UNBC College of Science and Management

ANIMAL PHYSIOLOGY
BIOL 321
WINTER 2019

Instructor: Dr. Katherine Parker
Office: New Lab 8-243
Phone: 960-5812
Office Hours: M 11:00-1:00

Lecture: W F 8:30-9:20 in 7-152
Labs: M 8:00-10:50 in Lab 8-325
TA: Marina Giovannoni

COURSE OBJECTIVES

This course is designed to integrate physiological and environmental principles to understand how living organisms function successfully in their environments. The relationships between morphological structure and physiological processes will be discussed relative to animal adaptations to environmental constraints.

COURSE REQUIREMENTS

1. Prerequisite: BIOL 307 or 308.
2. There will be 2 one-hour exams and a comprehensive final, covering lecture materials.
3. Worksheets associated with the laboratory component of the course must be completed during each laboratory session. Laboratory principles and concepts will be tested on 2 lab tests.
4. No make-up exams will be allowed except in cases of medical emergency, validated in writing by a medical doctor.

GRADING

Exams (2)	200 pts (100 ea)	40%
Laboratory Practical Tests (2)	140 pts (70 ea)	28%
Laboratory Worksheets	35 pts	7%
Final Exam	125 pts	25%
Total	**500 pts**	**100%**

RECOMMENDED (also on reserve in the UNBC library)

Text: Hill, R.W., G.A. Wyse, and M. Anderson. 2016. Animal Physiology. 4th ed. Sinauer Asssociates, Inc., Sutherland, MA. 828 pp.

Course Manual in UNBC Bookstore: Lecture Summaries, Laboratory Procedures
**** **Please bring these course materials to class and lab**.

ADDITIONAL MATERIALS: Accessible at UNBC Student Drive S:\BIOL321

ACADEMIC DISHONESTY

University regulations strictly forbid academic dishonesty of any type, including plagiarism, cheating during exams, or misrepresenting the nature of your involvement in any assigned work. Students involved in such acts can receive an automatic F in the course.

USE OF ELECTRONIC MEDIA DURING LECTURES AND LABS

Students may use laptops, tablet computers, and similar devices for taking notes during the lectures and labs. The use of any electronic device for any other purpose (such as e-mail, web browsing, games, texting, networking, or any other use that disturbs or disrupts the class) is not permitted, as a courtesy to others in the class. Lectures and labs may not be photographed or recorded unless there is special permission from the instructor.

SPECIAL ACADEMIC ACCOMMODATION

Students who, because of a disability, may have need for special academic accommodation, should come and discuss this with me as early as possible during the course. They also may wish to contact the Access Resource Centre located in the Teaching and Learning Centre, Room 10-1048.

DATE		**LECTURE TOPICS*** (readings in Hill et al. 2016 text)	
Jan	4	Introduction	(Chapter 1: 11-26)
	9-11	Gas exchange and respiratory systems	(Chapters 22,23: 585-626)
	16-18	Blood	(Chapter 24: 635-663)
	23-25	Circulation	(Chapters 25,26: 667-692, 701-718)
	30-1	Digestion	(Chapter 6: 129-158)
Feb	6	**Exam**	
	8-13	Energy metabolism	(Chapter 7: 165-185)
	15	Temperature adaptation	(Chapter 10: 233-244)
	18-22	*Winter break: no classes*	
	27-6	Terrestrial and aquatic thermoregulation	(Chapter 10: 255-283, 11: 288-297)
Mar	8	**Exam**	
	13	Muscle and movement	(Chapter 20: 537-562)
	15-20	Neural integration	(Chapters 12,13: 305-313, 320-321, 330-351)
	22	Water/osmotic regulation	(Chapters 27,28: 723-727, 737-758)
	27	Terrestrial water balance	(Chapter 27,28: 733-737, 763-777)
	29-3	Excretion	(Chapters 29,30: 779-783, 788-802)
Apr	5	Finish and review	
	8-18	**Final exams**	

DATE		**LABORATORY SCHEDULE***
Jan	14	Respiration and pulmonary function
	21	Blood chemistry
	28	Heart rate and blood pressure
Feb	4	Electrocardiogram (ECG)
	11	Veterinary examination (Dr. Janelle Merritt)
	18	*Winter break: no lab*
	25	**Lab test**
Mar	4	Energy metabolism
	11	Sensory physiology: sight, sound, touch
	18	Muscle dynamometry and EMG
	25	Activity, microcirculation, aging (Dr. Geoff Payne)
Apr	1	**Lab test**

***** may be amended if necessary

Due Dates	
W 6 Feb	EXAM 1
M 25 Feb	Lab Test 1
F 8 Mar	EXAM 2
M 1 Apr	Lab Test 2