

# PHM340 Drug-Tissue Interactions: General Principles of Pharmacology (Online)

## Course Description

Pharmacology as a discipline “stands on the shoulders” of the disciplines of physiology and biochemistry. The course includes material on “General Principles of Pharmacology” - essentially topics within Pharmacokinetics and Pharmacodynamics. The course does not include discussion of actions and uses of any drug classes or of individual drugs except where used to illustrate a principle of drug action. The approach to the course content is to focus on the basic science underlying drug effects in humans and other animals, and the course places this information in the context of clinical use of drugs in humans and other animals.

## Prerequisite Courses

MSU students must have completed PSL 250, or PSL310, or PSL431 and PSL432.

For non MSU students, there are not any prerequisite courses required by MSU for enrollment in this course although a strong biology background is certainly useful. Previous performance in a physiology course is the most likely predictor of performance in this course. (Non MSU students taking this pharmacology course as an elective course within their curriculum may be required by their home institution to have taken specific courses before enrolling in this course.)

## Course Schedule

The course is divided into three sections.

Section	Title
1	Pharmacokinetics <a href="#">Drug Administration, Distribution, Metabolism and Excretion</a> <a href="#">Contribution of Drug ADME to Drug Dose Schedule</a>
2	Pharmacodynamics <a href="#">Characteristics of Drug Binding to Receptors</a> <a href="#">Drug Action at the Cellular Level: Agonists, Antagonists, Allosteric Modulators</a> <a href="#">Drug Action at the Organismal Level: Dose Response Relationships</a> <a href="#">Drug Action at the Organismal Level: Drug Safety</a>
3	Unexpected Drug Effects <a href="#">Drug Tolerance</a> <a href="#">Drug Interactions</a>

## **Course Structure**

All course content is presented online using MSU's ANGEL system. Most of the material is presented in the form of written (online) text with numerous (text captioned) figures. Many figures are also accompanied by an audio description. There are also a significant number of animations to illustrate physiological processes and manipulation of these processes by drugs. In addition, there are a number of short (usually ten to twenty minute) recorded "lectures": these are audiovisual presentations prepared specifically for this course.

Within most text pages, students are asked content relevant questions for which answers are available at the click of the mouse. In addition, there are Discussion Forums in which the instructor can post a question and students can post their answers; students may also read and comment on the posted answers of their classmates.

The course is divided into three sections (as shown in the Course Schedule, above). Sections are made available to students in two week intervals. Within each section, students are free to access posted course content material at any time. At the end of each section, there is a closed book test: questions requiring a short written answer and multiple choice questions will be used. Students taking the course while enrolled in a degree program at an institution other than MSU may be required by that institution to take the exams under proctored conditions. Each test has a time limit - allowing students sufficient time to answer all questions but not enough time to consult sources for the correct answers! Each test is available to the students for a two day period. Each test can only be accessed once during that two day period by each student: once a student has started a test, it must be completed before the student logs off the ANGEL system.

Grades will be dependent solely on test performance. Grades will be based on the following scale: 92-100% 4.0, 83-91% 3.5, 76-82% 3.0, 64-75% 2.5, 53-63% 2.0, 48-62% 1.5, 42-47% 1.0, and < 42% 0.0.

## **Communication**

The ANGEL platform used for MSU's online courses has an integral e-mail system. Students may contact fellow students to discuss course content and may contact the instructor to ask questions regarding the course content.

Students may also communicate with one another other and with the instructor through Discussion Forums (see Course Structure, above).

Finally, students may discuss content and ask the instructor questions on content during weekly two hour Chatroom sessions - any number of students may enter the Chatroom simultaneously. Chatroom transcripts are saved for consultation by students at any time.

## **Text Books**

The students are not required to have a Pharmacology textbook for the course. However, students are encouraged to have access to a good textbook. Brenner and Stevens' "Pharmacology" is recommended.

## **Students with Disabilities**

Students with a disability and requiring different accommodations to complete assignments (including tests) in the course must contact the course instructor as soon as possible after the start of the semester.

## **Academic Integrity**

For MSU's policy on internet security, good citizenship, and privacy policy, visit <http://www.msu.edu/au>. Students should note that MSU and the instructor of this course adhere to strict policies on plagiarism.

## **Enrollment by Non MSU Students**

Non MSU students - students who are not currently enrolled at MSU in a degree program - may enroll in PHM340 Section 731 (Michigan residents) and Section 732 (residents of other states and countries) through MSU's Life Long Education (LLE) system. Prospective LLE students should visit MSU Admissions [http://admissions.msu.edu/admission/guest\\_lifelong.asp](http://admissions.msu.edu/admission/guest_lifelong.asp) to be admitted to the LLE system. After being admitted to the LLE system, students may register for PHM340 sections 731 & 732 at <http://www.schedule.msu.edu>.

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