license and must be stored in the Department drug closet or a locked cabinet in the laboratory. Contact the Department office or OSC to sign out the minimum amount of drugs needed for your experimentation. Only the substance in use is allowed to be kept in the laboratory at any given time and is the sole responsibility of the PI. Outdated and/or unused controlled substances must be surrendered to the DEA for disposal. Contact the OSC for a DEA surrender form.

### **C. Equipment and Supplies**

The equipment and consumable supplies in the Department are for teaching purposes. Use for research is allowed only in emergencies and must be replaced by the user. Also, the Department has a limited number of basic shop tools for use.

### **D. Analytical Core Facilities**

The University maintains a number of analytical core facilities that are available for use by Department graduate students conducting their dissertation research. General information about

these facilities is available from the Office of the Vice President for Research and Graduate Studies or on the web at <http://www.msu.edu/unit/vprgs/analyticalcorelinks.htm> .

### **E. Freight**

Freight is delivered daily around 2:00 p.m. to the OSC office. Occasionally, a single large item or order is delivered midmorning. Large items over 150 pounds or one cubic yard in size should be delivered directly to the lab. Make sure the paperwork is routed to the OSC (pink copy and packing slip). Otherwise, a service request to custodial services is needed to relocate the item to its final destination at a significant hourly rate and delay. This can be avoided by correctly noting the lab number on the order. Also, orders of equipment items costing more than \$500 (\$5,000 in the future) must be inventoried. Be sure to note the "inventory tag" on the order. All freight is processed daily and delivered directly to labs except perishable items. Make sure you notify the OSC if you have a designated place for lab delivery. The lab and/or PI is contacted to pick up the perishable material from the OSC office. This is done to avoid any question about the handling of the perishable item(s). If no one is available in the lab, the PI or designated personnel must make special arrangements to receive the perishable material on order.

### **F. Gas Cylinders**

Gas cylinder requests are routed through the Department office. There are two ways to order cylinders. The most common is through Stores (open orders from an off-campus vendor) and the other is through Purchasing (PO/POD; the PI owns the tank). The tank(s) will be delivered by the vendor directly to the lab. If no one is available in the lab, the driver may deliver another day or leave the tank(s) chained in the building drop area located by the first floor freight elevator. This is done to conform with safety regulations. Stores keeps a few common gas cylinders on hand for emergencies, however, if one is needed, the PI will pay a premium. The PI or lab can notify the vendor, Stores, OSC, or Department office when they have an empty cylinder(s). Cylinder(s) are picked up directly from the lab. Cylinder rental is several dollars/month/tank so return empty cylinder(s) promptly. Specialty gases from off campus (i.e. AGA, Airco, Matheson, etc.) need a PO/POD and have a prorated tank deposit. If the cylinder is returned before the deposit is depleted a prorated refund is received. If the tank is not returned, the account is billed several times a year for tank rental. These charges are difficult to track, so return tanks not in use. Gas cylinders must be secured by bench clamps (see Stores Catalog, Cylinder Gas Accessories section) or by chain and clip to a secure wall. Tanks must be capped when not in use (connected to an apparatus), or when they are being moved. Contact the OSC, ORCBS (Office of Radiation Chemical and Biological Safety) or Stores if there are any questions. Cylinders that have tipped over, resulting in a broken valve, have rocketed through walls and ceilings.

### **G. Keys**

Keys are available from the Department office or OSC with proper ID and authorization. To obtain keys for students, the PI or faculty should make a written request that includes the name and title Of the person (i.e. graduate student, technician, summer help, etc.) room number(s) and number of keys. There is a \$5 deposit for each key checked out Keys must be returned to the Department office or OSC when the person leaves in order to refund the deposit.

### **H. Laundry**

The research laboratory furnishes laboratory coats, etc. Dirty laundry, in a labeled laundry bag, should be deposited before 8:30 a.m., Wednesdays, in the small orange hamper marked "Physiology" located on the ground floor next to the freight elevator. Each lab should have two labeled laundry bags with the PI's name, Physiology Department, and account number on it. Also, lab coats, etc., should be labeled with PI's name and Department. Bags and labels may be obtained through the Laundry Department. Laundry will automatically bill the PI's account monthly for the volume of laundry handled. Clean laundry will be delivered to the same location the following Wednesday afternoon in the PI's laundry bag.

### **I. Mail**

Mail is delivered twice daily. U.S. and campus mail are delivered at approximately 10:00 a.m. and afternoon campus mail is delivered around 2:00 p.m. Mailboxes are located in Biomedical & Physical Science Building, room 2209.

## **J. Material Returns**

MR's are handled through the OSC. There are two kinds of MR's depending upon how the item was purchased. If the item was purchased on a PO/POD, then the MR must be processed through Purchasing. If the item was purchased through Stores on an open order or as a non-stock item, then the MR must be processed through Stores. Contact the OSC when there is an item to be returned: repairs, wrong item ordered/sent, defective material, over shipment, etc. There are some packing materials available.

## **K. Office Supplies and Orders**

Supplies and special apparatus that must be purchased or fabricated are processed through the Department office. The most common orders are for Stores (regular or fax, non-stock and open orders), Bookstore, Computer Store, Food Stores and Purchasing (purchase order-PO/purchase order draft-POD).

## **L. Recycling**

The Department provides a small secondary recycling center for white, mixed, newspaper, glossy magazine, and cardboard in the hallway outside the mailroom on the first floor. The square white plastic containers are on wheels with a label on the lid describing what is acceptable material. A large brown 4 cubic yard container for cardboard is located just outside the building near the freight elevator on the ground floor. The primary recycling center containers for the main building are located on the first floor in front of the freight elevator. Contact the Office of Recycling or OSC if you have large amounts of recyclable material.

## **M. Salvage**

All obsolete, old, and/or unwanted inventoried and non-inventoried equipment must be transferred to the MSU recycling/salvage Department for disposal or resale. Contact the OSC for an equipment transfer notice (ETN). Also, the ETN form is necessary for inter-Departmental and off campus transfer of equipment.

## **N. Secretarial Service**

1. Secretarial service for graduate students is limited to the preparation of teaching material.
2. Students are expected to provide their own office supplies unless the supplies are used for teaching purposes.
3. Graduate student records are kept by the Graduate Student Administrative Assistant. This person has much of the information and any forms graduate students require during their study.

## **O. Service Requests**

Services for operational needs may be handled through the Department office. Stores and Services University General Stores and Biochemistry/Microbiology Stores have many scientific supplies available including chemicals (Chemistry Stock room also has some chemicals available). Electronic shops are located in Biochemistry, Chemistry, and Physics. Machine shops are located in Chemistry, Engineering, Physical Plant, and Physics. The Glass Blowing Laboratory in Chemistry is available for glass fabrication or repairs. The Center for Electron Optics in Pesticide Research is available for electron microscopy services. The Macromolecular Structure Facility in Biochemistry is available for synthesis services.

## **P. Time Sheets**

Time sheets for labor and student payroll are due every other Monday afternoon on a staggered schedule. Paychecks are available early Friday afternoons in the Department accounting office.

#### **Q. Care and Use of Equipment**

1. All personnel are expected to maintain a reasonable standard of neatness in the conduct of their work and housekeeping in the research and teaching laboratory areas assigned. It is the graduate student's responsibility to become familiar with the equipment available for both teaching and research and to use such equipment appropriately.

2. In general, equipment should not be moved from one laboratory to another without permission or documentation.

3. The practice of hoarding equipment or supplies against possible future use is discouraged, including old or obsolete equipment.

#### **R. Emergencies/Spills**

3. Call MSU fire/police emergency at 911. For serious radioactive, chemical and mercury spills, call ORCBS at 353-0153. ORCBS will advise on how to proceed. All labs should have a chemical spill kit on hand. Also, a Department crash cart is located in the OSC office for minor non-radioactive chemical spills. The spill kits are only intended to be a stopgap measure. Contact the OSC if there are any questions at 355-6475 x1206.
4. ORCBS will furnish MSDS (Material Safety Data Sheets) upon request, on any hazardous chemicals. The "Michigan Right to Know Law" mandates that these be on file at the work site.
5. ORCBS will handle the disposal of all chemicals. Identify the substance if at all possible. Unlabeled materials cost to be tested, identified, and disposed. Contact the OSC if there are any questions.
6. Required annual refresher training sessions for Department personnel are held throughout the year. Watch for the ORCBS announcements for date, place and time.
7. Injuries on the job should be reported to the Department office for proper written authorization for non-emergency treatment and documentation. The Center for Occupational Health (COHS), 1115 S. Pennsylvania, Lansing, Michigan, is MSU's designated primary medical provider for work related injuries or illnesses. Primary facility hours are 8:00 a.m. to 5:00 p.m. Redi Care-East, Haslett, is the secondary facility. Hours are 9:00 a.m. to 9:00 p.m. Michigan Capital Medical Center (MCMC) is the after-hours facility, open 24 hours.
8. Contact the OSC (e-mail, mailbox, phone) to report building repairs needed, lights out, unsafe conditions, etc.
9. No protective gloves are to be worn outside of the laboratory.

# APPENDIX

***Appendix 1 : Annual Graduate Student Evaluation Form***

***Appendix 2: MS Plan of Study***

***Appendix 3: Departmental Questionnaire***

***Appendix 4: Doctoral Record of Comprehensive Exam***

***Appendix 5: Annual Summary Report***

***Appendix 6: Report of the Guidance Committee***

***Appendix 7: Master's Record of Dissertation & Oral Exam Form***

***Appendix 8: Doctoral Record of Dissertation & Oral Exam Form***

***Note: All forms are accessible from D2L, PSL Graduate Students & Mentors***

# APPENDIX 1: Annual Graduate Student Evaluation Form



**Department of Physiology, Michigan State University  
GRADUATE STUDENT EVALUATION FORM**

**Name:**

**Calendar Year:**

**OVERALL OBJECTIVES:**

1. Provide opportunity for graduate students and major advisors to evaluate student performance, expectations, progress, success and challenges.
2. Provide a mechanism to formally document student progress and provide accountability tool to protect students and major advisors.

**DIRECTIONS:**

1. This completed form should be turned in to the graduate director in a PDF format.
2. **This completed form is due by the first Monday of March with advisor's signature.**

- Date of the degree program start (mm/yyyy):
- Date of the most recent committee meeting [one meeting is mandatory each year] (mm/yyyy):
- Date of the next committee meeting (mm/yyyy):
- Comprehensive examination completed? No            Yes  
(mm/yyyy):
- Responsible Conduct of Research (RCR) course completed? No  
Yes    (mm/yyyy):
- Please indicate the RCR modules you have completed:

RCR modules completed	Year	Semester

**Part 1 - to the student:** This form is intended to summarize your accomplishments in the past year and indicate your plans for the coming year. Please complete, sign, and discuss this with your advisor. Continue on as many sheets as necessary.

- COURSES COMPLETED IN THE PAST 2 SEMESTERS:
- PLANNED COURSES FOR THE NEXT 2 SEMESTERS:
- TEACHING ASSISTANTSHIPS:
- PAPERS SUBMITTED OR PUBLISHED:
- CONFERENCE AND INTERNAL/INFORMAL PRESENTATIONS:
- MAJOR RESEARCH ACCOMPLISHMENTS:
- RESEARCH, ACADEMIC, & OTHER GOALS IN THE COMING YEAR  
(advisor must agree):
- SERVICE:
- YOUR COMMENTS:
- ADVISOR'S COMMENTS:

I have reviewed this document with my advisor and I have seen his/her comments

Student signature	_____	Date	_____
Advisor signature	_____	Date	_____
Co-Advisor signature	_____		_____
	Date		

**Part 2 - to the advisor:** This form is intended to guide a discussion with your student about their accomplishments, progress, and areas for improvement. This discussion is an opportunity to evaluate the student/advisor relationship and create a more effective research partnership. Below are several topics that should be covered in the discussion. Please think about these issues before meeting with the student. Space is provided for notes. **Both you and the student will sign this form.**

- **Research** (discuss as applicable: thesis topic, future publications, ability to conduct quality research, ability to think of and discuss new ideas, overall progress)  
**Comments:**
  
- **Professionalism** (discuss as applicable: conduct, presentation skills, writing skills, communication skills, teamwork)  
**Comments:**
  
- **Logistics** (discuss as applicable: graduation timeframe, future state of student funding, specific grant requirements, present funding, progress towards students post-graduate goals)  
**Comments:**
  
- **Educational Progress** (discuss as applicable: academic progress, progress towards DQE, teaching opportunities, TA opportunities) **Comments:**
  
- **Other** (discuss as applicable) – Unaddressed student or advisor concerns

Student signature	_____	Date	_____
Advisor signature	_____	Date	_____
Co-Advisor signature	_____	Date	_____

## **APPENDIX 2: MS Plan of Study**

# Physiology MS Coursework

### Curriculum

<b>Required Courses for Master's Students</b>	<b>Credits</b>
PSL 813: Molecular Mechanisms of Human Disease and Targeted Therapies	3
PSL 828: Cellular and Integrative Physiology I	3
PSL 829: Cellular and Integrative Physiology II	3
PSL 950: Topics in Physiology (2 semesters; 1 cr/sem)	2
One 800-900 level elective	3-4
PSL 899: Master's Thesis Research	8-15

Elective courses are selected to fit an individualized curriculum.

Courses are selected by the student in consultation with the graduate program director and research mentor.

### **Required Total Credits = 30**

A minimum of 16 credits must be at the 800-900 level. A student entering the Master's Program who already has successfully completed any of these required courses must select additional, advanced courses, with the approval of their Guidance Committee and the Director of Research and Graduate Studies. The student might choose, or be asked by his/her Guidance Committee, to take additional courses based on their background and the relevance of the course to their research project.

A student must maintain a 3.0 cumulative grade-point average for all courses counting toward the Master's degree (University regulation). In addition, a student must not accumulate more than 2 grades below 3.0 in courses earning credit toward the Master's degree (Department regulation). If either of these criterion is not met, the student will be dis-enrolled from the Program.

# APPENDIX 3: Departmental Questionnaire

Applicant's Name \_\_\_\_\_

## QUESTIONNAIRE FOR PROSPECTIVE GRADUATE STUDY IN PHYSIOLOGY Michigan State University

(The Graduate Affairs Committee would appreciate it if you would answer carefully the following questions on this paper and return it to us. If the space is not adequate, use the back or extra pages. **PLEASE TYPE OR USE INK.**)

1. Do you have an advanced degree (e.g. D.O., D.V.M., M.D., M.S., Ph.D.)?

Which one(s) \_\_\_\_\_?

2. Graduate Professional

Institution: \_\_\_\_\_ Major: \_\_\_\_\_  
Degree Year: \_\_\_\_\_

Subject	Credits	Grade	Subject	Credits	Grade
---------	---------	-------	---------	---------	-------

3. In 500 words or less, describe your previous research experience (e.g. undergraduate summer research experience, master's degree research experience). Include a short description of the projects, list publications and name of the professor. Use additional pages if needed.

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4. Are you interested in an "in-depth study" of a specific area of physiology? If yes, explain which areas and why in 250 words or less.

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5. How do you think a master's degree will contribute to achieving your career goals?

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6. List at least 2 PSL faculty members whom you would like to have as a major research advisor. Have you contacted the listed PSL faculty members?

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7. Why do you want to study at Michigan State University?

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8. What attributes do you possess that you think would make you qualified to be a research worker and teacher?

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9. Do you think that your capabilities are reflected accurately by your academic record? Explain.

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10. In what extracurricular activities did you participate (band, drama club, biology club, etc.)? Also list employment during your undergraduate training.

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11. If funds for an assistantship are not available, would you be interested in graduate study at Michigan State?

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Would you like to have a personal interview?                      Yes                          No   

Could you come for an interview if asked?                      Yes                          No

# APPENDIX 4: Doctoral Record of Comprehensive Exam

MICHIGAN STATE  
UNIVERSITY

Copies to: Registrar  
Dean  
Department  
Guidance Committee  
Student

## RECORD OF COMPREHENSIVE EXAMINATIONS for DOCTORAL DEGREE AND EDUCATIONAL SPECIALIST DEGREE CANDIDATES

Check if this is a re-examination because of expired time limits.

Department of \_\_\_\_\_

Student's Name \_\_\_\_\_ Student Number \_\_\_\_\_  
Last, First Middle Initial

Term and Year of First Course Counted towards this Degree \_\_\_\_\_

### Result of Written Comprehensive Examinations:

Field	Examiner(s)	Examination Date (MM-DD-YY)	Passed or Failed

### Result of Oral Comprehensive Examinations:

Field	Examiner(s)	Examination Date (MM-DD-YY)	Passed or Failed

**OVERALL PASS or FAIL?** \_\_\_\_\_

Signed \_\_\_\_\_ Date \_\_\_\_\_  
Chairperson of Examination Committee

Signed \_\_\_\_\_ Date \_\_\_\_\_  
Chairperson of Department

Signed \_\_\_\_\_ Date \_\_\_\_\_  
Dean of College

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# ***APPENDIX 5: Annual Summary Report***

## **Annual Student's Guidance Committee Summary**

This document must be completed by a member of the student's guidance committee, who can be selected by the student and/or the other members of the committee and will be acting as the chair of the committee. The selected acting chair of the committee must be a PSL faculty. The annual committee meeting summary must be completed and returned signed by all the members of the student's guidance committee, the mentor and the student and return to the program assistant within 2 weeks of the student's presentation. (Examples of how to complete this form can be found at D2L, folder PSL Graduate Students & Mentors)

### **Date:**

Name of the student:

Student current Year:

Date of the comprehensive meeting:

Date of the last annual meeting with the guidance committee:

Name of the mentor:

Mentor's main Department:

Name of the committee chair:

Names of all other committee's members:

### **Summary:**

It should include the hypothesis of the project, a brief description of the project, an update of results, and a summary of the discussion representing the opinions of the committee's members and the proposed plan for the completion of the thesis dissertation.

# APPENDIX 6: Report of the Guidance Committee

MICHIGAN STATE  
UNIVERSITY

Copies to: Dean  
Department  
Guidance Committee  
Student

## REPORT OF THE GUIDANCE COMMITTEE – DOCTORAL AND OTHER PROGRAMS

See the catalog (Academic Programs) regarding composition of guidance committee and deadlines for its formation and for filing this report listing all degree requirements.

Name \_\_\_\_\_ Student No. \_\_\_\_\_  Ph.D.  D.M.A.  
Last First Middle Ed.D. Ed.S.

First Semester in Doctoral Program \_\_\_\_\_ Dept. \_\_\_\_\_ Major \_\_\_\_\_  
Semester Year

Bachelor of \_\_\_\_\_ Master of \_\_\_\_\_  
Institution Year Major Institution Year Major

Tentative Dissertation Subject \_\_\_\_\_

Director \_\_\_\_\_ Languages or Course Substitutes \_\_\_\_\_

Will the student's research involve the use of: human subjects or human materials? <input type="checkbox"/> Yes <input type="checkbox"/> No warm-blooded animals? <input type="checkbox"/> Yes <input type="checkbox"/> No or hazardous substances? <input type="checkbox"/> Yes <input type="checkbox"/> No	I understand it is necessary to obtain institutional review and approval prior to initiating any research involving the use of human or animal subjects or hazardous materials. _____ (STUDENT'S SIGNATURE) <span style="float: right;">Mo/Day/Yr</span>
---	--

## DOCTORAL PROGRAM

PLEASE PRINT OR TYPE AND CLUSTER BY FIELD

Dept.	Course No.	Semester	Title	No. CR	Dept.	Course No.	Semester	Title	No. CR

**Approved:**  
 (Please TYPE guidance committee members' names BELOW signatures)

1. \_\_\_\_\_  
, Chairperson Mo/Day/Yr
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

**Course Credits** (in addition to at least 24 credits of 999) \_\_\_\_\_

Comprehensive examination areas:  
 The candidate expects to pass the Comprehensive Examination by  
 \_\_\_\_\_ Semester, \_\_\_\_\_(Year).  
 \_\_\_\_\_, Student Mo/Day/Yr  
 \_\_\_\_\_, Department Chairperson Mo/Day/Yr  
 \_\_\_\_\_, College Dean Mo/Day/Yr

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# APPENDIX 7: Master's Record of Dissertation & Oral Exam



Copies to: Dean  
Department  
Guidance Committee  
Student

## RECORD OF DISSERTATION AND ORAL EXAMINATION REQUIREMENTS FOR MASTERS DEGREE CANDIDATE

Department of: \_\_\_\_\_

Student's Name: \_\_\_\_\_ Student Number: \_\_\_\_\_

1. Dissertation Title: \_\_\_\_\_

2. Dissertation has been:  Accepted  Rejected  Accepted subject to revisions (beyond minor editorial changes) required by the Committee.

3. Oral examination in defense of the dissertation was conducted on: \_\_\_\_\_

The student  Passed

Date

Failed Reason: \_\_\_\_\_

4. Dissenting opinions and signatures of dissenting examiners, if any: \_\_\_\_\_

5. Subject to the satisfactory completion of other requirements, this student is recommended for the degree Doctor of:

Philosophy

Education

Musical Arts

Signatures of Guidance Committee Members:

Printed names of Guidance Committee Members:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Chairperson of Guidance Committee  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Major revisions required: \_\_\_\_\_

7. Revisions, if any, approved: \_\_\_\_\_

Chairperson of Guidance Committee

Date

Approved: Department Chairperson: \_\_\_\_\_

Associate/Assistant Dean: \_\_\_\_\_

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# APPENDIX 8: Doctoral Record of Dissertation & Oral Exam



Copies to: Dean  
Department  
Guidance Committee  
Student

## RECORD OF DISSERTATION AND ORAL EXAMINATION REQUIREMENTS FOR DOCTORAL DEGREE CANDIDATE

Department of: \_\_\_\_\_

Student's Name: \_\_\_\_\_ Student Number: \_\_\_\_\_

1. Dissertation Title:

2. Dissertation has been:  Accepted  Rejected  Accepted subject to revisions (beyond minor editorial changes) required by the Committee.

3. Oral examination in defense of the dissertation was conducted on: \_\_\_\_\_  
Date

The student  Passed  
 Failed Reason:

4. Dissenting opinions and signatures of dissenting examiners, if any:

5. Subject to the satisfactory completion of other requirements, this student is recommended for the degree Doctor of:  
 Philosophy  Education  Musical Arts

Signatures of Guidance Committee Members:

Printed names of Guidance Committee Members:

_____	Chairperson of Guidance Committee	_____	Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. Major revisions required:

7. Revisions, if any, approved: \_\_\_\_\_  
Chairperson of Guidance Committee Date

Approved: Department Chairperson: \_\_\_\_\_

Associate/Assistant Dean: \_\_\_\_\_

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