

Course Syllabus

**Medical and Veterinary
Mycology**

PLPA 3290  VETMI 3290

Spring 2009

Professor Kathie T. Hodge

office hours: Fridays 11:00 AM –1:00 PM

401 Plant Science

phone: 255-5356/email: kh11@cornell.edu

Lectures: Tuesdays and Thursdays, 10:10–11:00 AM
Plant Science Bldg., Room 404

Summary of the course

This course provides an introduction to the fungi that cause human and animal disease. A series of lectures introduces topics including important fungi and the diseases they cause (ranging from athlete's foot to invasive pulmonary aspergillosis), ecology and epidemiology of animal pathogens, mycotoxins, disease management, and clinical approaches. An assignment allows students to focus deeply on a topic of particular interest.

Goals of this course

Surprisingly few people know anything about fungi, despite the fact that we're constantly surrounded by them: We breathe their spores; we eat their fermentations; we brave the diseases they cause. A relatively small set of fungi causes disease in animals, either directly by invading living tissues, or indirectly by producing toxins and allergens. The significance of fungi in human affairs has increased dramatically in recent years; we'll talk about why this is.

The course focuses on the life cycles and ecology of fungi, and much less so on the complexities of immunity or on clinical presentation. That's largely due to the bias of the instructor, who is a fungal biologist and has spent most of her career outside the medical and veterinary fields. Your big chance to focus on your own favorite aspect of disease biology will be through the poster assignment, so be sure to pick a topic that excites you.

In this course we will get together twice a week to learn about clinically important Fungi. We will discuss their biology and life cycles. Be occasionally grossed-out. Explore fungal sources in the environment. Learn some of the unique talents of infective organisms. We'll learn how fungi can be identified, using a microscope and via molecular approaches.

My expectations of you

- Show up promptly for every lecture.
- Listen to me (turn off your phone! no web surfing!) Feel curious.
- If you need to miss a class, let me know.
- Treat our exam and group project days as inviolate.

- Read the required readings promptly.
- Find out more whenever you're still curious.
- Work earnestly and cooperatively on the group project.
- Keep the *Code of Academic Integrity* in mind.

- Ask questions if you have them.

- I hope you emerge from the class with a broad understanding of fungal disease in humans and other animals, and a sense for the environmental and other reservoirs of pathogenic fungi.

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 Tentative Lecture Schedule
 Tuesday/Thursday 10:10–11:00
 404 Plant Science

Lecture	Topic
T Jan 20	Perspective and Intro: fungi and their relations with animals
R Jan 21	Basics of fungi that cause disease
T Jan 27	Fungal diversity; types of disease
R Jan 29	Dermatophytes I
T Feb 3	Dermatophytes II
R Feb 5	Topic Fair (we'll form groups and choose group topics for the poster assignment)
T Feb 10	Subcutaneous infection and mycetoma I
R Feb 12	Subcutaneous infection and mycetoma II
T Feb 17	MIDTERM EXAM I
R Feb 19	Subcutaneous infection: Sporotrichosis
T Feb 24	Systemic & invasive: Blastomycosis
R Feb 26	Systemic & invasive: Histoplasmosis
T Mar 3	Systemic & invasive: Coccidioidomycosis and Paracoccidioidomycosis
R Mar 5	Systemic & invasive: Cryptococcosis
T Mar 10	Yeasts; Candidiasis
R Mar 12	MIDTERM EXAM II
T Mar 17	Spring Break, no class
R Mar 19	Spring Break, no class
T Mar 24	Opportunistic infection: Zygomycosis
R Mar 26	Opportunistic infection: Aspergillosis
T Mar 31	Weird stuff I
R Apr 2	Weird stuff II
T Apr 7	Poster Session A
R Apr 9	Poster Session B
T Apr 14	Antifungal drugs and drug resistance
R Apr 16	Medicinal fungi / drugs from fungi
T Apr 21	Mycotoxins I
R Apr 23	Mycotoxins II ; Mushroom poisoning
T Apr 28	Fungi and air quality
R Apr 30	Emerging fungal diseases; mycology's future

COMPREHENSIVE FINAL EXAMINATION: May 8th, 2–4:30pm
 (exam location to be announced by Cornell after March 27)

Grades

- 20% Midterm Exam I
- 20% Midterm Exam II
- 40% Final Exam (comprehensive)
- 20% Group poster presentation

Participation

I expect you to attend all the lectures in this class. Although no part of your grade is explicitly designated for participation, poor participation may be reflected in deductions of up to 10% from your overall grade. In this I examine **attendance** at lectures, and also the **consideration** you show for your peers in **helping** each other learn.

Exams

There are two midterm exams, held during lecture periods. The first covers all material treated up to that date. The second midterm mainly covers material treated after the first prelim (and assumes that you still remember the basics). The Final Examination covers all the information you've learned during the course, including the required readings and information you learned at our poster session.

The Poster Assignment

The main assignment of the class counts for 20% of the course grade. You'll work in small groups to develop an informational poster that focuses deeply on your chosen topic in medical and veterinary biology. We'll hold two Poster Sessions later in the semester. At one you will present your poster and field questions about it; at the other you will explore the posters of others and ask questions of the presenters. Grades will be assigned by the professor and will incorporate peer evaluation. We'll discuss the details during our Topic Fair, early in the semester.

Academic Integrity

It is costing you a lot of money to be here to learn, so do it right. Plagiarism, cheating, and vandalism of the work of your peers are a disservice to yourself as well as your professor. If you are having trouble, or don't understand the point of an exercise, please talk to the professor. Cornell's "**Code of Academic Integrity**" fully describes the behaviors I'm talking about, and is recommended reading. Violating this code will result in a zero score on the exam or assignment concerned, possibly in your suspension from the course, and perhaps even a permanent notation on your student record. Your professor isn't jaded yet and takes this stuff seriously. So it's not worth it.

The Code: <http://theuniversityfaculty.cornell.edu/pdfs/AIAckWorkRev90620.pdf>

Help is available

Of course, of course! Please do ask for help when you need it. Professor Hodge's office hours are on **Fridays, 11am through 1pm**. At other times, make an appointment with Professor Hodge (phone 255-5356; email kh11@cornell.edu) or try your teaching assistant. Professor Hodge's office and laboratory are in rm. 401 Plant Science, right next to our classroom.