

# Endocrinology Biol 414

## Course Information

### Facilitator Information

Professor: Dr. Jenny Ouyang

Email: [jouyang@unr.edu](mailto:jouyang@unr.edu) Will respond within 48 hours (not over weekends)

Phone: We are off campus so will not have access to campus phone, please email me

Office: SFB 212A (I may not be at my office, so please email to set up individual zoom appts)

Office hours: over zoom, Thurs 10:30-11:30am

### Course Description

This course is designed around mammalian endocrinology with a primary focus on the regulation of physiology, while also highlighting the effects of disease on endocrine function. The endocrine system has a critical role in regulating cellular and tissue levels changes in physiology. This course will demonstrate how hormones can change cellular activity through activation/deactivation of proteins as well as modifying gene expression. The basic anatomy of endocrine glands and their target tissues will also be described.

### Course Materials

Each book has strengths and weaknesses and a suggested reading list has been provided for the two books available online. Greenspan's book is most commonly used by medical schools while the Norris book has been traditionally used in undergraduate courses. The readings are designed to fortify the lecture and help you with the case studies and debates.

- Gardner and D Shoback. Greenspan's Basic and Clinical Endocrinology (GBCE). Edition 8, 9 or 10.  
<https://accessmedicine.mhmedical.com/book.aspx?bookid=2178>
- David O. Norris. Vertebrate Endocrinology (VE). Edition 4 or 5  
<https://ebookcentral.proquest.com/lib/knowledgecenter/detail.action?docID=282124>

### Unique Class Procedures /Structures

Class meets online on zoom scheduled meetings Tues/Thur 1:30-2:45pm. This class is conducted in a team-based learning (TBL) format. Attendance is required at all class meetings, and makeup work for missed classes will not be accepted unless students communicate one of the following [excuses](#) to the instructor before the missed class, (1) illness with a doctor's statement; (2) serious illness or death of close relatives; (3) active participation in official university events.

## Course Learning Outcomes

- I. Students will be able to discuss, diagram, write and will critically apply concepts central to endocrinology as it pertains to regulation of physiology through changes in cellular signaling and gene expression.
- II. Students will be able to describe the associated anatomy for each component of the endocrine system.
- III. Students will diagnose and explain the effects of disease on endocrine function.

## Fall 2020 zoom etiquette

We will have several Zoom meetings for class. Please adhere to the following guidelines:

UNR Email Address: Please make sure you have a UNR email address. This will be the primary contact for the course Zoom meetings both within webcampus, for individual office hour meetings, and for communicating with your team members. Email addresses outside of UNR are often sent to junk mail folders and do not identify you by your name on the course roster.

Video: Please have your video camera on during scheduled class times. The purpose of meeting via Zoom is to discuss topics, share information by screen sharing, and work with your group. The video allows for nonverbal communications that reinforce understanding and create rapport with the class.

Professionalism: Please make sure you present yourself on camera professionally. Please make sure you are dressed appropriately for Zoom sessions just as you would for class. You may use Zoom backgrounds to create a professional background for your camera view.

## Grading Criteria, Scale, and Standards

Point Values: The weights below show the contribution of each assignment to the individual or team score.

### Individual Score:

Online quizzes	(6 at 10 points each, drop lowest) 50
Readiness Assurance Tests	(6 at 25 points each) 150
Midterm Exam	(1 at 100 points) 100
Final Exam	(1 at 150 points) 150
Total	450 points

### Team score\*:

Readiness Assurance Tests	(6 at 20 points each, drop lowest) 100
Case Studies & Concept Maps	(10 at 5 points each) 50
Debates	(2 at 25 pts each) 50
Midterm Exam	(1 at 100 points) 100
Final Exam	(1 at 150 points) 150
Total	450 points

\*The team grade will be adjusted by peer evaluation. Inherent to the concept of TBL is all students must work together and that no student can “ride on the coattails” of harder-working students. The peer evaluation component of the grading system helps ensure that every student comes to class prepared to contribute to their teams. Here is how it works: twice during the semester (midway and at the end), each student completes a peer evaluation of the other members of their team. This includes qualitative information that I will share (anonymously) with the student being evaluated. It also includes quantitative data that will be used to create a peer evaluation adjustment score. Each student will distribute exactly 100 “points” among the other members of their team, giving more “points” to people who contribute more positively and fewer points to students who do not. All “points” for a given student will be added up to create an adjustment score.

Here is an example, where the columns represent the scores assigned BY each group member, and the rows represent the scores assigned TO each group member. Note that each column sums to 100.

	Sue	Bob	Clark	Denise	Ed	Julie	Total = Peer Adjustment Score
Sue	X	10	20	10	10	10	60
Bob	20	X	10	10	30	30	100
Clark	30	10	X	30	20	30	120
Denise	30	30	30	X	30	10	130
Edward	10	30	10	20	X	20	90
Julie	10	20	30	30	10	X	100

The total column on the right shows the peer evaluation adjustment score. The final peer adjustment score will be the average of the midterm and final peer evaluations. The team score will be multiplied by this score as a percentage. For example, Slacker Sue’s team score would be multiplied by 60% and would therefore decrease dramatically, reflecting her consistently low contributions to the team. In contrast, Dynamite Denise’s team score would be multiplied by 130% and would therefore increase dramatically, reflecting her consistently high ratings by her team members. If everyone in the team contributed approximately equally, then everyone’s peer evaluation adjustment score will be about 100%, and the team scores will not be affected much.

**Calculation of course grades:** The individual work and team work (the latter adjusted by peer evaluation) will each be weighted at 50% of your total grade.

**Online quizzes:** You will complete six quizzes on Webcampus based on assigned reading. Quizzes are due before class on their assigned dates (see schedule). I strongly encourage you to complete the quizzes while you are reading the assigned chapters. You should spread out the reading of a given chapter so that you do it over several sittings (not all at once!). You may use any resources (textbook, internet, etc.) to answer quiz questions.

Percentage	Grade
100-93	A
92-90	A-
89-87	B+
86-83	B
82-80	B-
79-77	C+
76-73	C
72-70	C-
69-67	D+
66-63	D
62-60	D-
<60	F

**Exams:** One midterm and a final exam will test your understanding of the endocrine concepts discussed in class. All content (from reading, in-class exercises, debates, etc.) may be on the exam. Exams focus on major concepts, interpretation of data, and other higher order Bloom's level skills (not on minutia). Exams are multiple choice and will be taken individually (first hour) and as a team (second hour).

**Readiness Assurance Tests (RAT):** This course is divided into six modules, each beginning with a RAT. The RAT questions will mainly be higher order Bloom's level and will ask you to apply your knowledge to new situations, analyze data, etc. When you come to class, you will take a RAT individually by answering questions using Webcampus. After everyone is done, you will take the RAT again as a team. The team must come to consensus on answers, and the team captain will submit the answers on behalf of the team using Webcampus. When doing the team RATs, you will receive immediate feedback (e.g., you will know if you got the answer correct or not; you must continue to answer a question until you get it right). For this assignment, you will receive an individual score and a team score. The day following completion of individual and team RATs, I will address some of the material by discussing it in a "mini-lecture." This is also your chance to ask me to explain any concepts from the reading that you did not understand.

**Case Studies:** We will examine case studies associated with each RAT. During case study class periods, teams will be provided with case histories of patients and will answer questions leading toward evaluation and diagnosis. Your team captain will submit answers in a Word document for the team. Teams will also design concept maps explaining the pathophysiology and showing the mechanism of the treatment, on butcher paper for each case study (details will be given in class). Case studies and concept maps are graded on effort and reasoning, not necessarily or entirely on correctness.

**Debates:** Each team will participate in two debates. Each team is assigned a topic and side (see next page). During a class period, two topics will be debated, with each debate lasting approximately 30 minutes, followed by a debriefing. Debates will follow the following format:

Affirmative Team (AT) provides initial argument and evidence (6 min)

Negative Team (NT) provides initial argument and evidence (6 min)

Affirmative Team (AT) provides secondary argument and evidence (5 min)

Negative Team (NT) provides secondary argument and evidence (5 min)

Negative Team (NT) provides rebuttal (3 min)

Affirmative Team (AT) provides rebuttal (3 min)

## Course policies

**Academic Dishonesty** - Cases of academic dishonesty are viewed as a serious violation for the student code of conduct. Examples of academic dishonesty include, but are not limited to:

- Copying homework assignments.
- Cheating on quizzes or exams including sharing answers with students in other sections of the course.
- Including information in written assignments without proper citations.

Any use of a cellular phone for any reason during an exam will result in immediate failure of the course. Any occurrence of academic dishonesty will result in a student receiving an F for the course. See the “Student Conduct Information” section of the UNR General Catalog for specific University policies and procedures regarding academic dishonesty.

**Statement on Audio and Video Recording** - Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may be given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded.”

**Statement of Disability Services** - Any student with a disability needing academic adjustments or accommodations is requested to speak with the Disability Resource Center (Pennington Student Achievement Center, Suite 230) as soon as possible to arrange for appropriate accommodations.

The University of Nevada, Reno is committed to providing a safe learning and work environment for all. If you believe you have experienced discrimination, sexual harassment, sexual assault, domestic/dating violence, or stalking, whether on or off campus, or need information related to immigration concerns, please contact the University's Equal Opportunity & Title IX office at 775-784-1547. Resources and interim measures are available to assist you. For more information, please visit: <https://www.unr.edu/equal-opportunity-title-ix> .

## Course Calendar

Date	Class Activity	Assignments Due
8/25/20	Introduction; Lecture 1: Introduction to Endocrinology Practice RAT	
8/27/20	RAT 1—Chemical Bioregulation	VE: Ch 1; GBCE: Ch1
9/1/20	RAT 2- H P Axis	Complete online Quiz 1 (before class) VE: Ch 3 & 4, GBCE: Ch 4
9/3/20	Diagnose: H-P-Axis Case Studies (1-2) Design: Make Case Study Flow Charts	Case Study Flow Charts (end of class)
9/8/20	Discuss: H-P-Axis Case Studies Lecture 2: H-P-Axes	Complete Online Quiz 2 (before class)
9/10/20	Debate Preparation	Draft Annotated Bibliography for Debate 1 (after class, via email)
9/15/20	Lecture 3: Reproduction	VE Ch10, GBCE: Ch 12 & 13
9/17/20	Deduce: RAT 3—Reproduction Discuss: RAT 3 & related material	Complete online Quiz 3 (before class)
9/22/20	Diagnose: Reproduction Case Studies (3-5) Design: Make Case Study Flow Charts	Case Study Flow Charts (end of class)
9/24/20	Discuss: Reproduction Case Studies	
9/29/20	Lecture 4: Adrenal Physiology	VE Ch8, GBCE Ch9
10/1/20	Deduce: RAT 4—Adrenal Physiology Discuss: RAT 4 & related material	Complete online Quiz 4 (before class)
10/6/20	Diagnose: Adrenal Case Studies (6-7)	Case Study Flow Charts (end of class)
10/8/20	Discuss: Adrenal Case Studies	
10/13/20	<i>Debate 1</i> ; Annotated Bibliography for Debate 1	(before class, via email)
10/15/20	<b>Midterm Exam</b>	Mid-quarter Peer Evaluation (email)
10/20/20	Lecture 5: Digestion and Metabolism	VE Ch12, GBCE Ch17
10/22/20	Deduce: RAT 5—Digestion and Metabolism Discuss: RAT 5 & related material	Complete online Quiz 5 (before class)
10/27/20	Diagnose: Digestion and Metabolism Case Studies (8-9)	Case Study Flow Charts (end of class)
10/29/20	Design: Make Case Study Flow Charts	
11/3/20	Debate preparation	
11/5/20	Discuss: Digestion and Metabolism Case Studies	
11/10/18	<i>Debate 2</i> Annotated Bibliography for Debate 2	(before class, via email)
11/12/18	Lecture 6: Calcium and Phosphate Regulation	VE Ch14; GBCE Ch8
11/17/18	Deduce: RAT 6—Calcium and Phosphate Regulation	Complete online Quiz 6 (before class)
11/19/18	Discuss: RAT 6 & related material	
11/24/20	Diagnose: Calcium and Phosphate Case Studies (10-11)	
11/26/20	<b>Thanksgiving Holiday</b>	
12/1/20	Design: Make Case Study Flow Charts	Case Study Flow Charts (end of class)
12/3/20	<i>Debate 3</i> ; Annotated Bibliography for Debate 3	(before class, via email)
12/8/20	Final review session	
12/10/20	Finals week begins	
12/10/20	<b>Final Exam 12:10-2:10pm</b>	Final Peer Evaluation (email)

\*Additional readings will be assigned in class and posted to Webcampus, schedule subject to change