

Syllabus: Comparative Physiology
Florida International University, Department of Biological sciences
PCB 4724 - U01, Fall 2018

Class number: 86330

Instructor: Fernando Gabriel Noriega

Web page Course: <http://faculty.fiu.edu/~noriegaf/NoriegaClass.htm>

Lectures: Tuesdays-Thursdays 9.30 AM-10.45 AM

Room: Chem & Physics 111

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Office hours: Thursdays 2 PM- 4 PM

Prerequisites: General Biology I and II, Organic Chemistry I

Course Objectives: To use a comparative approach to study how physiological processes in groups of unrelated animals have evolved to cope with similar environmental challenges.

Text: **Animal Physiology**, Hill, Wyse and Anderson. 2016, 4nd edition. Sinauer Associates, MA. ISBN 9781605354712. **REQUIRED (1st, 2nd and 3rd editions are accepted)**

Grading: There will be a total of 100 combined earnable points.

- 30 points will come from Quizzes.
- 10 points will come from a paper.
- 30 points will come from a Midterm exam.
- 30 points will come from a Final exam.

Quizzes: There will be a short quiz during the first 10 minutes of most classes. If you are late, the time is lost. Each quiz is a single question that you must answer with a short and concise paragraph. You will be permitted to drop 20% of quiz scores in determining your final quiz grade, so the 80% highest quiz scores will be used to determine your quiz grade. The quizzes will cover material from the lectures and the assigned reading.

Papers: Oral presentation of a paper on topic and format to be discussed.

Midterm and Final exams: they will consist of written answers to questions in the same format as the daily quiz.

Numeric Grade Equivalents:

A = 90% - 100% (89= A-)

B = 80% - 88% (79= B-)

C = 70% - 78% (69= C-)

D = 60% - 68%

F = Below 60%

Lecture and Activities Schedule (**subject to change**)

Date	Topic	Required Reading
Tu 8/21	Introduction (1)	Chapter 1
Th 8/23	Fundamentals of Physiology (2)	Chapter 2
Tu 8/28	Fundamentals of Physiology (3)	Chapter 5
Th 8/30	Comparative Physiology in the post-genomic era (4)	Chapter 3, 4
<i>II. Food, Energy and Temperature</i>		
Tu 9/4	Nutrition and feeding (5)	Chapter 6
Th 9/6	Digestion (6)	Chapter 6
Tu 9/11	Energy Metabolism I (7)	Chapter 7- 8
Th 9/13	Energy Metabolism II (8)	Chapter 8-9
Tu 9/18	Thermoregulation I (9)	Chapter 10
Th 9/29	Thermoregulation II (10)	Chapter 10
<i>III. Integrating Systems</i>		
Tu 9/25	Neurobiology I (11)	Chapter 12, 13, 15
Th 9/27	Neurobiology II (12)	Chapter 12, 13, 15
Tu 10/2	Sensory physiology (13)	Chapter 14
Th 10/4	MIDTERM EXAM (14)	Chapters 1-14
Tu 10/9	Endocrinology (15)	Chapter 16
Th 10/11	Muscle (16)	Chapters 19-20
<i>V. Gas exchange and internal transport</i>		
Tu 10/16	Respiration (17)	Chapter 22,23, 24
Th 10/18	Paper discussion; (18) Groups 1 and 2	
Tu 10/23	Paper discussion; (19) Groups 3 and 4	
Th 10/25	Paper discussion; (20) Groups 5 and 6	
Tu 10/30	Paper discussion: (21) Groups 7 and 8	
Th 11/1	Paper Discussion (22) Groups 9 and 10	
Tu 11/6	Paper Discussion (23) Groups 11 and 12	
Th 11/8	Circulation (24)	Chapter 25
<i>VI. Water, Salt and Excretion</i>		
Tu 11/13	Water and salt physiology I (25)	Chapter 27,28
Th 11/15	Water and salt physiology II (26)	Chapter 27,28
Tu 11/20	Excretion (27)	Chapter 29
Tu 11/27	Environmental Physiology (28)	
Th 11/29	Review	
Tu 12/4	FINAL EXAM	Chapters 16-29