

## BIPN 106, Comparative Physiology - SYLLABUS

Winter Quarter, 2012

Page 1

Lecture	Date	Topic	Reading in Eckert, 5th edition
1	Jan. 9	<u>Section: Statement of the problem</u> Animal phylogeny	-
2	11	Homeostasis (relating the internal and external environments) and the importance of surfaces	pp. 3-14
3	13	<u>Section: Acquiring and distributing "commodities"</u> Who needs a distribution system, and how do they manage it?	pp. 471-481, 488-495
	16	<b>MARTIN LUTHER KING HOLIDAY (no lecture)</b>	
4	18	Circulatory function	-----
5	20	Open and closed circulatory systems	pp.
6	23	Regulation of cardiovascular function	pp. 519-523
7	25	Respiration: the interface between the inner and outer environment	pp. 525-539, 545-562
8	27	Regulation of respiration	pp. 564-568
9	30	Respiration: life under unusual circumstances	pp. 568-572
	Feb. 1	<b>FIRST HOUR EXAM (7:00 – 8:20 p.m.; no lecture)</b>	
10	3	<u>Section: Maintaining internal conditions</u> The challenges of high altitude	-----
11	6	Regulating pH	pp. 539-544
12	8	Body fluids: regulating osmolarity and water content in the body	pp. 579-593
13	10	Body fluids: regulating volume	-----
14	13	Body fluids: the vertebrate kidney	pp. 593-607, 611-615
15	15	Body fluids: other vertebrate regulatory mechanisms	pp. 615-621

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Page 2

Lecture	Date	Topic	Reading
16	17	Body fluids: invertebrate mechanisms	pp. 621-624
	20	<b>PRESIDENTS' DAY HOLIDAY (no lecture)</b>	
17	22	Handling nitrogenous wastes	pp. 624-628
		<i>Section: Energy relationships with the environment</i>	
18	24	Acquiring energy: feeding, "farming," digestion	pp. 637-648, 659-665
19	27	Acquiring energy: digestion and absorption	
	29	<b>SECOND HOUR EXAM (7 - 8:20 p.m., no lecture)</b>	
20	Mar. 2	What does it take to be a successful parasite or a successful host? <b>Guest speaker: Dr. Deborah Kristan</b>	
21	5	Using energy: basal metabolism and the effects of body size	pp. 667-681
22	7	Temperature: environmental diversity	pp. 700-707
23	9	Temperature: regulation vs. conforming	pp. 707-725
24	12	Temperature: adaptations to special circumstances	pp. 730-735
25	14	Locomotion: muscle contraction	pp. 360-375, 379-387
26	16	Locomotion: properties of muscles	pp. 394-411

**The FINAL EXAM is Wednesday, March 21, 8 a.m. to 11 a.m.**