



## Zoology 603: Endocrinology (Fall 2018)

<https://canvas.wisc.edu/courses/119306>

### Meeting Time and Location

Tuesday and Thursday, 4:00-5:15 pm, 168 Noland Hall

### Instructional Mode

Face-to-face, supplemented by online materials and practice test questions.

### Credit Hours - 3 credits

This class meets for two 75-minute class periods each week over the fall semester and carries the expectation that students will work on course learning activities (reading, writing, problem sets, studying, etc) for about 2 hours out of classroom for every class period. See the schedule below for details of objectives, lecture topics and grading.

## INSTRUCTORS AND TEACHING ASSISTANTS

### Tammy Greco, Ph.D. ([tlgreco@wisc.edu](mailto:tlgreco@wisc.edu))

Available immediately following class. A review session will be held before each exam (during class time). Also available by appointment.

## OFFICIAL COURSE DESCRIPTION

### Course Description

This class provides an introduction to the role that hormones play in a variety of physiological processes and behaviors from a molecular to a systems level. Topics include hormonal involvement in growth, development, homeostasis, reproduction, and behavior, with an emphasis on vertebrate systems. **Enrollment info:** Background in biochemistry/ cell-molecular biology recommended but not required.

**Requisites:** None

**Course Designation:** Breadth - Biological Sci. Counts toward the Natural Sci req Level - Advanced

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

## LEARNING OUTCOMES

### Course Learning Outcomes

- Understand the major hormones involved in vertebrate homeostasis, know where they are made, where they act, and describe receptor mediated processes.
- Compare/contrast steroid vs protein hormone action
- Analyze experimental results to identify disruptions in endocrine processes.
- Interpret results from published experiments (tabular or graphical) and generate a written explanation for the findings.

## SCHEDULE OF LECTURE TOPICS\*

Date	Lecture	What is happening during class?
Sept 6	1	Introduction to the class
Sept 11	2	Overarching themes in Endocrinology
Sept 13	3	Hormone receptor action: intracellular vs membrane receptors
Sept 18	4	Classical and contemporary methods in hormone research
Sept 20	5	The endocrine hypothalamus
Sept 25	6	Hormones of the anterior pituitary - feedback loops
Sept 27	7	Investigating disrupted feedback loops
Oct 2	8	Thyroid Hormone Action
Oct 4		Review: Putting it all together (Lectures 2-8)
Oct 9		<b>EXAM 1 - 100 pts</b>
Oct 11	9	Overview related to energy homeostasis and growth
Oct 16	10	Growth Hormone
Oct 18	11	Hormones of the adrenal gland
Oct 23	12	Hormones that regulate Na <sup>+</sup> /water/and osmolarity
Oct 25	13	Gastrointestinal hormones and behaviors
Oct 30	14	Glucose homeostasis
Nov 1	15	Ca <sup>++</sup> homeostasis
Nov 6		Review - Putting it all together (Lectures 9-15)
Nov 8		<b>EXAM 2 - 100 pts</b>
Nov 13	16	Genes involved in sexual differentiation
Nov 15	17	Sex steroid biosynthesis
Nov 20	18	Female reproductive system
Nov 22		<b>Happy Thanksgiving!</b>
Nov 27	19	Male reproductive system
Nov 29	20	Puberty and behaviors supporting reproductive success
Dec 4	21	Hormones of pregnancy and parturition
Dec 6	22	Pineal gland, POMC, and endocannabinoid receptors
Dec 11		Review - Putting it all together (Lectures 16-22)
Dec 17	<b>MONDAY</b>	<b>FINAL EXAM - EXAM 3 (ONLINE OPTION)</b>

\* Topics and schedule are subject to change but Exam dates are set.

## GRADING

- Exam 1: 100 pts
- Exam 2: 100 pts
- Exam 3: 100 pts

- A = 93-100%
- A-B = 90-92%
- B = 81-89%
- B-C = 79-80%
- C = 70-78%
- D = 60-69%

## REQUIRED TEXTBOOK, SOFTWARE & OTHER COURSE MATERIALS

There is not a required text. Background readings, articles, and class materials will be posted on the course Canvas site.

## EXAMS

- There will be two in-class exams and a final exam.
- The third/final exam is scheduled for Dec 17 and will cover the last section (not comprehensive). Since graduation occurs before the final exam, students will have the option to take the third/final exam online.
- Please plan to attend the exams at the scheduled times. There are limited options for make-up exams.

## RULES, RIGHTS & RESPONSIBILITIES

- See the Guide's to [Rules, Rights and Responsibilities](#)
- The instructor may not be aware of all religious holidays during the semester. If any exam conflicts with any religious celebration, please let the instructor know at the beginning of the semester.

## ACADEMIC INTEGRITY

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to [studentconduct.wiscweb.wisc.edu/academic-integrity/](http://studentconduct.wiscweb.wisc.edu/academic-integrity/).

## ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

**McBurney Disability Resource Center syllabus statement:** "The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with

disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA." <http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php>

## **DIVERSITY & INCLUSION**

**Institutional statement on diversity:** "Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world." <https://diversity.wisc.edu/>

## **SAFETY**

If a student feels unsafe or threatened in any way either in class or outside of class, please let the instructor know as soon as possible. Also, note that since the class meets from 4:00-5:15 pm, there are times during the semester when it will be dark after class. Walk in groups and/or make plans to take safe routes to and from class.