

HUMAN PARASITOLOGY

Biology 545

MWF 11:30-12:20

Ackert Hall, Room 231

Spring 2012

Instructor: Dr. Kristin Michel
Office: 267 Chalmers Hall
Email: kmichel@ksu.edu
Phone: (785) 532 0161
Office Hours: Monday & Wednesday 12:30-13:30 PM. Other times by appointment.

Textbook:

Roberts LS, Janovy Jr J. 2009. Foundations of Parasitology, 8th ed., McGraw-Hill, New York. 701 pp. ISBN 978-0-07-302827-9. Copies of the older 7th edition that you might buy used are OK, too. There is an international version of the book available, which is fine to use. Please note however that buyers of used textbooks usually do not accept this version. A copy of the textbook is on reserve at Hale Library.

Overview:

This lecture course aims to teach the fundamentals of diagnosis, treatment, pathology, transmission, and control of human parasites. A large portion of the above is learned simply by knowing the life cycles of the parasites in question and, thus, how to break the chain of infection. Therefore, much of this course will concentrate on the basic life-cycles of parasites. There is nothing tricky about this course; most of it is straight memorization.

Outline:

As shown in the schedule on the next page, the class is divided into four main groups: Platyhelminthes [Digenes (flukes/trematodes) and Cestodes (tapeworms)], Nematodes, Protozoa, and Arthropods. Additional to the material provided in the lectures and the assigned book chapters, all students are expected to have reviewed the on-line image tutorial (available through the K-State online class site). Additional images that should also be useful can be found at the Animal/Human Parasitology image library, available on the same website.

For those of you opting to take the laboratory portion of the class, lectures have been designed to keep fairly close pace with the laboratory sessions, at least whenever possible. The laboratory manual for Biology 546 is also on-line, and you may wish to look that material over even if you are not enrolled in that course. There is a separate syllabus for Biology 546 available on its K-State on-line website.

NOTE: Biology 545 and the laboratory, Biology 546, are separate courses. You are NOT required to take the laboratory; it is optional. However, you MAY NOT take the laboratory without being concurrently (or previously) enrolled in the lecture portion of the course.

Course schedule (see next page):

Please note that changes are possible. All dates have also been entered into the online class calendar. Additional dates to remember:

21-Feb Last day to drop a regular session course without a W being recorded.

26-Mar Last day to drop a regular session course.

| DATE | Day | Lecture # | Topic | Book Chapter |
|--------|-----------|-----------|--|------------------|
| 18-Jan | Wednesday | 1 | Introduction to the course | 1 |
| 20-Jan | Friday | | Guest lecture - Dr. McCrea "Tropical Diseases in Historical Perspective" | |
| 23-Jan | Monday | 2 | Introduction to Platyhelminthes | 13 |
| 25-Jan | Wednesday | 3 | Introduction to Digenea, Echinostomatiformes | 15,17 |
| 27-Jan | Friday | 4 | Echinostomatiformes, Plagiorchiformes | 17, 18 |
| 30-Jan | Monday | 5 | Plagiorchiformes, Opisthorchiformes, Paramphistomiformes | 17, 18 |
| 1-Feb | Wednesday | 6 | Strigeiformes | 16 |
| 3-Feb | Friday | 7 | Review - Digenea | |
| 6-Feb | Monday | 8 | No class | |
| 8-Feb | Wednesday | 9 | Introduction to Cestoda | 20 |
| 10-Feb | Friday | 10 | Pseudophyllidea, Cyclophyllidea | 21 |
| 13-Feb | Monday | 11 | Extraintestinal tapeworms | 21 |
| 15-Feb | Wednesday | 12 | Review Section 1 - Platyhelminthes | 1,13,15-18,20,21 |
| 17-Feb | Friday | | EXAM 1 | |
| 20-Feb | Monday | 14 | Introduction to Nematodes | 22 |
| 22-Feb | Wednesday | 15 | Adenophorea: Trichocephalida (Trichuroidea, Trichinelloidea) | 23 |
| 24-Feb | Friday | 16 | Adenophorea; Secernentea: Rhabditia, Strongylida | 24, 25 |
| 27-Feb | Monday | 17 | Secernentea: Strongylida, Ascaridida | 25, 26, 27 |
| 29-Feb | Wednesday | 18 | Secernentea: Spirurida (Gnathostomatomorpha, Filarioidea) | 28, 29 |
| 2-Mar | Friday | 19 | Secernentea: Spirurida (Filarioidea, Dracunculoidea) | 29, 30 |
| 5-Mar | Monday | | Review Section 2 - Nematodes | 22-30 |
| 7-Mar | Wednesday | | EXAM 2 | |
| 9-Mar | Friday | 21 | Introduction to Protozoa | 4 |
| 12-Mar | Monday | 22 | Kinetoplasta | 5 |
| 14-Mar | Wednesday | 23 | Kinetoplasta | 5 |
| 16-Mar | Friday | 24 | Kinetoplasta/Flagellata | 5,6 |
| 19-Mar | Monday | | Spring Break | |
| 21-Mar | Wednesday | | Spring Break | |
| 23-Mar | Friday | | Spring Break | |
| 26-Mar | Monday | 25 | Kinetoplasta/Flagellata | 6 |
| 28-Mar | Wednesday | 26 | Amoebozoa | 7 |
| 30-Mar | Friday | 27 | Apicomplexa (Coccidia) | 8 |
| 2-Apr | Monday | 28 | Apicomplexa (Coccidia, Cryptosporidia, Haemosporina) | 8,9 |
| 4-Apr | Wednesday | 29 | Apicomplexa (Haemosporina, Piroplasma) | 9 |
| 6-Apr | Friday | 30 | Apicomplexa/Ciliophora | 9,10 |
| 9-Apr | Monday | | Review Section 3 - Protozoa | 4-10 |
| 11-Apr | Wednesday | | EXAM 3 | |
| 13-Apr | Friday | 32 | Introduction to Arthropoda, Arachnida | 33, 41 |
| 16-Apr | Monday | 33 | Arachnida (Acari) | 41 |
| 18-Apr | Wednesday | 34 | Hexapoda (Phthiraptera - Lice) | 36 |
| 20-Apr | Friday | 35 | Hexapoda (Hemiptera - True Bugs) | 37 |
| 23-Apr | Monday | 36 | Hexapoda (Siphonaptera - Fleas) | 38 |
| 25-Apr | Wednesday | | Guest lecture - Dr. Ortigao "sand fly-Leishmania interactions" | |
| 27-Apr | Friday | 38 | Hexapoda (Diptera) | 39 |
| 30-Apr | Monday | 39 | Hexapoda (Diptera) | 39 |
| 2-May | Wednesday | | Review Section 4 - Arthropoda | 33,36-39,41 |
| 4-May | Friday | | General class review - Sections 1-4 | |
| 7-May | Monday | | | |
| 10-May | Thursday | | COMPREHENSIVE FINAL EXAM (11:50 AM - 1:40 PM) | |

Exams and grading policy:

Points available in the course:

| Category | Maximum number of points |
|------------------------------------|--------------------------|
| Exam 1 | 100 |
| Exam 2 | 72 |
| Exam 3 | 100 |
| Comprehensive final exam | 100 |
| 4 quiz questions (one per section) | 8 (2 points each) |
| Presentation | 10 |
| Presentation evaluations | 10 |
| TOTAL | 400 |

Exams: An exam will follow each of the four main groups, comprising 372 total points. Exams will cover lecture material and assigned text chapters. There will be sample exam questions available through K-State online. However, please be advised that the format and content change somewhat year to year. **The final is comprehensive;** about 75% will be comprised of Arthropods and the other 25% from general material throughout the earlier part of the semester.

Reverse Quiz questions: Before each exam, we will review the material from the section in a separate review session. For these sessions, each of you will be asked to submit a brief question through K-State online, which we will discuss during the review.

Presentation: During most class periods, a team of two students will briefly give a powerpoint presentation and introduce a parasite to the class. The presentations will be short (5 minutes + 2 minutes for questions and answers) and will cover the life cycle, pathology and geographic distribution of the parasite and the disease it causes. Each student should participate in one presentation. Topics will be given out on a first-come first serve basis and a sign-up sheet will be handed out in the second class period. The presentations will be graded by everybody in the class on a 0-10 scale (10 being the best). A sample presentation is available in the Content section of the class website.

Presentation evaluation: Presentations will be judged by each student that attends the class using a standard evaluation form. A copy of the form is available in the content section of the class website. The evaluations will be completely confidential. Students that would like feedback on their presentations can either use office hours or make an appointment with the instructor. There will be up to 10 points credit for turning in evaluation forms.

There will be NO extra credits! Grading will be 90% (A), 80% (B), 70% (C), and 60% (D). In previous years the class average has been generally about 80%, so the grades are likely not to be curved.

Per University policy, rescheduling of the exam can be achieved if you have two or more other exams in courses with a catalog number LOWER than 545 within 24 hr of the Parasitology final (graduating seniors may take the exam early, however). Please contact me PRIOR to the exam if you need to reschedule.

Should you miss an exam due to a valid excuse such as illness, you will be permitted a make-up exam within 1 week of returning to class. These exams are more in depth and are exactly *twice* as long as those regularly scheduled. Hangovers are NOT

excused illnesses. If you miss your presentation due to a valid excuse such as illness, you will be permitted to submit a written report no shorter than 1,200 words within 2 weeks of returning to class.

If you have scheduled events that take you out of town on the day of an exam, for instance athletics, military exercises, etc., please make arrangements **ahead of time** and exams can be taken early. The same holds true for your presentation. The desire for an extended vacation or lengthy weekend is NOT a valid excuse.

Academic honesty:

Kansas State University has an Honor System based on personal integrity, which is presumed to be sufficient assurance that, in academic matters, one's work is performed honestly and without unauthorized assistance. Undergraduate and graduate students, by registration, acknowledge the jurisdiction of the Honor System. The policies and procedures of the Honor System apply to all full and part-time students enrolled in undergraduate and graduate courses on-campus, off-campus, and via distance learning.

The honor system website can be reached via the following URL:

<http://www.ksu.edu/honor>. A component vital to the Honor System is the inclusion of the Honor Pledge which applies to all assignments, examinations, or other course work undertaken by students. The Honor Pledge is implied, whether or not it is stated: "On my honor, as a student, I have neither given nor received unauthorized aid on this academic work." A grade of XF can result from a breach of academic honesty. The F indicates failure in the course; the X indicates the reason is an Honor Pledge violation.

Disabilities:

Any student with a disability who needs a classroom accommodation, access to technology or other academic assistance in this course should contact Disability Support Services (dss@k-state.edu) and/or the instructor. DSS serves students with a wide range of disabilities including, but not limited to, physical disabilities, sensory impairments, learning disabilities, attention deficit disorder, depression, and anxiety.

Classroom conduct:

All student activities in the University, including this course, are governed by the Student Judicial Conduct Code as outlined in the Student Governing Association By Laws, Article VI, Section 3, number 2. Students who engage in behavior that disrupts the learning environment may be asked to leave the class.

Copyright:

Copyright 2012 Kristin Michel as to this syllabus and all lectures. During this course students are prohibited from selling notes to or being paid for taking notes by any person or commercial firm without the express written permission of the professor teaching this course.

Campus Safety:

Kansas State University is committed to providing a safe teaching and learning environment for student and faculty members. In order to enhance your safety in the unlikely case of a campus emergency make sure that you know where and how to quickly exit your classroom and how to follow any emergency directives. To view additional campus emergency information go to the University's main page, www.k-state.edu, and click on the Emergency Information button.