

COURSE NAME; NUMBER; SEMESTER:

Recent Advances in Endocrinology
16:340:612 Spring 2021

MEETING DAYS, TIMES, AND PLACE:

Due to COVID-19 this class will be taught in a SYNCHRONOUS REMOTE format.
Class meetings will be held “live” on Monday 3:00 to 5:15 PM (EST).
Meetings will be by Canvas Zoom (see class website).

COURSE COORDINATOR:

Dr. Elizabeth Snyder	328 Foran Hall (848) 932-6377	Office hours: By appointment elizabeth.snyder@rutgers.edu
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INSTRUCTORS:

Dr. Nicholas Bello	121 Bartlett Hall (848) 932-2966	Office hours: By appointment ntbello@rutgers.edu
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Dr. Troy Roepke	305B Bartlett Hall (848) 932-9454	Office hours: By appointment ta.roepke@rutgers.edu
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Dr. Mehmet Uzumcu	119 Bartlett Hall (848) 932-6912	Office hours: By appointment uzumcu@rutgers.edu
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COURSE OVERVIEW:

This course focuses on current and emerging topics in endocrinology. Specific topics of focus may include neuroendocrinology, male and female reproduction and hormones, and energy homeostasis. Areas of interest will be introduced through assigned background reading and instructor lectures. These areas will then be covered in depth by student-led critical analysis of recent primary literature. This course serves as an expansion of concepts covered in Endocrinology (11:067:450) and has been designed for graduate students in endocrinology and advanced undergraduates interested in expanding their knowledge in the field of endocrinology

PREREQUISITES:

Admission to a related Rutgers graduate program or, for undergraduate students, successful completion of Endocrinology 11:067:450 and course coordinator permission.

COURSE LEARNING GOALS:

Students who complete this course will:

- 1) have in-depth knowledge of select subfields in endocrinology. (Animal Science PLG 3)
- 2) be able to understand and critically evaluate primary literature. (Animal Science PLG 5)
- 3) have learned to effectively communicate, verbally and orally, broad concepts as well as detailed technical aspects of theories and research in endocrinology. (Animal Science PLG 6)

RESOURCES:

Background reading, primary literature, discussion boards, and additional materials will be provided via the course Canvas site.

<u>GRADING:</u>	In class presentations	20%
	In class attendance and participation*	50%
	Written review (2)	30%

Grades will be calculated as follows: A = 90% or above, B⁺ = 85–89%, B = 80–84%, C⁺ = 75–79%, C = 70–74%, D = 60–69%, F = less than 60%

* See Attendance Policy below

REQUIRED ASSIGNMENTS:

1. In class presentations: Students will be randomly assigned one or more primary literature reports to introduce and/or summarize to their peers in the form of a PowerPoint presentation. These presentations may require resources outside of the provided material and will be assigned to individuals in advance. Details regarding structure and duration of the presentation will be provided.
2. In class participation: In class participation will be assessed by attending instructors and will be composed of two parts: (a) the student's ability to explain individual figures within the assigned primary literature (selected at random), and (b) the student's engagement in critical discussion of the research. Participation will be awarded on a weekly basis.
3. Written reviews: Written assessments for this course will be in the form of literature reviews (formalized critiques of a primary research report). Students will be responsible for selecting their target report, obtaining approval of that report from the course coordinator, and submitting a complete literature review of that report. Details regarding literature review goals, structure, contents, and length will be provided.

ATTENDANCE POLICY: Successful completion of this course is reliant on the student's ability to present selected topics to their peers and actively engage in discussion. As such, regular attendance is required for a passing grade. Any student missing more than two class sessions will automatically fail the course with the exception of university recognized grounds for absence. If you expect to miss a class, please use the Rutgers University absence reporting website: sims.rutgers.edu/ssra/ and input the date and reason for your absence. An email will automatically be sent to the course coordinator.

ACADEMIC INTEGRITY POLICY:

The university's policy on Academic Integrity is available at <http://nbacademicintegrity.rutgers.edu/>. The principles of academic integrity require that a student:

- properly acknowledge and cite all use of the ideas, results, or words of others.
- properly acknowledge all contributors to a given piece of work.
- make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that:

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- all student work is fairly evaluated and no student has an inappropriate advantage over others.
- the academic and ethical development of all students is fostered.
- the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES: Please follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full policies and procedures are at <https://ods.rutgers.edu/>

COURSE SCHEDULE:

<u>Week</u>	<u>Date</u>	<u>Instructor</u>	<u>Topic and Readings*</u>
1	Jan 25	Snyder	Course Introduction and How to read a primary scientific report Readings: None Optional materials: see Canvas
2	Feb 1	Snyder	Introduction – Androgens as whole body hormones Primary Literature #1 Review and Discussion Readings: <ul style="list-style-type: none"> - Review: The sexually dimorphic role of androgens in human metabolic disease - Primary Literature: HC diet inhibited testosterone synthesis by activating endoplasmic reticulum stress in testicular Leydig cells
3	Feb 8	Snyder	Introduction – The Process of Scientific Publication Primary Literature #2 Review and Discussion Readings: <ul style="list-style-type: none"> - Primary Literature: Prenatal androgen exposure and transgenerational susceptibility to polycystic ovary syndrome
4	Feb 15	Snyder	Introduction – How to write a literature review Primary Literature #3 Review and Discussion Readings: <ul style="list-style-type: none"> - Example Literature Review - Primary Literature: Androgens modulate male-derived endothelial cell homeostasis using androgen receptor-dependent and receptor-independent mechanisms <p><u>DUE: Proposed Primary Literature for Literature Review #1</u></p>
5	Feb 22	Uzumcu	Introduction – Female Reproductive Endocrinology Primary Literature #4 Review and Discussion Readings:
6	Mar 1	Uzumcu	Introduction – Endocrinology of Pregnancy and Parturition Primary Literature #5 Review and Discussion Readings:

7	Mar 8	Uzumcu	Introduction – Female Reproductive Endocrinology & Environment Primary Literature #6 Review and Discussion Readings: TBD <u>DUE: Literature Review #1</u>
8	Mar 22	Bello	Introduction – Endocrine control of feeding behaviors and energy homeostasis Primary Literature #7 Review and Discussion Readings:
9	Mar 29	Bello	Introduction – Autonomic nervous system and endocrine integration Primary Literature #8 Review and Discussion Readings:
10	Apr 5	Bello	Introduction – Pharmacotherapies for treating endocrine disorders Primary Literature #9 Review and Discussion Readings:
11	Apr 12	Roepke	Introduction – Hypothalamic-Pituitary-Endocrine Axes Primary Literature #10 Review and Discussion Readings: <u>DUE: Proposed Primary Literature for Literature Review #2</u>
12	Apr 19	Roepke	Primary Literature #11 Review and Discussion Readings:
13	Apr 26	Roepke	Primary Literature #12 Review and Discussion Readings:
14	May 3	Snyder	Course Review and Closing activities <u>DUE: Literature Review #2</u>

** Students should come to class already familiar with assigned readings and prepared to discuss.*