

Course Syllabus
BISC 538 Hormones and Behavior

Instructor: Dr. Christopher Leary
Semester: Fall 2019
Lecture: Shoemaker Room 408
Lecture times: M,W,F 11:00-11:50

Office Location: Shoemaker Room 416
Office Hours: 8-11:00, Mon & Wed
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Overview and Objectives: This course will provide an overview of how hormones affect behavior and how behavior affects endocrine systems. To understand these relationships we will first briefly cover some basic principles of endocrinology with an emphasis on methods used in endocrinology, sources and classes of hormones, receptors and target tissues, and mechanisms of action and regulation. We will then explore hormone-behavior relationships by focusing on classic studies in behavioral endocrinology that continue to direct research in the discipline even today. This course will involve a considerable amount of reading from the text book as well as the primary literature. Upon completion of this course, students are expected to be familiar with methods used, major themes in the discipline, and literature on those topics. Students are also expected to be capable of critically evaluating the literature (and information provided through mass-media) and designing experimental approaches to studying hormone-behavior relationships.

Text: “An Introduction to Behavioral Endocrinology” 4th ed., by Randy J. Nelson.

Attendance: You are responsible for all information and material provided during class. Attendance is expected and may be recorded each day of class. Participation in class discussions is a major part of your grade in this course (see below)! *To comply with attendance verification requirements, a report of your attendance will be made during the first two weeks of class.*

Cell Phones: Please turn your cell phones off before entering the classroom.

Exam and quiz make-up policy: Students can make-up missed exams or quizzes under the following circumstances: 1) illness, 2) family emergency or 3) University-sponsored function. Under such circumstances, written documentation must be provided to make-up exams. I must be contacted either before the exam/quiz or within 24 hours after the exam/quiz is given to arrange a time to make-up the exam.

Academic integrity: In cases involving academic dishonesty or misconduct, procedures outlined by the University Academic Discipline Committee will be followed.

Lecture schedule:

<u>Date</u>	<u>Text Chapter</u>	<u>Topic</u>
Week 1 (Aug 26-30)	1	Introduction: What are hormones and how can we study hormone-behavior relationships?
Week 2 (Sept 3-6) Labor Day (Mon, Sept 2 nd)	2	What types of hormones are there, what do they do to alter behavior, and how are they regulated?

Week 3 (Sept 9-13)	3	Sexual differences in behavior: hormones, ontogeny and differentiation <u>Reading:</u> Organization, activation and alternative mating tactics
Week 4 (Sept 16-20)	4	Sexual differences in behavior: courtship, play, cognitive abilities <u>Reading:</u> Hormones and gender identity
Week 5 (Sept 23-27)	5	Male reproductive behavior <u>Reading:</u> The Immunocompetence Handicap Hypothesis and elaborate male traits Exam I (100 pts)
Week 6 (Sept 30-Oct 4)	6	Female reproductive behavior <u>Reading:</u> The effects of male signals on female endocrinology and the hormonal basis for female selectivity
Week 7 (Oct 7-11)	7	Parental behavior <u>Reading:</u> Offspring, hormones, and the Challenge Hypothesis
Week 8 (Oct 14-18)	8	Social behavior <u>Reading:</u> Hormones, aggression, dominance, and defeat
Week 9 (Oct 21-25)	9	Homeostasis and Behavior <u>Reading:</u> Hormones, diet, and energy balance
Week 10 (Oct 28- Nov 1)	10	Biological Rhythms Exam II (100 pts)
Week 11 (Nov 4- 8)	11	Stress
Week 12 (Nov 11-15)	11	More stress <u>Reading:</u> Genomic and non-genomic effects of stress on reproductive axis and behavior

Week 13 (Nov 18-22)		What have we done to the environment?
		<u>Reading:</u> Alligators, hormones and environmental contaminants
Week 14 (Nov 25-29)		THANKSGIVING HOLIDAY
Week 15 (Dec 2-6)	13	Endocrine Disorders
Week 16 (Dec 9-13)		Final Exam (100 pts)

**There will be a total of 5 quizzes (10 pts each), 2 lecture exams (100 pts each), and a comprehensive final exam (100 pts). All students enrolled in the course are required to write two brief summaries (25 pts each) on topics of your choice (*Note – topic must be approved).

**In addition to the above requirements, graduate students enrolled in the course are expected to lead one discussion based on a paper of your choice (with my approval). A paper will be assigned if you cannot find a paper that is appropriate. It is expected that students presenting papers will pursue additional sources of information and be versed on the topic before presentation (i.e., you should be capable of answering detailed questions about the topic following your presentation).

Graduate students enrolled in the course are also required to write a detailed grant proposal on a topic of your choice. This report should be in the general form of a grant proposal to a major granting agency and, thus, should be carefully and strategically written to include a thorough background on the topic, the question(s) of interest, why it is important, and what steps you would take (experimental design and techniques) to pursue your question(s). Graduate students are encouraged to consult with me early in the semester to discuss potential ideas.

GRADE DISTRIBUTION

***Please note that participation in class discussions is a major part of your grade!**

*Participation in class discussions.....	100 points
2 Exams (100 points each).....	200 points
Comprehensive Final Exam (100 points).....	100 points
5 Quizzes (10 points each).....	50 points
2 Reports (25 points each).....	50 points

Total 500 points

Graduate students:

Presentation (25 points).....	25 points
Grant Proposal (75 points).....	75 points

Total 600 points

Grading Scale: The “plus/minus” grade system is not used in this course. Final grades are calculated based on the percentage of the total points earned.

Final grades: A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = 59% or less