BIOL 315 - Animal Diseases and Parasites

Instructor

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Course Description

***The Official Version*:** Biological aspects of infectious diseases, parasites and environmental contaminants in wild vertebrate animal populations. 3.0 Credit Hours *Prerequisites*: BIOL 307 (Ichthyology and herpetology) or BIOL 308 (Ornithology and mammalogy) Minimum Grade of D. 3.0 Credit Hours.

My 2 ¢.- Competition, predation and parasitism are the main 3 types of biotic interactions, but whereas competition and predation have long been included in ecology courses, parasitism has traditionally been studied separately, largely in a natural history context, in which parasites and their life cycles were identified, surveyed and memorized. Well, the tide has turned! Diseases and parasitism are now considered to be crucial to the ecology of any biological system; the scope of their effects range form the individual to the community, and involve physiology, speciation, immunity, behaviour, sexual selection, population dynamics, etc.

This will not be a "traditional" parasitology course, which usually follow the taxon-by-taxon approach to parasitology, nor will it be a course in veterinary medicine, which often follow the organ system by organ system approach. It will be more along the lines of the ecology of disease and parasites. In the lab section we will survey the traditional parasite taxa, conduct a few relevant exercises, and learn a few parasitological techniques. In the lecture section I will deal with the evolutionary and ecological aspects of parasites and diseases, and the processes of disease investigation in the wild.

This is a third year course, so the ability to memorize vast quantities of information will only get you half way there. Whenever possible I will emphasize comprehending concepts, not memorizing facts. You must know the facts and understand the concepts such that you are able to recognize them in different situations, and apply them in new and unexpected ways. You will be tested on your ability to extrapolate, integrate, estimate, conceptualize and hypothesize.

Schedule:

Lectures:	WF 8:30 am - 9:20 am Agora 7-158 Jan 04, 2005 - Apr 08, 2005
Labs:	T 11:30 am - 2:20 pm Teaching Lab Building 8-325/8-317
	T 3:00 pm - 5:50 pm Teaching Lab Building 8-325/8-317
Final Exam	TBA

Consider lectures to be a scheduled, moderated, conversation between me and you (singular you), during which I will be the moderator and I will be doing most of the talking (but not ALL, please participate). Disruptive behaviour on any type (repeated tardiness, cells phones, noise, side conversations, 3 course meals, paper airplanes, etc.) will not be tolerated. We are no longer in high school so let us behave accordingly. This is completely unnecessary, right?

Laboratories.- Students are expected to attend the laboratory session for which they are registered. Often there shall be an introductory talk at the start, so punctuality is paramount. Afterwards you are free to work at your own leisure, and leave when you are comfortably familiar with the material, when appropriate.

Resources

Textbook.- There shall be no official textbook, as I will be using a variety of resources, which I will introduce in class. You are encouraged to purchase one or several of these, depending on your goals and needs. In class I will discuss the strengths, weaknesses and usefulness of each.

Some Interesting Books

Wobeser. G. A. 1994. Investigation and management of disease in wild animals. Plenum Publishing.

Mathews. B. E. 1998. An introduction to parasitology. Cambridge University Press.

Dailey, M. D. 1996. Essentials of parasitology, 6th edition. McGraw-Hill.

Bush et al. 2001. Parasitism: the ecology and diversity of animal parasites. Cambridge University Press.

Roberts, L., and Janovy, J., Jr. 2005. Foundations of Parasitology. 7th Edition. McGraw-Hill

Clayton, D. H. and Moore, J. 1997. Host-parasite evolution: general principles and avian models. Oxford University Press.

Lozano, G. A. 1998. Parasitic stress and self-medication in wild animals. In . Møller, A. P., Milinski, M., and Slater, P. J. B. (Eds.). Advances in the Study of Behavior Volume 27, Stress and Behavior. Chapter 6, pp. 291-317. Academic Press, London.

Moore, J. 2002. Parasites and the behaviour of animals. Oxford University Press.

Web sites

Classroom success
Parasitology manual
Parasites of domestic animals
George A. Lozano
Animal Diseases NWT
Animal Diseases BC

Grading and Exams

Exams will cover all previously covered material, not just the material covered since the previous exam, or the last month, or the last week.

Evaluation	**% of total**
Lab Assignments	25
Paper	10
Midterm 1	15
Midterm 2	20
Final	30

Academic Honesty.- Please check UNBC's official Undergraduate Regulations and Policies, particularly section IV-44.

Etc...

For lecture and lab schedules, lectures in pdf formats and other course information please check the course web site.