



***Mechanisms of Disease:
Principles and Ethics of Biomedical
Research and Clinical Testing for A&P
Spring 2018***

HAPS Institute Graduate Credit Course
BI 698 offered in conjunction with Alverno College

2 Credits

Instructor:

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Description of this Course:

Anatomy and physiology primarily serves students going into allied health and medical professions. The level of factual knowledge covered in an A&P class can be overwhelming to students. However, educational research shows that brief clinical discussions in the course can facilitate content retention for students by reinforcing facts with relevant applications. New developments in biomedical research and pharmacological testing will be discussed in this course including information on animal-free research and computer simulation modeling. Also included are ethical considerations of biomedical research and clinical research trials. The content of the course is directly applicable to those teaching classes ranging from introductory human anatomy and physiology to upper level undergraduate courses in physiology. This course is designed to facilitate your teaching as well as updating your content knowledge biomedical and clinical research basics. This course will follow a hybrid format and will require at least 20 hours of coursework, divided into three components involving asynchronous on-line instruction, synchronous virtual discussions, and assignments.

Class conducted February 25 – April 23, 2018

Course Objectives:

Upon completion of this course, participants should be able to:

- Explain the basic principles of biomedical research.
- Describe the major technologies used in biomedical research.
- Explain the drug development and clinical trial process.
- Describe the difficult strategies that eliminate the use of animal models in biomedical and clinical research.
- Explain the pros and cons of alternative strategies to traditional biomedical and clinical research.
- Discuss the ethical issues associated with human subject research in biomedical and clinical research.
- Discuss the ethical issues associated with animal subject research in biomedical and clinical research.
- Utilize open-access Internet resources and tools to teaching biomedical and clinical research teaching in the classroom.
- Develop their own hypotheses about emerging biomedical and clinical research strategies.
- Design a learning tool, appropriate for undergraduate A&P students, that applies biomedical and clinical research within the context of an A&P course.

Required Course Materials:**Text:**

The Drug Hunters: The Improbable Quest to Discover New Medicines 1st Edition.
Publisher: Arcade Publishing; 1 edition (January 3, 2017) ISBN-13: 978-1628727180 ISBN-10: 1628727187.
(Available on Amazon.com books)

Synchronous Communication:

At least 6 times during the course we will have synchronous communication via Google Hangout or Skype to review a special reading. We will do an on-line poll to select a time we all can communicate.

On-line Course Management System:

Course materials will be available on the HAPS Google Classroom site. Sign in information for HAPS Institute BI 698 Principles and Ethics of Biomedical Research and Clinical Testing for A&P Spring 2018 will be sent to your HAPS e-mail account.

Evaluation:

Participants may earn a total of 100 points in the course, which will be graded on a pass/fail basis, with a "pass" grade requiring 65% of total points. Assignment questions will be assigned after each topic covered. Points will be assigned on the basis of the following criteria:

Completion of background readings and assignments	40
Contribution to on-line asynchronous discussions	40
Final Project	20
	100

All HAPS-I courses follow grading policies on a "credit / no credit" basis. Like many progressive graduate programs, HAPS-I does not use letter grades in our courses. However, a "credit" grade is equivalent to a letter grade of B or better.

A "credit" grade is earned by satisfactorily accomplishing a set of specific goals (at a "B" level or better) as outlined in this course syllabus and in the online course material as determined by the course faculty.

Course Schedule Spring 2017

Week	Topic and Activities	Materials*
February 26	Drug Discovery – Natural Products	Book: Chapters 1 &2 Posted Literature
March 5	Drug Discovery- Synthetic	Book: Chapters 3 &4 Posted Literature
March 8	Drug Development	Book: Chapter 5 Posted Literature
March 12	Legal Aspects of Drug Development & Testing	Book: Chapter 6 Posted Literature
March 19	Principles of Pharmacology	Book: Chapter 7 Posted Literature
March 26	Principles of Drug Trials and Informed Consent	Posted Literature
April 2	Drug Testing Issues	Posted Literature
April 9	Future Directions in Drug Development	Posted Literature
April 16	Future Directions in Drug Testing	
April 23	Conclusion and Final projects	

* Book readings: The Drug Hunters: The Improbable Quest to Discover New Medicines