

# BIOL5250: Advanced Human Physiology

Thursday 18:30 – 21:20

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## **Prerequisites (recommended):**

Basic Biology, Biochemistry, or Equivalent

## **Text:**

Guyton and Hall *Textbook of Medical Physiology* 12<sup>th</sup> Edition; ISBN=978-1-4160-4574-8

## **Course Description:**

To explore in depth the physiology that underlies human function. It is important that the student has a solid foundation in biology and human anatomy in order to succeed in this course.

## **Course Objectives:**

This course is in a hybrid lecture format (blends online with traditional lectures). The online material for this course will be available on Blackboard. Upon successful completion of this course, students will be able to demonstrate an advanced understanding of human physiology and its application to the maintenance of homeostasis.

## **ADA Statement:**

When possible, and in accordance with 504/ADA guidelines, we will attempt to provide reasonable academic accommodations to students who request and require them. Please call the UNT Office of Disability Accommodation (<http://disability.unt.edu/about>) for more details.

## **Academic Dishonesty Policy (copying, plagiarism, cheating) per UNT Policy 18.1.6:**

Students are expected to conduct themselves in a manner consistent with the University's status as an institution of higher education. In the class setting, students shall follow their instructors' directions and observe all academic standards and requirements published in course syllabi and other course materials. A student is responsible for responding to an academic dishonesty report issued by an instructor or other University authority. If a student fails to respond after proper attempt at notification, the University may take appropriate academic actions in the absence of the student.

Any student found to be in violation of the academic dishonesty policy will be given a grade of zero for the assignment in question and reported to the UNT administration through the reporting mechanism approved in UNT policy 18.1.6 (Office of Academic Integrity).

## **Evaluation:**

Final grades will be determined based on the total number of points that you accumulate during the semester. Final letter grades will be determined via a traditional breakdown of points as follows: A (>495), B (494-476), C (475-385), D (384-330), F (<275).

| Component                    | Points     |
|------------------------------|------------|
| Attendance and Participation | 50         |
| Research Presentation        | 100        |
| Exam I                       | 200        |
| Exam II                      | 200        |
| <b>Total Points =</b>        | <b>550</b> |

**Note:** Students will not be allowed to take an Incomplete in this course due to poor planning on their part. If you find you do have a legitimate reason for an Incomplete, please talk with me as soon as possible to discuss the situation and to identify the documentation that will be required to support your request. Please consult the UNT catalog to review conditions under which an incomplete may be granted.

**Attendance / Participation:** You are expected to attend all class meetings. The only acceptable reason for missing class is if you are attending a scientific meeting. If you will miss class for professional travel, please let Dr. McFarlin know in advance. If you miss a class meeting, you will be docked 15 points for each missed class. **There are no make-ups for missed attendance/participation points.**

**Outline for In-class Lectures:**

An outline of the slides to be presented during the in-class lectures will be available for download in a PDF format on Blackboard within 24-h of the lecture date. Please note that complete slides will not be available, so you will need to attend class in order to complete them. Additional information from the in-class lectures may be provided at the discretion of the instructor on a class-by-class basis.

**Lecture Audio Recordings:**

The instructor will record all lecture audio in an MP3 format and make it available for download from Blackboard home page.

**Examinations:**

During this course, you will take two examinations. **If you are late or do not show up, NO make-up exam will be offered.** All exams will be given in an electronic form in the SAGE hall computer-testing lab. More details on timing and location will be provided in advance of Exam I. The two exams will not be cumulative, but rather cover all the material leading up to a particular examination. Exams will be a combination of multiple choice, short answer, and essay questions.

**Research Topic Poster Presentation:**

In this class you will be asked to prepare and present a research poster. This can be a project that you are currently working on, one that you have previously worked on, or one that you are planning to complete. If you are a student that has yet to complete a research project, Dr. McFarlin will help you identify a topic on which you can develop a "literature review" poster. The poster should be formatted to 36" wide by 48" long in PowerPoint. All posters must be submitted to Dr. McFarlin via email by 11/18/14 at 5 pm. A basic template and example will be provided at a

**Structure of In-class and Online Lecture:** In-class lectures will be given in a standard format. You will be provided with a handout of the slides prior to class. All lecture audio will be recorded and made available for download in Blackboard within 72-h after the class meeting. Online lectures will be presented in an automated, self-guided format through Blackboard. An outline of the slides and audio for the online lectures will also be available for download in Blackboard.

**How do I get answers to my Questions?**

Dr. McFarlin is here to help you achieve success in this class. Unfortunately it is very difficult from a time perspective for me to reply to individual e-mail questions about course content. Also, there is a good chance that several of your classmates may have a similar question as you. Thus, if you have a question concerning lecture material, please post these in the discussion forum on Blackboard. This will allow all students in the course to view my responses. If you prefer to ask a question in person, feel free to ask Dr. McFarlin after class or schedule an appointment to meet him in his office. If you have a grade related question, you are welcome to e-mail Dr. McFarlin directly via Blackboard e-mail.

**Tentative Order of Topics:**

| <b>Unit Number</b>          | <b>Topic</b>   | <b>Lecture Date</b> | <b>Textbook</b> |
|-----------------------------|--|---------------------|-----------------|
|                             | Syllabus   | 8/28/14             |                 |
| 1                           | Functional Physiology, Homeostasis, and Membrane Transport | 8/28/14*            | 1-23, 45-65     |
| 2                           | Skeletal/Smooth Muscle Physiology                          | 9/4/14              | 71-94           |
| 3                           | Cardiac Muscle, Conducting System, EKG                     | 9/11/14*            | 101-153         |
| 4                           | Circulation  | 9/18/14             | 157-281         |
| 5                           | Tissue Circulation   | 9/25/14             | 157-281         |
| <b>Exam I (Units 1-5)</b>   |  | <b>10/2/14</b>      |                 |
| 6                           | Immunology   | 10/9/14             | 413-460         |
| 7                           | Muscle Damage/Repair                                       | 10/16/14            |                 |
| 8                           | Gastrointestinal   | 10/23/14            |                 |
| 9                           | Biology of Aging   | 10/30/14            |                 |
| 10                          | Environmental Physiology                                   | 11/6/14             |                 |
| <b>Exam II (Units 6-10)</b> |  | <b>11/13/14</b>     |                 |
|                             | Research Poster Presentation                               | 11/20/14<br>12/4/14 | -               |

\* This lecture will be available on Blackboard

**Note:** The following information is designed to help the class run smoothly. The instructor reserves the right to make additions and adjustments as necessary. Some of the writings, lectures, films, or presentations in this course may include material that conflicts with the core beliefs of some students. Please review the syllabus carefully to see if the course is one that you are committed to taking. If you have a concern, please discuss it with me at your earliest convenience.