

MICHIGAN STATE  
UNIVERSITY

<http://phmtox.msu.edu>



**THE ONLINE MASTER OF SCIENCE HANDBOOK  
IN PHARMACOLOGY AND TOXICOLOGY**

AND

**INTEGRATIVE PHARMACOLOGY**

Spring 2021

This handbook provides detailed description of the MS Programs (Plan B, Non-thesis) in Pharmacology & Toxicology and in Integrative Pharmacology.

The handbook provides information specific to our program. General information related to academic programs and graduate degrees at Michigan State University can be found in other University documents and online resources. Central among these are:

- ***Spartan Life Student Handbook and Resource Guide***

(<http://splife.studentlife.msu.edu/>)

A resource guide that provide information related to campus programs, policies, rules, regulations, rights and responsibilities. Included within Part II of this publication is the

***Graduate Students Rights and Responsibilities (GSSR)***

(<https://grad.msu.edu/gssr>)

This specifically addresses student conduct, academic pursuits, keeping of records and publications. It describes procedures for formulating regulations governing student conduct and for providing due process in the adjudication of student disciplinary cases. It also defines channels and procedures for student complaints and grievances. You may access the department's grievance procedure [here](#).

- ***Office of the Registrar – Academic Programs – Graduate Education***

(<http://reg.msu.edu/AcademicPrograms/Text.asp?Section=111>)

- ***Anti-Discrimination Policy (ADP):***

- <http://oie.msu.edu/policies-procedures-forms/documents/2015%2009-11%20Faculty%20Guide.docx.pdf>

Please check with your Academic Advisor for additional information on any topic of concern.

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## PROGRAM OVERVIEW

### THE DEPARTMENT OF PHARMACOLOGY & TOXICOLOGY

The Department of Pharmacology & Toxicology at Michigan State University (MSU) is a basic science department with academic and administrative responsibilities to the Colleges of Human Medicine, Osteopathic Medicine, and Veterinary Medicine. The Department provides courses that are presented to graduate students, medical students, nursing students and undergraduate students.

The Department of Pharmacology & Toxicology uses effective leadership, productive collaboration, and expertise in molecular, cellular and integrative pharmacology and toxicology to excel in research, graduate and professional education, and service. Departmental faculty have expertise in biochemical/molecular pharmacology, cardiovascular pharmacology, hepatic pharmacology and toxicology, drug metabolism, immunopharmacology and toxicology, neuroendocrine pharmacology, neuropharmacology, neurotoxicology, gastrointestinal pharmacology, and carcinogenesis.

The Department has special obligations to graduate student trainees. Conversely, trainees have obligations to the Department and to themselves. The most important of these are to maintain an environment in which there is mutual trust, respect, personal integrity and continuous striving toward excellence in scholarship.

#### **The Department will offer students:**

1. Program flexibility and course options that allow completion of degree requirements within 5 years.
2. Perspectives on the meaning of being a professional, including training in scientific and business practices and processes.
3. Annual evaluation of the program and a willingness to make changes as appropriate.
4. Training in written scientific communication.
5. An environment that respects and values a broad range of backgrounds, viewpoints, and experiences.
6. Training in academic and research integrity.

#### **The student has the following responsibilities and goals:**

1. To commit the time necessary to achieve superior performance in academic courses.
2. To strive to excel in: knowledge of the literature, experimental design, analysis of data, and clear written presentation of data and conclusions.
3. To produce a scholarly review paper of the literature relevant to a topic of the student's choice and reviewed by a program faculty committee.
4. To strive for collaborative interactions with faculty, adjunct instructors, staff and other students as colleagues.
5. To maintain academic integrity, honesty, and decorum that facilitates learning within an online environment.

## ADMISSIONS

Acceptance into the program is competitive. **Applicants must have completed a bachelor's degree from an accredited college or university, with at least 3 credits in chemistry and 3 credits in a biological science.** The Graduate Record Exam (GRE) is not required. A Statement of Purpose and two letters of recommendation are required for consideration for admission. Preference will be given to applicants with undergraduate degrees in biology, chemistry or related sciences and who are currently employed in an academic, government, or industrial laboratory.

1. Prospective students should complete an application form for admittance into the program online at <https://admissions.msu.edu/apply.asp> using program code 4176 (Pharmacology & Toxicology MS) or 4216 (Integrative Pharmacology MS), which will place them under the College of Osteopathic Medicine.
2. Students may submit their Statement of Purpose within the online form or in a separate document, sent directly to the Academic Office. The Statement of Purpose should indicate how completion of the MS program will advance the applicant's career or educational goals.
3. At least two Letters of Recommendation must be sent directly from the referee to the Academic Office of the Department of Pharmacology & Toxicology.
4. An official copy of all undergraduate and/or graduate college transcripts must be sent unopened from the granting institution to the Academic Office of the Dept of Pharmacology & Toxicology.

## INTERNATIONAL APPLICANTS

**Please note: these are completely online programs.** Unlike many on-campus degree programs, international students are not required to provide proof of travel, residency, visa, or proof of financial support with your application. There are no visa requirements, as there is no travel involved. The courses in both programs are delivered online and thus tuition rates are equitable across resident, non-resident and international students. All transcripts must be mailed directly from the issuing institution. Transcripts sent in the same mailing package as other materials from the student will NOT be accepted.

Per the [MSU Office of Admissions](#) website;

- *"In applying, applicants must certify that all documents submitted as part of the application for admission are authentic. Any falsification of academic records through omission or misstatement may result in cancellation of admission and/or other disciplinary action by Michigan State University."*
- *"Provide proof of English proficiency (sent directly from the testing agency) if your first language is not English (TOEFL, IELTS, SAT, MSU-ELT, or MELAB accepted). MSU's TOEFL and SAT code is 1465."*
- *"APPLICANTS FROM CHINESE UNIVERSITIES: Please arrange for a verification report of your university transcript with the China Academic Degree and Graduate Education Development Center (CDGDC). The report must be mailed directly to the MSU Office of Admissions by the CDGDC, rather than by you or any third party."*

Please ensure that original, authorized transcripts (in English) will be available. We also suggest utilizing the services of an educational evaluation service such as: [Education Credential Evaluators](#) or [World Education Services](#). The translation (if needed) can be sent separately along with the student's application. All financial obligations with the university (tuition, fees, etc) are the responsibility of the student, and are handled electronically via their online student account.

## APPLICATION SCHEDULES

Students may be accepted into the Online MS program three times per year. The following schedule applies:

<i>Due Date for All Application Materials</i>	<i>Admissions Determination Letter</i>	<i>Semester Admittance</i>
June 1, 5 p.m.(EDT) or the 1 <sup>st</sup> business day of June	Will be sent mid-July	Fall (starts end of August)
October 1, 5 p.m.(EDT) or the 1 <sup>st</sup> business day of October	Will be sent mid-November	Spring (starts early January)
February 1, 5 p.m. (EST) or the 1 <sup>st</sup> business day of February	Will be sent mid-March	Summer (starts mid-May)

Acceptance to the MS programs represents a recommendation for admission to MSU. Credentials are forwarded to the MSU Office of Admissions for final approval before admission to the University is complete.

It is MSU policy that graduate students enrolled in fewer than 5 credits per semester are not eligible for financial aid.

## ADMISSIONS COMMITTEE

The application is reviewed by the online Master's Degree program Admissions Committee.

Factors which determine the applicant's acceptance are:

- Academic record that shows background and future aptitude for the coursework
- Professional goals which would be furthered by the coursework and eventual degree
- Recommendations from academic and/or work references which indicate the likelihood of success in the program and/or support for the student in completing program requirements
- Evidence of past perseverance, ability to commit to the program given the extended timeframe
- The Department's ability to give personal direction to the prospective applicant's program and goals

In all areas of graduate education pertaining to admission or academic rights and responsibilities, there shall be no discrimination on the basis of age, race, color, creed, ethnic origin or sex. Members of minority groups are encouraged to apply. The rights and responsibilities of graduate students as itemized in this document do not nullify the rights and responsibilities of students as stated in the publication *Student Rights and Responsibilities at Michigan State University* at <http://splife.studentlife.msu.edu/student-rights-and-responsibilities-at-michigan-state-university> .

## ONLINE MASTER OF SCIENCE IN PHARMACOLOGY & TOXICOLOGY OR INTEGRATIVE PHARMACOLOGY

The principal objective of both the Online MS in Pharmacology & Toxicology and in Integrative Pharmacology is to advance students' academic credentials in pharmacology and toxicology to facilitate their career development or preparation for further professional academic training in science or medicine. The online MS in Integrative Pharmacology is especially suited to those with professional experience in laboratory research who wish to maximize their careers in the pharmaceutical industry.

### PROGRAM BENEFITS

Graduates of the Online MS in Pharmacology & Toxicology are provided with all the rewards and responsibilities of alumni of Michigan State University. Students may also take advantage of the MSU Career Services and Placement Center, which provides professional career advising and access to recruiters from biotechnology, biomedical, and pharmaceutical firms in the U.S. and abroad.

### PLAN B MASTERS

The programs result in a 31-credit MS degree which has received full Academic Approval from Michigan State University and from the Council of Graduate Students. No thesis or defense is required for the Online MS programs. However, all students must write a scholarly literature review, or conduct an on-the-job capstone research project yielding a publication-quality paper.

Students will be assigned an academic advisor upon entry to either MS program. Students will work with their advisor's to choose appropriate courses and credit loads for their intended career pathways and current professional and family obligations. Students will also consult with their advisors about topics for the capstone literature review paper, or applied research project, and work closely with advisors to write preliminary drafts of their papers after completing the required PHM 850 Communications for Scientists course.

### Curriculum Choices for the Master of Science Degree in Pharmacology & Toxicology

Students have three (3) options for the MS in Pharmacology and Toxicology:

1. MS of Science Degree in Pharmacology & Toxicology – General
2. MS of Science Degree in Pharmacology & Toxicology – Concentration in Pharmacology
3. MS of Science Degree in Pharmacology & Toxicology – Concentration in Toxicology

The Master of Science Degree is appropriate for graduates of biology- or chemistry-related undergraduate programs. Coursework provides freedom to explore those physiological systems that will allow students to continue to expand their knowledge of pharmacology, while providing additional academic qualifications that will facilitate student career and professional development.

The Master of Science in Pharmacology and Toxicology with concentrations in either pharmacology or toxicology is exclusively an online program, designed to train individuals in whole animal and organ systems pharmacology and toxicology. Coursework with concentrations in either Pharmacology or Toxicology provides freedom to explore, in depth, areas in either.

In any of the three choices for the degree, students will be able to build upon and expand their current professional endeavors, and allow the opportunity to gain skills in areas including leadership and management.

## PROGRAM REQUIREMENTS

*(Please refer to the "Program requirements" tables beginning on the next page)*

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### ONLINE MASTER OF SCIENCE IN PHARMACOLOGY AND TOXICOLOGY – GENERAL

By default, students may complete the Master of Science degree in Pharmacology & Toxicology with no concentration by completing at least 31 credits:

- All core required courses: 10 credits
- Science electives: 16-21 credits including:
  - A minimum of 7 credits of 800-level PHM science electives
  - A maximum of 9 credits of 400-level courses
- Professional electives: no more than 5 credits

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### ONLINE MASTER OF SCIENCE IN PHARMACOLOGY & TOXICOLOGY – PHARMACOLOGY CONCENTRATION

Students must complete (for a total of 31 credits):

- All core required courses: 10 credits
- A minimum of 8 credits from the Elective Science courses for the Pharmacology Concentration
- Up to 13 credits of Other Elective Science course
  - Among the 2 categories of Elective Science courses:
    - A minimum of 7 credits of 800-level PHM science electives
    - A maximum of 9 credits of 400-level courses
- Professional electives: no more than 5 credits

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### ONLINE MASTER OF SCIENCE IN PHARMACOLOGY & TOXICOLOGY – TOXICOLOGY CONCENTRATION

Students must complete (for a total of 31 credits):

- All core required courses: 10 credits
- A minimum of 8 credits from the Elective Science courses for the Toxicology Concentration
- Up to 13 credits of Other Elective Science course
  - Among the 2 categories of Elective Science courses:
    - A minimum of 7 credits of 800-level PHM science electives
    - A maximum of 9 credits of 400-level courses
- Professional electives: no more than 5 credits

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### ONLINE MASTER OF SCIENCE IN INTEGRATIVE PHARMACOLOGY

Students must complete (for a total of 31 credits):

- All core required courses: 16-18 credits
- Science electives: 6-11 credits including:
  - A minimum of 4 credits of 800-level PHM science electives
  - A maximum of 9 credits of 400-level courses
- Professional electives: a minimum of 4 credits

**PROGRAM REQUIREMENTS – MS IN PHARMACOLOGY & TOXICOLOGY: GENERAL CURRICULUM**

	CREDITS	SEMESTER OFFERED
<b>1.) ALL OF THE FOLLOWING CORE COURSES</b>		
PHM 819 - Principles of Drug-Tissue interactions	2	Fall, Spring, Summer
PHM 822 - Academic & Research Integrity (in one of 1 <sup>st</sup> two semesters in program)	1	Fall, Spring, Summer
PHM 830 - Experimental Design & Data Analysis	3	Fall, Summer
PHM 850 - Communications for Scientists	2	Fall, Summer
PHM 982 – MS Capstone Literature Review	2	Fall, Spring, Summer
<b>2.) SCIENCE ELECTIVES: COMPLETE UP TO 21 CREDITS. MUST INCLUDE A MINIMUM OF 7 CREDITS 800-LEVEL PHM COURSES AND A MAXIMUM OF 9 CREDITS 400-LEVEL COURSES</b>		
PHM 430 - Human Pharmacology	3	Summer
PHM 431 - Pharmacology of Drug Addiction	3	Summer
PHM 450 - Introduction to Chemical Toxicology	3	Fall, Spring, Summer
PHM 461 - Tropical Medicine Pharmacology	2	Fall, Spring
PHM 483 – Chemotherapy of Infectious Disease	3	Fall, Spring
PHM 492 – Pharmacotherapy of Human Viral Infections	2	Summer
PHM 811 – Global Health Pharm and Tox Perspective	2	Summer
PHM 813 - Cardiovascular Pharmacology	3	Summer
PHM 817 - Neurotoxicology	2	Spring
PHM 818 – Practical PK/PD Modeling and Simul in Drug Develop	1	Fall
PHM 823 – Current Topics in Pharmacology and Toxicology	1	Fall
PHM 828 - Concepts in Carcinogenesis	2	Fall
PHM 829 – Neuropharmacology	2	Fall
PHM 831 - Endocrine Pharmacology	2	Spring
PHM 833 - Gastrointestinal & Liver Pharmacology and Toxicology	2	Spring
PHM 834 - Respiratory Pharmacology	2	Spring
PHM 835 - Biopharmaceuticals: from Development to Manufacturing	3	Fall
PHM 837 - Autonomic Pharmacology	1	Spring
PHM 838 – Pharmacogenomics	2	Fall
PHM 840 - Safety Pharmacology	2	Spring
PHM 841 - Cellular and Molecular Toxicology	3	Fall
BLD 830* - Concepts in Molecular Biology	2	Fall, Spring
HM 803* - Epidemiology and Public Health	3	Fall, Spring, Summer
HM 806*- Environmental Factors of Health	3	Fall, Spring, Summer
HM 833*- Intro to Pharmaceutical Counterfeiting and Public Health	3	Fall of odd years
VM 812* - Food Safety Toxicology	3	Fall, Spring, Summer
<b>3.) PROFESSIONAL ELECTIVES (maximum of 5 credits)</b>		
PHM 851 - Intellectual Property & Patent Law	2	Fall
PHM 854 - Leadership & Team-Building for Researchers	2	Spring
PHM 855 - Business of Biomedical Research	2	Spring
PHM 857 - Introduction to Project Management	2	Summer

PHM 858 - Drug Development Process	3	Spring
BLD 842 - Managing Biomedical Laboratory Operations	2	Fall, Spring
minimum TOTAL	31	

\* - Please contact our Academic Office if overrides are needed for any of the courses indicated

### PROGRAM REQUIREMENTS – MS IN PHARMACOLOGY & TOXICOLOGY: PHARMACOLOGY CONCENTRATION

	CREDITS	SEMESTER OFFERED
<b>1.) ALL OF THE FOLLOWING CORE COURSES (10 CREDITS)</b>		
PHM 819 - Principles of Drug-Tissue interactions	2	Fall, Spring, Summer
PHM 822 - Academic & Research Integrity (in one of 1 <sup>st</sup> two semesters in program)	1	Fall, Spring, Summer
PHM 830 - Experimental Design & Data Analysis	3	Fall, Summer
PHM 850 - Communications for Scientists	2	Fall, Summer
PHM 982 – MS Capstone Literature Review	2	Fall, Spring, Summer
<i>Science elective courses in 2) and 3) below must include a minimum of 7 cr 800-level PHM courses and a maximum of 9 cr 400-level courses</i>		
<b>2.) SCIENCE ELECTIVES FOR THE PHARMACOLOGY CONCENTRATION (MINIMUM OF 8 CREDITS)</b>		
PHM 430 - Human Pharmacology	3	Summer
PHM 431 - Pharmacology of Drug Addiction	3	Summer
PHM 829 - Neuropharmacology	2	Fall
PHM 834 - Respiratory Pharmacology	2	Spring
PHM 835 - Biopharmaceuticals: from Development to Manufacturing	3	Fall
PHM 837 - Autonomic Pharmacology	1	Spring
HM 833*- Intro to Pharmaceutical Counterfeiting and Public Health	3	Fall of odd years
<b>3.) OTHER SCIENCE ELECTIVES</b>		
PHM 450 - Introduction to Chemical Toxicology	3	Fall, Spring, Summer
PHM 461 - Tropical Medicine Pharmacology	2	Fall, Spring
PHM 483 - Antimicrobial Chemotherapy	3	Fall, Spring
PHM 492 – Pharmacotherapy of Human Viral Infections	2	Summer
PHM 811 – Global Health Pharm and Tox Perspective	2	Summer
PHM 817 - Neurotoxicology	2	Spring
PHM 818 – Practical PK/PD Modeling and Simul in Drug Develop	1	Fall
PHM 823 – Current Topics in Pharmacology and Toxicology	1	Fall
PHM 828 - Concepts in Carcinogenesis	2	Fall
PHM 831 - Endocrine Pharmacology	2	Spring
PHM 833 - Gastrointestinal & Liver Pharmacology and Toxicology	2	Spring
PHM 838 – Pharmacogenomics	2	Fall
PHM 840 - Safety Pharmacology	2	Spring
PHM 841 - Cellular and Molecular Toxicology	3	Fall
BLD 830* - Concepts in Molecular Biology	2	Fall, Spring
HM 803* - Epidemiology and Public Health	3	Fall, Spring, Summer
HM 806*- Environmental Factors of Health	3	Fall, Spring, Summer
VM 812* - Food Safety Toxicology	3	Fall, Spring, Summer
<b>4.) PROFESSIONAL ELECTIVES (maximum of 5 credits)</b>		

PHM 850 - Communications for Biomedical Researchers	2	Fall, Spring
PHM 851 - Intellectual Property & Patent Law	2	Fall
PHM 854 - Leadership & Team-Building for Researchers	2	Spring
PHM 855 - Business of Biomedical Research	2	Spring
PHM 857 - Introduction to Project Management	2	Summer
PHM 858 - Project Management & Drug Development	3	Spring
BLD 842 - Managing Biomedical Laboratory Operations	2	Fall, Spring
Minimum Total	31	

\* - Please contact our Academic Office if overrides are needed for any of the courses indicated

### PROGRAM REQUIREMENTS – MS IN PHARMACOLOGY& TOXICOLOGY: TOXICOLOGY CONCENTRATION

	CREDITS	SEMESTER OFFERED
<b>1.) ALL OF THE FOLLOWING CORE COURSES (10 CREDITS)</b>		
PHM 819 - Principles of Drug-Tissue interactions	2	Fall, Spring, Summer
PHM 822 - Academic & Research Integrity (in one of 1 <sup>st</sup> two semesters in program)	1	Fall, Spring, Summer
PHM 830 - Experimental Design & Data Analysis	3	Fall, Summer
PHM 850 - Communications for Scientists	2	Fall, Summer
PHM 982 – MS Capstone Literature Review	2	Fall, Spring, Summer
<i>Science elective courses in 2) and 3) below must include a minimum of 7 cr 800-level PHM courses and a maximum of 9 cr 400-level courses</i>		
<b>2.) SCIENCE ELECTIVES FOR THE TOXICOLOGY CONCENTRATION (MINIMUM OF 8 CREDITS)</b>		
PHM 450 - Introduction to Chemical Toxicology	3	Fall, Spring, Summer
PHM 817 - Neurotoxicology	2	Spring
PHM 828 - Concepts in Carcinogenesis	2	Fall
PHM 841 - Cellular and Molecular Toxicology	3	Fall
HM 806*- Environmental Factors of Health	3	Fall, Spring, Summer
VM 812* - Food Safety Toxicology	3	Fall, Spring, Summer
<b>3.) OTHER SCIENCE ELECTIVES</b>		
PHM 430 - Human Pharmacology	3	Summer
PHM 431 - Pharmacology of Drug Addiction	3	Summer
PHM 461 - Tropical Medicine Pharmacology	2	Fall, Spring
PHM 483 - Antimicrobial Chemotherapy	3	Fall, Spring
PHM 492 – Pharmacotherapy of Human Viral Infections	2	Summer
PHM 811 – Global Health Pharm and Tox Perspective	2	Summer
PHM 813 - Cardiovascular Pharmacology	3	Summer
PHM 818 – Practical PK/PD Modeling and Simul in Drug Develop	1	Fall
PHM 823 – Current Topics in Pharmacology and Toxicology	1	Fall
PHM 829 - Neuropharmacology	2	Fall
PHM 831 - Endocrine Pharmacology	2	Spring
PHM 833 - Gastrointestinal & Liver Pharmacology and Toxicology	2	Spring
PHM 834 - Respiratory Pharmacology	2	Spring
PHM 835 - Biopharmaceuticals: from Development to Manufacturing	3	Fall
PHM 837 - Autonomic Pharmacology	1	Spring

PHM 838 – Pharmacogenomics	2	Fall
PHM 840 - Safety Pharmacology	2	Spring
BLD 830* - Concepts in Molecular Biology	2	Fall, Spring
HM 803* - Epidemiology and Public Health	3	Fall, Spring, Summer
HM 833*- Intro to Pharmaceutical Counterfeiting and Public Health	3	Fall of odd years
<b>4.) PROFESSIONAL ELECTIVES (maximum of 5 credits)</b>		
PHM 850 - Communications for Biomedical Researchers	2	Fall, Spring
PHM 851 - Intellectual Property & Patent Law	2	Fall
PHM 854 - Leadership & Team-Building for Researchers	2	Spring
PHM 855 - Business of Biomedical Research	2	Spring
PHM 857 - Introduction to Project Management	2	Summer
PHM 858 - Project Management & Drug Development	3	Spring
BLD 842 - Managing Biomedical Laboratory Operations	2	Fall, Spring
Minimum TOTAL	31	

### PROGRAM REQUIREMENTS – MS IN INTEGRATIVE PHARMACOLOGY

<b>All of the Following Courses (14 credits)</b>		
	<b>Credits</b>	<b>Semester Offered</b>
PHM 819 - Principles of Drug-Tissue interactions	2	Fall, Spring, Summer
PHM 822 – Academic and Research Integrity (in one of 1 <sup>st</sup> two semesters in program)	1	Fall, Spring, Summer
PHM 830 - Experimental Design & Data Analysis	3	Fall, Summer
PHM 813 - Cardiovascular Pharmacology	3	Summer
PHM 832 – Integrative Pharmacology Lab	3	Summer
PHM 850 – Communications for Scientists	2	Fall, Summer
<b>ONE OF THE FOLLOWING COURSES (2-4 CREDITS)</b>		
OR PHM 895 - Applied Project in Integrative Pharm	3-4	Fall, Spring, Summer
PHM 982 – MS Capstone Literature Review	2	Fall, Spring, Summer
<b>Science Electives (as needed to total 31 credits for the degree)</b>		
Must include a minimum of 4 credits 800-level PHM courses and a maximum of 9 credits 400-level courses		
PHM 430 - Introduction to Human Pharmacology	3	Summer
PHM 431 - Pharmacology of Drug Addiction	3	Summer
PHM 450 - Introduction to Chemical Toxicology	3	Fall, Spring, Summer
PHM 461 – Tropical Medicine Pharmacology	2	Fall, Spring
PHM 483 –Chemotherapy of Infectious Disease	3	Fall, Spring

PHM 492 – Pharmacotherapy of Human Viral Infections	2	Summer
PHM 811 – Global Health – Pharm and Tox Perspective	2	Summer
PHM 817 - Neurotoxicology	2	Spring
PHM 818 - Practical PK/PD Modeling and Sim Drug Develop	1	Fall
PHM 823 - Current Topics in Pharmacology and Toxicology	1	Fall
PHM 828 - Carcinogenesis	2	Fall
PHM 829 - Neuropharmacology	2	Fall
PHM 831 - Endocrine Pharmacology	2	Spring
PHM 833 - Gastrointestinal & Liver Pharm and Toxicology	2	Spring
PHM 834 - Respiratory Pharmacology and Toxicology	2	Spring
PHM 835 - Biopharmaceuticals: Development to Manufacturing	3	Fall
PHM 837 - Autonomic Pharmacology	1	Spring
PHM 838 - Pharmacogenomics	2	Fall
PHM 840 - Safety Pharmacology	2	Spring
PHM 841 - Cellular and Molecular Toxicology	3	Fall
BLD 830 - Concepts in Molecular Biology	2	Fall, Spring
HM 803 - Epidemiology and Public Health	3	Fall, Spring, Summer
HM 806 - Environmental Factors of Health	3	Fall, Spring, Summer
HM 833 - Pharmaceutical Counterfeiting and Public Health	3	Fall
VM 812 - Food Safety Toxicology	3	Fall, Spring, Summer
<b>Professional Electives (4 or more credits)</b>		
PHM 851 - Intellectual Property & Patent Law	2	Fall
PHM 854 - Leadership & Team Building for Researchers	2	Spring
PHM 855 - Business of Biomedical Research	2	Spring of odd years
PHM 857 - Introduction to Project Management	2	Summer
PHM 858 - Drug Development Process	3	Spring
BLD 842 - Managing Biomedical Laboratory Operations	2	Fall
<b>TOTAL</b>	Minimum 31	

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## COURSE REQUIREMENT EXCEPTIONS

The Department of Pharmacology & Toxicology is strongly committed to maintaining the integrity of the MS program. However, some exceptions may be made to these requirements.

Michigan State University allows for transfer of up to 9 credits earned from other institutions or programs or under Lifelong Education status, providing those courses support the educational objectives of the program. Alternative courses will be considered for transfer credit on a case-by-case basis. Students should notify their advisor at the start of their program if they desire to transfer credits into the Pharmacology & Toxicology program.

Students may take on-campus sections of any of the above courses (if offered). Online students may also request to take another graduate level Department pharmacology or toxicology course as an elective in the program. MS students are expected to adhere to a high level of achievement in the classroom.

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## PROGRAM REQUIREMENTS – UNIVERSITY MANDATORY TRAINING IN RESEARCH AND ACADEMIC INTEGRITY

Graduate students at MSU will be required to complete four training modules during the first year of their graduate program to provide a foundation for the responsible conduct of research and academic integrity. These training modules (CITI courses) are available online (<http://ora.msu.edu/CITI-RCR-registration>) and will be part of one of your required courses, PHM 822 Academic and Research Integrity. This training is required for MSU to receive federal research funding. Further academic and research integrity training, as required by MSU, will also be part of PHM 822 Academic Integrity, which must be completed during one of the first two semesters of your graduate program.

**PROGRAM COMPLETION**

The Department of Pharmacology & Toxicology recognizes that many students in the MS Program in Pharmacology and Toxicology are working adults with other responsibilities that prevent committing to a full-time status. The Online MS program applauds and seeks to accommodate students' efforts to improve their education by taking courses part-time. However, Michigan State University requires program completion within 5 years following the first semester of enrollment. The student's advisor should be notified immediately if an extension appears necessary.

**EXAMPLE COMPLETION SCHEDULES**

Full-Time		
Semester	Course	Credits
Fall Year 1	PHM 819	2 required
	PHM 830	3 required
	BLD 830	2 elective = 7
Spring Year 1	PHM 854	2 elective
	PHM 831	2 elective
	PHM 833	2 elective
	PHM 822	1 required = 7
Summer Year 1	PHM 430	3 elective
	PHM 450	3 elective
	PHM 850	2 required = 8
Fall Year 2	PHM 461	2 elective
	PHM 841	3 elective = 7
Spring Year 2	PHM 982	2 required = 2
<b>TOTAL CREDITS</b>		31

Part-Time		
Semester	Event	Credits
Fall Year 1	PHM 819	2 required
	PHM 822	1 required
Spring Year 1	PHM 858	3 elective
Summer Yr 1	PHM 450	3 elective
Fall Year 2	PHM 830	3 required
	PHM 829	2 elective
Spring Year 2	PHM 834	2 elective
	PHM 837	1 elective
Summer Yr 2	PHM 813	3 elective
Fall Year 3	PHM 850	2 required
Spring Year 3	PHM 833	2 elective
	PHM 831	2 elective
Summer Yr 3	PHM 431	3 elective
Fall Year 4	PHM 982	2 required
<b>TOTAL CREDITS</b>		31

## STUDENT ASSESSMENT

### GRADING

Course grades in all Departmental courses will be based on the instructor's professional and objective evaluation of the student's academic performance. Students are given a numerical grade of 0.0 to 4.0. Grades below 2.0 are considered failing, and a 4.0 indicates the highest level of achievement in all learning objectives.

Students have the right to know all course requirements, including clearly stated learning objectives, assignment deadlines, assessment dates and procedures, grading criteria, and grading scales at the beginning of the course.

Online courses rely on assessing student learning through a combination of participation (through online discussion forum postings and/or online live chats), summary and analysis of content (primarily as shown through discussion forum postings and submission of written papers through drop box and/or email), online quizzes and exams (typically with multiple-choice and short answer questions), and written reports.

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#### INCOMPLETE GRADE (I)

If a student met the majority of course requirements, but for unforeseen and extenuating circumstances was not able to complete all of a course requirements, the instructor may issue an "I" instead of a numerical grade. This is a temporary grade issued when the instructor expects satisfactory completion of required work by the middle of the next semester. See required agreement form at [http://www.reg.msu.edu/read/pdf/I\\_Agreement.pdf](http://www.reg.msu.edu/read/pdf/I_Agreement.pdf)

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#### DEFERRED GRADES (DF)

The required work must be completed, and a grade reported, within 6 months with the option of a single six-month extension. If the required work is not completed within the time limit, the DF will become U (unfinished) and will be changed to DF/U under the numerical grading system.

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#### PROGRESS

Students will be considered in acceptable academic standing and making satisfactory progress toward a degree if they are maintaining a minimum 3.0 grade point average (GPA) on a 4.0 scale and show commitment to continuing the program. Students whose cumulative GPA falls below 3.0, will be placed on academic probation. These students must bring their GPA up to 3.0 or higher within 2 semesters. Student will not be granted the MS degree with a cumulative GPA less than 3.0. Students who fail to bring their GPA above a 3.0 within 2 semesters will be considered for dismissal.

Students will not be required to take a course every semester, but show consistent progress which will allow completion within 5 years. The program may allow a student to apply for an extension if it appears the program requirements are still achievable. This exception would be appropriate if there have been extenuating circumstances that required a break from the program or if the student is still making progress in obtaining the credits, but still needs a short extension beyond the 5 year deadline.

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### ATTENDANCE POLICY

In compliance with federal regulations governing financial aid and veterans' education benefits, instructors are required to report students who stop attending or who have never attended class. Attendance is defined as physical attendance or participation in an academically-related activity, including but not limited to the submission of an assignment, an examination, participation in a study group, or an online discussion.

**If a student does not log into the course in the first two weeks or if a student stops attending at any point in the course without prior excuse** (for at least a two week period), the instructor can drop the student without notice.

#### Grief Absence Policy

It is the responsibility of the student to: **a)** notify the Associate Dean or designee of their college of the need for a grief absence in a timely manner, but no later than one week from the student's initial knowledge of the situation, **b)** provide appropriate verification of the grief absence as specified by the Associate Dean, and **c)** complete all missed work as determined in consultation with the instructor. It is the responsibility of the Associate Dean or designee to: **a)** determine with the student the expected period of absence - it is expected that some bereavement processes may be more extensive than others depending on individual circumstances, **b)** notify the faculty that the student will be absent, and **c)** receive verification of the authenticity of a grief absence request upon the student's return. It is the responsibility of the instructor to work with the student to make reasonable accommodations.

## EVALUATION OF THE FACULTY

To aid the faculty in its responsibility for maintenance of the quality of graduate education, student confidential instructional rating reports shall be used in each graduate course in accordance with the stated policy of the Academic Council. Such reports shall be considered carefully when graduate course teaching assignments are made.

## PROGRAM PRICING

Tuition and fees are subject to change on an annual basis. Students should consult with the Program's Academic Office ([phm@msu.edu](mailto:phm@msu.edu)) and the Michigan State University website for the most up to date tuition and fees ([http://www.ctrlr.msu.edu/COStudentAccounts/Tuition\\_Fees\\_MainMenu.aspx](http://www.ctrlr.msu.edu/COStudentAccounts/Tuition_Fees_MainMenu.aspx)).

## GRADUATION PROCESS

Students are ultimately responsible for monitoring their degree completion progress and should stay in contact with their Academic Advisor to ensure they graduate on time.

MS students must earn a minimum of 31 credits as described above in the [Course Requirements](#) that includes the following:

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### PHM 982 MS CAPSTONE LITERATURE REVIEW

No earlier than two semesters prior to expected graduation date (upon earning approximately 25 credits), the MS student must enroll in PHM 982 (2 credits) for completion of a review paper.

Earlier in their programs, students should complete PHM 850 Communications for Scientists to enhance their writing skills and prepare them for writing a scientific review paper. Students should research and choose a topic for their review paper with the assistance of their academic advisor. These papers are based on the student's reading and review of relevant peer-reviewed literature (journal articles). A topic must be chosen well in advance of enrolling in PHM 982 by extensive research of the literature. Students must also submit a preliminary draft of their papers to their academic advisor before they receive approval to enroll in PHM 982. The literature review must cover approximately 40 unique citations and be written in the format described for the journal *Pharmacological Reviews*: <http://pharmrev.aspetjournals.org/content/ifora>

Students will be graded upon criteria stemming from knowledge and skills they should have acquired through their MS coursework, including scientific writing, academic integrity, cellular and organ systems knowledge, and data analysis relevant to pharmacology and toxicology. A passing grade must be obtained in this course (2.0 or higher).

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### PHM 832 APPLIED INTEGRATIVE PHARMACOLOGY LAB

Students must earn a minimum of a 3.0 in PHM 832 in order to graduate. After completion of approximately 15 credits in their program, the MS in Integrative Pharmacology, students will enroll in PHM 832 Applied Integrative Pharmacology Lab. PHM 813 Cardiovascular Pharmacology is a required prerequisite or co-requisite of the PHM 832 lab course.

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### PHM 895 APPLIED PROJECT IN INTEGRATIVE PHARMACOLOGY

Students must earn a minimum 3.0 grade in PHM 895 in order to graduate. Beginning no earlier than two semesters prior to the expected graduation date (upon earning approximately 25 credits), the MS student must enroll in PHM 895 Applied Project in Integrative Pharmacology. Students will discuss in advance with their advisors whether their projects warrant 3 or 4 academic credits, and they may enroll in the total number of credits either simultaneously or in consecutive semesters.

Early in the program, students will choose and plan their Applied Projects with the assistance of their Academic Advisor, and with the cooperation and support of their employer. Students are responsible for organizing a location to conduct their applied project.

Projects can be based on a laboratory research focused problem, or development of novel business or management approaches to conducting integrative pharmacological research in an academic, corporate or government agency environment.

In general, students will be graded upon criteria stemming from knowledge and skills they should have acquired through their MS coursework including experimental design, data analysis, organ systems knowledge, applications for integrative pharmacology, management, communication, and contribution to the student's workplace.

Specific objectives and weighting of grades for the course will be provided by the student's Academic Advisor prior to the start of the student's project, as well as a Formatting Guide for the final written product of the Project.

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## APPLICATION FOR GRADUATION

During the first week of the final semester of the MS program, students must complete and submit the Application for Graduation to the Registrar's Office. <https://reg.msu.edu/StuForms/GradApp/GradApp.aspx> .

The Final Certification form is mailed by the Registrar's Office to the Academic Office of the Department, where the student's records are verified for completion of the program requirements. The Registrar's Office will check for any outstanding parking tickets, holds, or fees owed to the University before approving the Final Certification form.

The Department completes Final Certification form and returns it to the Registrar's Office. Registrar's Office approves Final Certification form and issues diploma and transcripts to student. Students will be given information on how to participate in the on-campus commencement.

## STUDENT INVOLVEMENT

Students are encouraged to become involved in all aspects of the graduate experience including involvement with program governance, membership in special interest groups, and building relationships with classmates, faculty, and staff.

## ONLINE MS IN PHARMACOLOGY & TOXICOLOGY GOVERNANCE

Oversight and governance of the online MS in Pharmacology & Toxicology, originates primarily from the Department Chair and Associate Chair, who lead the Academic Office which includes the Graduate Secretary, and MS director and academic advisors. Many organizations and individuals contribute to the development and maintenance of the MS Program.

## WITHDRAWALS, TERMINATIONS

Students may choose to withdraw from the MS program for personal or professional reasons. The student should talk openly and honestly with their advisor, fellow students, Graduate Program Director and/or Chairperson while making this decision. Should a student choose to withdraw, a letter addressed to the MS Program Director must be written that includes reasons for withdrawal and the date on which this is effective. This must be forwarded to the Academic Office.

### VOLUNTARY WITHDRAWAL DURING THE SEMESTER

A student may voluntarily withdraw from the University prior to the end of the twelfth week of a semester, or within the first 6/7 of the duration of the student's enrollment in a summer or special sessions (calculated in weekdays). Withdrawal is not permitted after these deadlines.

Visit <https://reg.msu.edu/AcademicPrograms/Text.aspx?Section=112#s498> for more information on withdrawal deadlines, and limitations to tuition and fee reimbursement.

This document also covers specifics for withdrawals that are:

- unauthorized (*leaving without obtaining an official withdrawal*)
- involuntary (*as when called for armed service duty or for reasons related to mental or physical health*)
- disciplinary
- readmission policy is also covered

### TERMINATION

A decision to terminate may be made on the grounds of a failing academic performance or dishonest academic behavior. The decision to terminate a student is a serious one and is not made lightly. Should a decision to terminate a student be made, all information regarding the decision will be held strictly confidential between the student and the Department faculty and be released only with the consent of the student involved except under the following circumstances: the decision to dismiss becomes the substance for a grievance procedure in which case such information shall be released to the Grievance Committee.

## CONFLICT RESOLUTION

Conflicts include both personal and professional disagreements that have reached a perceived impasse. The University maintains a Graduate Student Rights and Responsibilities documents at <http://splife.studentlife.msu.edu/graduate-student-rights-and-responsibilities> . It is recommended that students take steps to resolve conflicts productively.

1. Express your concerns **directly with the faculty or student** with whom you have a disagreement or otherwise unsatisfactory relationship.
2. If necessary, **the Program Director or Associate Department Chair** should be contacted to discuss the situation with both parties involved. The Program Director or Associate Chair will try facilitating a satisfactory resolution to the conflict. If the conflict involves the Program Director or Associate Chair, the student should contact the Department Chairperson. If the conflict directly involves the Department chairperson, contact the Program Director.
3. There may be occasions when a student believes that a conflict with faculty or administrators is not resolvable within the department. A resource for the student, then, is the **MSU Ombudsperson**. The student is encouraged to contact the Ombudsman when having real difficulty with any part of the University and when he/she doesn't know where to turn for help. The student will get an *independent* point of view in an *informal* and *confidential* way.

An Ombudsperson will also assist students who want to file formal complaints and grievances, which is often the final step in a student's effort to resolve a dispute. There are systems in place at MSU to receive and hear a student's formal grievance. Which system is used depends on the nature and location of the grievance. Although it is not required, a consultation with a University Ombudsperson is strongly recommended before entering a formal complaint or grievance in the appropriate system. Information on the Ombudsperson and about the university grievance hearing procedure and appeals is available at the [MSU Ombudsperson's website](#).

**Grievance Procedures (from University Academic Programs online catalog):** *A grievance involves a formal hearing before a panel of students and faculty to resolve a student's allegation of a violation of his or her academic rights, as set down in the Student Rights and Responsibilities (SRR) or the companion document for graduate students, called the Graduate Student Rights and Responsibilities at Michigan State University (GSRR); <http://www.splife.studentlife.msu.edu/graduate-student-rights-and-responsibilities>). The SRR and the GSRR documents require departments, schools and colleges to develop grievance procedures consistent with these documents.*

*It is important to recall that the SRR and GSRR require a student in conflict with an instructor to attempt to resolve the dispute before filing a request for a grievance hearing. The student should start the process by meeting with the instructor and then with the Department Chair and/or the Ombudsman. Most of the time, the parties to a dispute settle the issues during these discussions.*

*However, if a student remains dissatisfied with the outcome of these conversations, the student may submit a written request for a grievance hearing to the Department Chair to whom the instructor reports. The letter must state the specific nature of the complaint and the redress, or remedy, the student seeks as an outcome of the hearing.*

*Upon receiving a request for a grievance hearing, the unit administrator forwards the letter to the Chair of the department hearing board. The hearing panel for Graduate Students is chaired by the Department Chair or designee and is made up of an equal number of faculty and students (undergraduate or graduate, depending on the status of the student requesting*

*the hearing). The Chair of the hearing board in cases involving undergraduate students may be a faculty member, not the Chair or Chair's designee.*

*After receiving the written complaint, the hearing board can request a response from the instructor and then decide if the request for a hearing has merit. If so, the Chair of the hearing board will schedule a hearing; if not, the hearing board can dismiss the case--a decision that the student can appeal to the college hearing board.*

*Both the student and the instructor are allowed to call on witnesses to appear at the hearing on their behalf, and they can seek an adviser to help them throughout the process. The advisers must be members of the MSU community—faculty, staff or students.*

*If the student prevails at the initial hearing, the hearing board asks the Department Chair to implement an appropriate redress to accommodate the student. If the instructor prevails at the hearing, the student can file a request to appeal the department hearing board's decision to the college-level hearing board.*

## STUDENT RIGHTS UNDER THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

To maintain student rights to privacy under the FERPA act, the University has established policies governing access to student records by employees and release to external parties. It is standard procedure for MSU employees to request identification prior to sharing student information. It is illegal to pose as another person in seeking private academic or computing information.

The University has designated that only certain personally identifiable information labeled as “directory information” may be released at the discretion of the University to anyone who makes a request. A student may restrict the release of directory information by notifying the Office of the Registrar. More information can be found at <https://reg.msu.edu/read/NotificationandDirectoryInformationNotice.pdf>

Each individual of the Department has a confidential file kept within the office. The student has the right to visit his or her file anytime, and challenge it, if necessary. This is considered confidential information and the student has a right to view folder contents. Students may file a complaint with the U.S. Department of Education concerning alleged failures of the University to comply with FERPA.

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### CONFIDENTIALITY EXCEPTIONS

All MSU employees are obligated to promptly report incidents of sexual harassment, sexual violence, sexual misconduct, sexual exploitation, stalking, and relationship violence that are observed or learned about in their professional capacity and involve a member of the university community.

Employees are required to report such incidents to the Office or Institutional Equity and the MSU Police.

## ACADEMIC HONESTY AND INTEGRITY

### ACADEMIC HONESTY

The Department of Pharmacology and Toxicology is committed to ensuring that its research and academic programs are held to the highest standards of integrity. Academic dishonesty at Michigan State University is defined by the General Student Regulations as conduct that violates the fundamental principles of truth, honesty, and integrity. There are several important resources which students should review carefully to ensure complete understanding of University policy and repercussions for breaking standards for cheating, copyright infringement, and plagiarism, as well as definitions. The following conduct is specifically prohibited:

- Supplying or using work or answers that are not one's own.
- Providing or accepting assistance with completing assignments or examinations.
- Interfering through any means with another's academic work.
- Faking data or results
- Falsifying admission and academic records.

### ACADEMIC INTEGRITY

Section III.B.2 of Article 2: Academic Rights and Responsibilities states that *"The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards."*

(<http://splife.studentlife.msu.edu/academic-freedom-for-students-at-michigan-state-university/article-2-academic-rights-and-responsibilities> )

The general expectations for all students (graduate, undergraduate, professional, and lifelong education) enrolled in online PHM courses, i.e., offered by the Department of Pharmacology and Toxicology, for maintaining academic integrity are outlined below.

### INDEPENDENT WORK

Students are expected to work independently on all assignments for which they receive a grade. This includes all types of assessments: tests, examinations, quizzes, homework, projects, problem sets, and any other assessment assigned by the instructor. The answers you submit must be your own and may not be copied from any source. You may not submit course work for which you have received credit in another course to satisfy the requirements for a course you are currently taking. All exceptions to this policy will be specified by your instructor. If you have any doubt as to whether or not working together or using outside resources and references is permitted to complete an assignment, ask your instructor.

When taking tests, examinations, or quizzes: no class notes, books, or other resources may be used, and you may not discuss the questions with your classmates. Outside assistance of any type is not permitted. Any exceptions to this policy will be stated explicitly by your instructor. Violations of this policy may result in penalty grades on the assignment or in the course; expulsion from the program is possible.

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## PLAGIARISM

Plagiarism is using someone else's ideas or words without crediting the source. If you copy someone else's words directly, those words must be enclosed within quotation marks and cited; the thoughts of others, written in your own words, must be cited. This is true regardless of the source – books, journal articles, and web pages all must be cited if you use ideas or words from them. Source can be hard copy or electronic, and the author might not be identified. Regardless of the details, you must cite your source in such a way that it can be found by someone else.

Plagiarism is considered to be academic theft, and committing plagiarism is a significant violation of MSU academic integrity policies. Students who plagiarize any part of an assignment may receive a penalty, including, but not limited to, a failing grade on the assignment or a failing grade in the course; expulsion from the program is possible.

MSU regulations state in part that “no student shall claim or submit the academic work of another as one's own.” However, avoiding **plagiarism** is much more complicated and comes with more serious consequences than many students realize. Be aware that students are expected to abide by **copyright laws**.

General Student Regulations & MSU Ordinance on academic honesty and integrity are found at <https://msu.edu/unit/ombud/academic-integrity/>

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## MSU POLICIES

The Department of Pharmacology & Toxicology adheres to all applicable MSU policies as outlined in Policies, Regulations and Ordinances Regarding Academic Honesty and Integrity (<https://msu.edu/unit/ombud/academic-integrity/>).

In addition, the Department of Pharmacology & Toxicology adheres to the all-university policy on Integrity of Scholarship and Grades and Ordinance 17.00, Examinations as outlined in Spartan Life Online (<http://splife.studentlife.msu.edu/>) and/or the MSU Web site (<http://www.msu.edu>).

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## DIGITAL MEDIA AND COPYRIGHT ACT

MSU policies support the **Digital Media and Copyright Act** (<http://lct.msu.edu/guidelines-policies/>).

Unauthorized copying and sharing of copyrighted music, videos, movies, documents and other electronic files is illegal. Users of MSU net bear individual responsibility for their use of the network, and personal liability for any legal or criminal action brought against them. See also the Registrar's site with copyright infringement and peer-to-peer file sharing policies:

<https://reg.msu.edu/ROInfo/HEOAnotices.aspx>

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## ELECTRONIC DATA SECURITY

All Users must respect the privacy and usage privileges of others, both on the MSU campus and at all sites reachable by MSU's external network connections. There are significant academic and criminal penalties for trying to access or use other people's passwords or unauthorized access to networks or systems.

## CONTACTS

MSU Department of Pharmacology & Toxicology conducts administrative business primarily on the 3rd and 4th Floors of the Life Sciences Building B-Wing at the corner of Bogue Street and Service Drive, next to the MSU Clinical Center.

## DEPARTMENT OF PHARMACOLOGY & TOXICOLOGY

1355 Bogue Street  
B440 Life Sciences Building  
Michigan State University  
East Lansing, MI 48824  
<http://www.phmtox.msu.edu>

Student Affairs Office Telephone:	517.884-0409
Department Office Telephone:	517.353.7145
Fax:	517.353.8915
Email:	<a href="mailto:phm@msu.edu">phm@msu.edu</a>

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## UNIVERSITY RESOURCES

### STUDENT ACCOUNTS *(within the Controller's Office of MSU)*

provides a centralized office to contact regarding your tuition bills, payments, and application of scholarship monies.

<http://www.ctrl.msu.edu/COStudentAccounts/>

MSU Student Accounts, 140 Hannah Admin Bldg, East Lansing, MI 48824

Student Billing & Receivables: 517.355.3343

Email: [student.receivables@ctrl.msu.edu](mailto:student.receivables@ctrl.msu.edu)

Fees, Sponsored Aid & Fellowships: 517.355.5050

Email: [student.accounts@ctrl.msu.edu](mailto:student.accounts@ctrl.msu.edu)

Toll-Free (US only): 800.775.4323

Fax: 517.353.9640

### THE GRADUATE SCHOOL

provides information on a variety of graduate student issues including rights, responsibilities, requirements for graduation, and the Council of Graduate Students (COGS).

<https://grad.msu.edu>

Telephone: 517.353.3220

## THE REGISTRAR'S OFFICE

provides central access to the academic calendar, course descriptions and schedules, application for graduation, transcripts, address changes, and other student services.

MSU Registrar's Office, 150 Hannah Admin Bldg, East Lansing, MI 48824-0210

Telephone: 517.355.3300

<http://www.reg.msu.edu/>

Degree & Certification Telephone: 517.432.5911

## MSU OFFICE OF FINANCIAL AID

<http://www.finaid.msu.edu>

Telephone: 517.353.5940

Email: [finaid@msu.edu](mailto:finaid@msu.edu)

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## TECHNICAL ASSISTANCE

Hours: Open 24 hours per day, 7 days per week with some holiday exceptions.

The IT Service Desk is designed to meet the research and information needs of student and faculty in off-campus or on-line courses.

Should you experience any difficulties with your online course materials, please ensure that you report these to the **D2L Help Desk** personnel immediately, as they will notify your instructor.

Local Telephone: (517) 432-6200

Toll-Free (US only): (844) 678-6200

<http://help.d2l.msu.edu/>

[D2L Contact Form](#)

## MSU IT SERVICE DESK

Assists members of the MSU community with general computing questions or problems. They can help you diagnose a problem with your PC, recover from a virus, figure out a network issue, etc. When they can't help you, they will refer you to someone who can. Contact MSU IT if you need assistance in the following areas:

- setting up your MSU Net ID
- accessing email for the first time
- changing your directory information
- accessing your free AFS Space for your personal webpage
- changing passwords, etc.
- accessing the library
- [STUINFO.msu.edu](http://STUINFO.msu.edu)

Hours: 24 hours/7 days a week, except university holidays

<https://tech.msu.edu/support/>

T: 517.432.6200

**Alcohol and Other Substance Abuse Concerns**

T: 517. 355.8270

**Domestic Violence Concerns**

T: 800.799.723 (SAFE)

TTY: 800-787.3224

E: [ndvh@ndvh.org](mailto:ndvh@ndvh.org) or [deafhelp@ndvh.org](mailto:deafhelp@ndvh.org)

**Disabilities Resource Center at MSU**

<http://rcpd.msu.edu/>

T: 517.884.7273 (RCPD)

TTY: 517. 355.1293

Fax: 517. 432.3191

**Career Placement Services**

<http://careernetwork.msu.edu/>

T: 517.355.9510

Email: [careerservices@csp.msu.edu](mailto:careerservices@csp.msu.edu)

**Counseling through MSU** (Individual and Groups)

<http://counseling.msu.edu/>

T: 517.355.8270

Free Self-Assessment: [http://counseling.msu.edu/student\\_services/student-resources/](http://counseling.msu.edu/student_services/student-resources/)

**International** - Office for International Students and Scholars (OISS)

<http://oiss.isp.msu.edu/>

T: 517.353.1720

**Sexual Assault**

<http://www.endrape.msu.edu/>

24-Hour Hotline: 517.372.6666

**Suicide Prevention**

Telephone Hotline: 800.273.8255 (TALK) or dial 911

**FORMS**

Program Completion Plan :

<b>Program:</b>	Master of Science in Pharmacology & Toxicology			
<b>Student Last Name</b>	<b>First Name</b>	<b>PID</b>	<b>Admission Date</b>	
<b>Academic Advisor</b>		<b>Approval Date</b>		
<b>REQUIRED CORE COURSES (10 CREDITS)</b>				
<b>Course #</b>	<b>Course Title</b>	<b>Semester/Year</b>	<b>Credits</b>	<b>Grade</b>
PHM 819	Principles of Pharmacology & Toxicology		2	
PHM 822	Academic & Research Integrity		1	
PHM 830	Experimental Design & Biostatistics		3	
PHM 850	Communications for Scientists		2	
PHM 982	MS Capstone Literature Review		2	
<b>ELECTIVES (Minimum of 21 CREDITS)</b>				
<b>Course #</b>	<b>Course Title</b>	<b>Semester/Year</b>	<b>Credits</b>	<b>Grade</b>
<b>Minimum Credits for Graduation: 31</b>				

**FORMS**

Program Completion Plan :

<b>Program:</b>	<b>MS in Integrative Pharmacology</b>			
<b>Student Last Name</b>	<b>First Name</b>	<b>PID</b>	<b>Admission Date</b>	
<b>Academic Advisor</b>			<b>Approval Date</b>	
<b>REQUIRED CORE COURSES (16-18 credits)</b>				
<b>Course #</b>	<b>Course Title</b>	<b>Semester/Year</b>	<b>Credits</b>	<b>Grade</b>
PHM 819	Principles of Pharmacology & Toxicology		2	
PHM 822	Academic & Research Integrity		1	
PHM 830	Experimental Design & Biostatistics		3	
PHM 813	Cardiovascular Pharmacology		3	
PHM 832	Integrative Pharmacology Lab		3	
PHM 850	Communications for Scientists		2	
PHM 895 or	Integrative Pharmacology Project		3-4	
PHM 982	MS Capstone Literature Review		2	
<b>PROFESSIONAL ELECTIVES (4+ CREDITS)</b>				
<b>Course #</b>	<b>Course Title</b>	<b>Semester/Year</b>	<b>Credits</b>	<b>Grade</b>

<b>SCIENCE ELECTIVES (6-11 CREDITS)</b>				
Course #	Course Title	Semester/Year	Credits	Grade
<b>Minimum Credits for Graduation: 31</b>				

**Photo/Multimedia Release Form**

I authorize Michigan State University to audiotape, videotape and/or photograph my image and/or voice for use in educational, public service, and promotional programs.

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