

# Endocrinology

CBIO 4730/6730

## Course Overview

### Course Information

Title: Endocrinology, CBIO 4730/6730  
Room: 404B Biosciences  
Time: 11:00 a.m. - 12:15 p.m. TR

### Contact Information

Name: DeLoris Wenzel Hesse  
Office: 712 Biosciences  
Hours: 12:30-1:30 p.m. Tues and Thurs  
Other times available by appointment  
E-mail: eLC private mail (best)  
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### Description and Learning Objectives

This course focuses on the role of hormones in regulating homeostasis, with an emphasis on molecular and cellular levels of control. Upon successful completion of this course, students will understand the role of the endocrine system in maintaining homeostasis; they will be able to evaluate and explain the pathophysiology of common endocrine disorders; and they will possess the basic foundational knowledge of endocrinology that is necessary for success in their chosen field in the health sciences. These objectives require the mastery of factual materials as well as critical thinking and problem-solving skills.

Specific objectives are listed on eLearning Commons and are based upon national standards for medical physiology (<http://www.the-aps.org/education/medphysobj/endo.htm>). Assessment of student achievement of the learning objectives includes multiple choice, short answer, essay writing, and quality of contribution in problem-based learning sessions.

## Course Requirements

### Prerequisites

Introductory-level college biology, chemistry and biochemistry courses are highly recommended. In addition, strong college-level reading comprehension, time-management, organizational and study skills are necessary to succeed in this course.

### Textbook and Materials

*Basic Medical Endocrinology*, H. Maurice Goodman, Academic Press, 4e/2009, ISBN: 978-0123739759  
*Colorado State Endocrinology Hypertext*, <http://arbl.cvmb.colostate.edu/hbooks/pathphys/endocrine/index.html>

### CBIO 4730H/6730 Students

Students who are registered for CBIO 4730H or CBIO 6730 must write and critique a term paper or case presentation. Topics typically are chosen based upon individual interests. Please schedule an office appointment for instructions and suggestions no later than Thursday, September 17, 2007.

Quotations from references used in your paper must be put in quotation marks and the page number in the reference indicated in the citation. For example: "...from the reference used in the paper..." (A. Professor, 2008, p. 1). Material from references must not be paraphrased closely or extensively. Paraphrasing or use of quotations without attribution may be construed as plagiarism, which surely will disqualify a paper from receiving a passing grade. [Please note: I am not suggesting that any present student might be a plagiarist.]

Papers are to be typed double-spaced, and should not exceed about 6-8 pages (undergraduates) or 8-10 pages (graduate students) of text. Papers are submitted electronically in either a Microsoft Word format (.doc or docx), a portable document format (pdf) or a rich text format (rtf). Due dates are available on the eLC calendar.

## Course Requirements

### Quizzes

There are three formal exams scheduled this semester; the dates of these quizzes are available on the eLC calendar. These Chances to Succeed consist of a mixture of multiple choice, fill-in-the-blank, short answer and essay questions. The exact format of each quiz will be discussed in class prior to the scheduled exam time.

### Team-based Work

Each student is assigned to a team at the beginning of the semester, and must work with this group to complete all team-based projects. Many of these projects are completed during the normally scheduled class time. These in-class projects may be pre-scheduled or unscheduled; a student who misses a project is not allowed to make up the assignment. Students may use class notes or textbooks to complete an assignment, though the use of electronic devices is prohibited.

Details regarding team assignments will be discussed in class.

## Course Policies

### Student Responsibilities

***You are responsible for your own learning and education.*** You are expected to read assigned material before attending class and to make a valuable contribution to the classroom discussion. Irresponsible, passive persons obstruct the learning environment and interfere with the goals of responsible students.

### Instructor Responsibilities

I am responsible for explaining the course goals and helping each student develop and attain personal goals for the course. In addition, I am responsible for planning and carrying out course instruction; facilitating discussion; expediting availability of lecture notes and webcasts; and returning assessment materials and email inquiries in a timely fashion. In short, I am here to help you learn.

### Missed Class and Exams

All students are expected to attend all scheduled classes. If you miss an in-class team-based project, you will not be able to make up that score, regardless of your excuse. If you miss a lecture quiz, you will be able to reschedule that quiz if you (1) contact me within 24 hours of the quiz date and (2) provide a valid excuse. You must take this quiz before the next scheduled class period.

### Academic Honesty

The Office of the Vice President for Academic Affairs provides all students registered at this University with a booklet titled "A Culture of Honesty at the University of Georgia". This booklet specifies the policies to which you must adhere. *All academic work must meet the standards contained in "A Culture of Honesty"*. Students are responsible for informing themselves about those standards before performing any academic work. If you have any questions regarding this policy, please contact me.

The link to more detailed information about academic honesty can be found at [http://www.uga.edu/honesty/ahpd/culture\\_honesty.htm](http://www.uga.edu/honesty/ahpd/culture_honesty.htm)

## Lecture Schedule\*

Lecture #	Topic	Readings
1	Introduction; What is endocrinology? Classification of Hormones; , Transport & Feedback Regulation	Chapters 1 and 5 Hormone Signal Transduction (on eLC) <a href="#">Intro to Endocrinology Mechanisms of Action</a>
2	Hormone biosynthesis: Proteins and Peptides	
3	Hormone biosynthesis: Steroids and Thyroid Hormones	
4	How does a hormone exert its effects? Receptors and Signaling: GPCR and TKR	
5	Catalytic (kinase linked) Receptors; Intracellular Receptors	
6	Multiple Organ Effects; Mechanisms of Disease	
7	Endocrine Pancreas: Insulin	Chapters 7 and 8 <a href="#">Discovery and Controversy</a> (optional )
8	Insulin, Glucagon and Somatostatin	
9	Diabetes Mellitus; Obesity; Lipoprotein Metabolism	
10	Quiz 1 (Lectures 1-9)	
11	Hypothalamus and Anterior Pituitary; The adrenal medulla	Chapters 2 and 4 <a href="#">Adrenal Medullary Hormones</a> <a href="#">Glucocorticoids</a> <a href="#">Mineralocorticoids</a>
12	Catecholamines and Energy Regulation	
13	Adrenal Cortex: Cortisol	
14	Adrenal Cortex: Aldosterone	
15	Thyroid Hormones: Synthesis and Regulation	Chapter 3 <a href="#">TH Biosynthesis</a> <a href="#">TH Actions</a>
16	TH Actions	
17	Evaluation of TH & Pathologies	
18	Calcium Metabolism: Parathyroid Hormone	Chapter 10; <a href="#">PTH</a> <a href="#">Calcitonin</a> ; <a href="#">Vitamin D</a> ; <a href="#">Mineral Metabolism</a>
19	Vitamin D; Regulation of Ca <sup>2+</sup> and PO <sub>4</sub>	
20	Disorders of Mineral Metabolism	
21	Quiz 2 (Lectures 11-20)	
22	Neurohypophyseal Hormones; AVP	Chapter 9 <a href="#">AVP</a> <a href="#">Sodium &amp; Water Balance</a>
23	RAAS	
24	Integrated Regulation of Water and Salt Balance	
25	Endocrine Regulation of Blood Pressure	
26	Sexual Differentiation	Chapter 12 <a href="#">Sexual Differentiation</a>
27	Hormonal Control of Testicular Function	
28	TBA	
	Thanksgiving Break: Self study on effects of overeating on endocrine function.	
29	Control of Ovarian Function	Chapter 13
30	Regulation of Female Reproductive Cycle	
	Final Quiz (Lectures 11-30)	

\* All this information, with specific dates, may be found on the eLC calendar.

## Grading

### Your Grades: 4730

Your grades come from two sources: Lectures quizzes (80%) and team-based work (20%). Your score on team-based projects is determined by your peer evaluation score.

### Your Grades: 4730H and 6730

Your grades come from three sources: Lecture quizzes (70%); team-based work (20%); and term paper or case study (10%). Your score on team-based projects is determined by your peer evaluation score.

### Peer Evaluations

Each student is subject to five peer evaluations. Your score on team-based projects is calculated as follows: [Your team's score on the project] x [your peer evaluation percentage]. Each member of your team will evaluate your performance based upon the following rubric:

		Peer Evaluation	Section Number _____	Team Number _____
		← Write the names of the people on your team including your own name.		
Contributing to the Team's Work		<ul style="list-style-type: none"> <li>Does more or higher-quality work than expected.</li> <li>Makes important contributions that improve the team's work.</li> <li>Helps to complete the work of teammates who are having difficulty.</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Completes a fair share of the team's work with acceptable quality.</li> <li>Keeps commitments and completes assignments on time.</li> <li>Fills in for teammates when it is easy or important</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Does not do a fair share of the team's work. Delivers sloppy or incomplete work.</li> <li>Misses deadlines. Is late, unprepared, or absent for team meetings.</li> <li>Does not assist teammates. Quits if the work becomes difficult.</li> </ul>		
Interacting with Teammates		<ul style="list-style-type: none"> <li>Asks for and shows an interest in teammates' ideas and contributions.</li> <li>Improves communication among teammates. Provides encouragement or enthusiasm to the team.</li> <li>Asks teammates for feedback and uses their suggestions to improve.</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Listens to teammates and respects their contributions.</li> <li>Communicates clearly. Shares information with teammates. Participates fully in team activities.</li> <li>Respects and responds to feedback from teammates.</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Interrupts, ignores, bosses, or makes fun of teammates.</li> <li>Takes actions that affect teammates without their input. Does not share information.</li> <li>Complains, makes excuses, or does not interact with teammates. Accepts no help or advice.</li> </ul>		
Keeping the Team on Track		<ul style="list-style-type: none"> <li>Watches conditions affecting the team and monitors the team's progress.</li> <li>Makes sure that teammates are making appropriate progress.</li> <li>Gives teammates specific, timely, and constructive feedback.</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Notifies changes that influence the team's success.</li> <li>Knows what everyone on the team should be doing and notices problems.</li> <li>Alerts teammates or suggests solutions when the team's success is threatened.</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Is unaware of whether the team is meeting its goals.</li> <li>Does not pay attention to teammates' progress.</li> <li>Avoids discussing team problems, even when they are obvious.</li> </ul>		
Expecting Quality		<ul style="list-style-type: none"> <li>Motivates the team to do excellent work.</li> <li>Cares that the team does outstanding work, even if there is no additional reward.</li> <li>Believes that the team can do excellent work.</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Encourages the team to do good work that meets all requirements.</li> <li>Wants the team to perform well enough to earn all available rewards.</li> <li>Believes that the team can fully meet its responsibilities.</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Satisfied even if the team does not meet assigned standards.</li> <li>Wants the team to avoid work, even if it hurts the team.</li> <li>Doubts that the team can meet its requirements.</li> </ul>		
Having Relevant Knowledge, Skills, and Abilities		<ul style="list-style-type: none"> <li>Demonstrates the knowledge, skills, and abilities to do excellent work.</li> <li>Acquires new knowledge or skills to improve the team's performance.</li> <li>Able to perform the role of any team member if necessary.</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Has sufficient knowledge, skills, and abilities to contribute to the team's work.</li> <li>Acquires knowledge or skills needed to meet requirements.</li> <li>Able to perform some of the tasks normally done by other team members.</li> </ul>		
		Demonstrates behaviors described in the row just above and just below.		
		<ul style="list-style-type: none"> <li>Missing basic qualifications needed to be a member of the team.</li> <li>Unable or unwilling to develop knowledge or skills to contribute to the team.</li> <li>Unable to perform any of the duties of other team members.</li> </ul>		

[https://engineering.purdue.edu/CATME/index\\_files/AreasAssessed.htm](https://engineering.purdue.edu/CATME/index_files/AreasAssessed.htm) (click on levels of performance)

## Grading

### Final Letter Grade

Your grade in this course is determined by your performance on class tests, assignments and team based projects. There is no curve.

Standard cutoffs are used to assign grades. The grade of an Incomplete is assigned only at the recommendation of the Office of Student Affairs. Any student convicted of academic dishonesty will receive a grade of "F".

98.0-100% = A+  
 93.0-97.99% = A  
 90.0-92.99% = A-

87.0-89.99% = B+  
 83.0-86.99% = B  
 80.0-82.99% = B-

77.0-79.99% = C+  
 73.0-76.99% = C  
 70.0-72.99% = C-

60.0-69.99% = D

<59.99% = F

### Changes to Your Final Letter Grade

Final letter grades are changed based upon factual errors. No other criteria are acceptable. Please note that if there is a factual error in the score you see recorded on eLearning Commons, you have *one week* after that score is posted to have that error corrected.

*The syllabus is a general plan for the course. Deviations from the syllabus may be necessary; these changes will be announced in class.*