BIOS 4803 Syllabus

Special Topics: Endocrinology, 3 Credits
Class Days: Classroom: TBD; TTH 8:00 – 9:15 AM

Instructor Information

Instructor	Email	Office Hours & Location
Eric I. Felner, MD, MS	efelner@emory.edu	Email: efelner@emory.edu

General Information

Description

This course is designed for students interested in learning human endocrinology at the pathophysiologic level and considering a career in healthcare/medicine. The focus will be on how a clinician (i.e., endocrinologist) identifies a change in a patient's physiologic endocrine (hormone) system and then evaluates the patient (by collecting history, performing a physical exam, and ordering laboratory and/or imaging studies) to generate a differential diagnosis (a list of the potential causes) and eventually, makes a diagnosis and develops a treatment plan. The conditions that will be covered include disorders of glucose homeostasis (diabetes mellitus and hypoglycemia), thyroid disorders (hypothyroidism and hyperthyroidism), adrenal gland disorders (insufficiency and excess states), disorders of the pituitary gland (deficiency and excess states), metabolic bone disease (vitamin D deficiency), and differences in sexual differentiation. As this course will focus on pathologic endocrine conditions, a strong working knowledge in human endocrine physiology is recommended.

Pre- &/or Co-Requisites

BIOS 3755 Human Physiology

Course Goals and Learning Outcomes

After taking this course, students will be able to:

1. Describe the normal structure, function, and organization of the major endocrine systems.
2. State the function of each endocrine gland and explain the mechanisms that regulate hormone secretion.
3. Predict and explain target organ hormone secretion in response to physiologic and pathologic stressors.
4. Explain the pathophysiology of the most common endocrine pathologic conditions including diabetes mellitus, hypoglycemia, hypothyroidism, hyperthyroidism, adrenal insufficiency, adrenal excess, disorders of calcium and bone metabolism, and genital development.
5. Describe a clinician's approach to the patient with potential endocrine pathology regarding the ordering of specific biochemical tests or imaging modalities.
6. Demonstrate an understanding of the pharmacologic options available to clinicians in treating patients with endocrine pathology.

Course Requirements & Grading

This course places a significant amount of emphasis on class involvement. Grading is based on attendance, participation, weekly quizzes, unit examinations, small group assignment presentations, and a final examination.

Assignment	Specifics	Weight (Percentage)
Participation – Class Attendance	Attend and ask/answer questions	20%
Quizzes (12 Total – Drop 2)	Material learned in recent lectures	10%
Unit Examinations (3)	Material learned over 4-5 weeks	30%
Class Presentation	Pathologic endocrine condition	20%
Final Examination	Comprehensive Examination	20%

Extra Credit Opportunities

There are no opportunities for extra credit. Regarding final grades, students can discuss concerns with the professor at the completion of the course.

Description of Graded Components

At the start of each class, attendance will be checked and recorded. There will be 5-10 quizzes (1-2 questions of either multiple choice or fill-in-the-blank format) that will be given at the end of the class (usually on the 1st day of the week of the class (Tues)) and will be used to assess student's knowledge and recall of information learned in the previous week's lectures. The quizzes will take 10 minutes or less so that the lecture for that class can be started and completed in a timely fashion. There will be 3-unit exams (40-50 multiple choice/matching questions and 3 - 5 short answer questions) that will be given at the end of specific sections (typically at the end of the 3rd, 6th, and 9th weeks). There will be a comprehensive final exam given during the week of final exams (90-100 multiple choice/matching questions with 5 - 10 short answer questions). There will be a presentation on a pathologic endocrine condition that students (2 - 4 per group) will present during the 2 weeks after the last Unit Exam. The professor will grade the presentations using the following rubric:

Presentation Rubric	Point Value
Timely 1) Performed on the correct date. 2) Performed in the appropriate time range (10-15 min). 3) Submitted a hard-copy via email within 24-hrs of presentation.	20
Presentation 1) Appropriate contribution of all team members. 2) Appropriate detail needed to provide a basic understanding of topic. 3) Appropriate slides and slide format. 4) Appropriate "personality" for the presentation.	30
Content 1) Clearly displays a very good understanding of the medical condition. 2) Lists of references for support. 3) Answers questions from audience with confidence.	50
Total	**100**

Grading Scale

The final grade will be assigned as a letter grade according to the following scale:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

According to policy, grades at Georgia Tech are interpreted as follows:

A	Excellent (4 quality points per credit hour)
B	Good (3 quality points per credit hour)
C	Satisfactory (2 quality points per credit hour)
D	Passing (1 quality point per credit hour)
F	Failure (0 quality points per credit hour)

See http://registrar.gatech.edu/info/grading-system for more information about the grading system at Georgia Tech.

Course Materials

Course Text
There are no required books for this course.

Additional Materials/Resources
If journal article readings are needed to illustrate or supplement a specific point that may help students understand the lecture material better, they will be posted on Canvas.

Course Website and Other Classroom Management Tools
This course will be available to students via the Georgia Tech Canvas site.

Course Expectations & Guidelines

Academic Integrity
Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit http://www.catalog.gatech.edu/policies/honor-code or http://www.catalog.gatech.edu/rules. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Accommodations for Students with Disabilities
If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or http://disabilityservices.gatech.edu/, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible to set up a time to discuss your learning needs.

Attendance and/or Participation
Attendance and participation are encouraged for this course, as 20% of the course grade is dependent on class attendance & participation.

Student-Faculty Expectations Agreement
At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. See http://www.catalog.gatech.edu/rules for an articulation of some basic expectation that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Student Use of Mobile Devices in the Classroom
The use of a cell phone or other smart device to retrieve information necessary to answer a question posed in the classroom setting is permissible. The use of these devices when unrelated to the classroom discussion is **NOT PERMISSIBLE**.

Out of respect for the course, it is **NOT PERMISSIBLE** to videotape, record, or photograph classroom discussions.

COURSE SCHEDULE

Tues 08/25/26	Intros & Overview; Course Explanation & Deliverables	Lecture #1
Thrs 08/27/26	Type 1 Diabetes Mellitus	Lecture #2
Tues 09/01/26	Type 2 Diabetes Mellitus	Lecture #3
Thrs 09/03/26	Diabetes Complications	Quiz #1/Lecture #4
Tues 09/08/26	Hypoglycemia #1	Quiz #2/Lecture #5
Thrs 09/10/26	Hypoglycemia #2	Quiz #3/Lecture #6
Tues 09/15/26	Pituitary Introduction Disorders	Quiz #4/Lecture #7
Thrs 09/17/26	Review for Unit 1 Exam	Unit Review #1
Tues 09/22/26	Unit Exam 1	Unit Exam #1
Thrs 09/24/26	Pituitary Deficiency & Excess States	Lecture #8
Tues 09/29/26	Thyroid Disorders - Hypothyroidism	Lecture #9
Thrs 10/01/26	Thyroid Disorders - Hyperthyroidism	Quiz #5/Lecture #10
Tues 10/06/26	NO CLASS (FALL BREAK)	----------
Thrs 10/08/26	Calcium Physiology	Quiz #6/Lecture #11
Tues 10/13/26	Parathyroid Disorders	Quiz #7/Lecture #12
Thrs 10/15/26	Hyper & Hypocalcemia	Quiz #8/Lecture #13
Tues 10/20/26	Bone Metabolism Disorders	Lecture #14
Thrs 10/22/26	Review for Unit 2 Exam	Unit Review #2
Tues 10/27/26	Unit Exam 2	Unit Exam #2
Thrs 10/29/26	Adrenal Gland Disorders - Insufficiency	Lecture #15
Tues 11/03/26	Adrenal Gland Disorders - Excess	Quiz #9/Lecture #16
Thrs 11/05/26	Gonadal Development/Function Disorders I	Quiz #10/Lecture #17
Tues 11/10/26	Gonadal Development/Function Disorders II	Quiz #11/Lecture #18
Thrs 11/12/26	Multiple Endocrine Neoplasia (MEN) Syndromes	Quiz #12/Lecture #19
Tues 11/17/26	Review for Unit 3 Exam/Discuss Final Projects	Quiz #12/Review #3
Thrs 11/19/26	Unit Exam 3	Unit Exam #3
Tues 11/24/26	Presentations Groups #1 - 3	Presentations
Thrs 11/26/26	THANKSGIVING - NO CLASS	----------
Tues 12/01/26	Presentations Groups #4 - 6	Presentations
Thrs 12/03/26	Presentations Groups #7 - 9	Presentations
Tues 12/08/26	Final Exam Review & Tie up Loose Ends	Final Exam Review
12/10 - 12/17/26	FINAL EXAM	Exam