## Biol 380: Disease Biology Spring 2011

Instructor:Dr. Vasyl TkachOffice:215 StarcherOffice hours:11-12 a.m. MF, by appointmentPhone:777-4675E-mail:vasyl.tkach@und.edu

**LECTURE**: 3 credits.

**COURSE OUTLINE**: Students will learn about nature and main causes of infectious and parasitic disease in wild animals, ways of transmission of most important disease agents (prions, viruses, bacteria, fungi, protozoans and animal multicellular parasites) in natural populations and effect of disease on individual organisms and populations. Much of the course will be devoted to a survey of most important diseases of significance to mammalian, avian and fish populations. If time allows, several amphibian and reptilian diseases will be discussed. The coverage will mainly be concerned with the diseases of wildlife in North America, but will also include some selected diseases important in other parts of the world. Particular attention will be given to zoonotic diseases of humans, especially so-called emerging diseases. Some questions of spatial distribution and landscape disease ecology in studying wildlife and diseases will be briefly discussed.

**Lecture textbook**: Textbook is not required. The following book is recommended and covers the first half of the course: Gary A. Wobeser. Essentials of Disease in Wild Animals. (Blackwell Publishing, 2006; ISBN 0-8138-0589-4)

Lecture schedule: SH 105. 12:30 PM - 1:45 PM TR.

Attendance: I will not take attendance and I will not repeat lectures or provide notes other than some Blackboard handouts. Consistent attendance and note-taking is very important. Make-up tests will be allowed only for valid excused absences and are entirely at the instructor's discretion.

**Tests** will be completed in a set period of time at the beginning of a lecture. Students will be required to hand in their quiz at the end of this period of time - don't be late to class!

## All cell phones should be turned off for the duration of the lecture.

**Grading**: final grades will be based on a total of <u>approximately</u> 260 points; the following breakdown is an <u>estimate</u>—the number of points may vary slightly

Point Source:	<b>Possible Points:</b>	Grading Scale:
5 tests: 5 x 40 pts	200	89.6 – 100 % A
Paper/presentation:	50	79.6 – 89.5 % B
TOTAL	<b>250</b> (Approximate)	69.6 – 79.5 % C
		59.6 - 69.5 % D
		< 59.6 % F

**Special Note**: If you need accommodations in this course because of a disability, please make an appointment with Dr. Tkach as soon as possible.

## Tentative lecture schedule and topics

Week	Lecture Dates	Lecture topic
1	Tue. Jan 11	Syllabus. Infection and disease.
	Thu. Jan 13	Introduction. What causes disease? Macro- and microparasites.
2	Tue. Jan 18	Damage, pathogenicity and virulence. Animal defenses against disease
	Thu. Jan 20	agents.
3	Tue. Jan 25	Environmental interactions.
	Thu. Jan 27	Cont.
4	Tue. Feb 1	Transmission of infectious and parasitic diseases.
	Thu. Feb 3	Test 1. Cont.
5	Tue. Feb 8	Effect of disease on individual animals. Effect of disease on
	Thu. Feb 10	populations and species.
6	Tue. Feb 15	Diseases shared with humans and domestic animals.
	Thu. Feb 17	Paper presentations/seminar
7	Tue. Feb 22	Emerging infectious diseases
	Thu. Feb 24	Cont.
8	Tue. Mar 1	Invited lecture.
	Thu. Mar 3	Test 2.
9	Tue. Mar 8	Disease management and role of pathogens in wildlife conservation
	Thu. Mar 10	Invited lecture.
10	Tue. Mar 15	SPRING BREAK (NO CLASSES)
	Thu. Mar 17	SPRING BREAK (NO CLASSES)
11	Tue. Mar 22	Paper presentations/seminar.
	Thu. Mar 24	Diseases of fish.
12	Tue. Mar 29	Test 3. Cont.
	Thu. Mar 31	Cont.
13	Tue. Apr 5	Diseases of amphibians and reptiles
	Thu. Apr 7	Diseases of birds
14	Tue. Apr 12	Test 4. Cont.
	Thu. Apr 14	Cont.
15	Tue. Apr 19	Paper presentations/seminar
	Thu. Apr 21	Diseases of mammals
16	Tue. Apr 26	Cont.
	Thu. Apr 28	Cont.
17	Tue. May 3	Cont. and Conclusions
	Thu. May 5	Test 5.