

BIOL 251

Introduction to Human Anatomy and Physiology

General Description

Introduction

This is a three credit hour course in human anatomy and physiology. It is divided into twenty lessons, ten of which are practice examinations. While these lessons can readily be fitted into the time scale of a semester, the extensive anatomical detail involved will ordinarily require most students more time, particularly when this course is taken in addition to the full-time activities of a working schedule.

Each lesson in this course manual includes the course author's comments on each required text chapter. These comments provide a detailed summary of all important points covered by the textbook. In some cases additional information is added to help orient you to the text material. When detected, the occasional and inevitable textbook errors are mentioned.

About You

I would be very interested to know a little about you, your background, and your reasons for taking this course—if you are willing to tell me something of yourself. Also, and this is entirely optional, I'd like to have a snapshot of you so I can connect a face with the name. If you haven't one on hand, an enlarged photocopy of a driver's license or ID card photo would probably do.

About Your Course Author

I came to UNC-Chapel Hill in 1963 after completing my doctoral studies at the University of Michigan at Ann Arbor, in zoology, and spending a year in special training for electron microscopy at Harvard University. My general area has been cell biology and a special interest for many years has been centered on insect biology.

I started teaching human anatomy and physiology for the Department of Biology in 1991, and I have now completed a project to provide a computer-based human anatomy and physiology laboratory for our students. While it was not possible for us to obtain actual bodies for this work, we are able to make effective use of virtual cadavers delivered to our computer screens by some extensive and sophisticated software. In this way we can study very accurate models and perform some virtual dissections of the human body prepared for display via computer. Students also take a separate physiology laboratory in which they make vital measurements on one another.

Written Work

Assignments are provided at the end of most chapter discussions in this manual, some for your own practice, others for submission as written assignments for review and return. Please turn in your written work as you finish each lesson, not as you finish each chapter discussion within the lesson.

Some of the written work may require library or other outside resources. If this presents a problem for you, please contact your instructor.

Practice Examinations

The practice examinations should be submitted to your instructor for review. These self-examinations will help you gauge your progress. They will not be a part of your final course grade.

**Textbook and
Other Materials**

The textbook for the course is *Essentials of Anatomy and Physiology*, 6th edition (2007), by Rod R. Seeley, Trent D. Stephens, and Philip Tate.

Your understanding of the material in the textbook will be significantly improved if you pay close attention to the “Review and Comprehension” section and “Predict Questions” that appear in each chapter.

If possible, you should use the materials available to you on the publisher’s Online Learning Center, <http://www.mhhe.com/seeleyess6>.

Optional CD-ROM

The following interactive CD-ROM is recommended, but not required, to aid your understanding of the text material:

MediaPhys Version 2.0: An Introduction to Human Physiology, 2nd edition (2004) by Tom Stavraky.

Both the required textbook and the optional CD-ROM can be obtained from the Higher Grounds bookstore at the Friday Center in person, by ordering online at <https://s4.its.unc.edu/HigherGrounds>, or by printing and mailing the book order form in this manual.

Terminology

You are responsible for understanding and being able to recognize and define all terms in bold print in the textbook and any additional terms introduced in the chapter outlines and notes that may not appear in the textbook. One good strategy is to make up vocabulary flash cards for each term in a chapter.

**Grading and
Final Exam**

Your course grade will be determined by a single comprehensive final examination and by the average of the grades you receive on your written work. The examination will count 50 percent of your grade and the written work average will count 50 percent. A good way to prepare for the final is to answer the questions on your ten practice examinations as well as the Review and Comprehension questions at the end of each assigned text chapter. Your final examination will be composed of questions selected from each of the practice exams. *You must pass the final exam in order to receive credit for the course.*

The grading scale will be:

- A = 90–100
- B = 80–89
- C = 70–79
- D = 60–69
- F = 59 and below

Text Reading Assignments

The required reading is listed below. This reading consists of one to several textbook chapters comprising the twenty lessons in this manual. Chapter 2, The Chemical Basis of Life, and Chapter 3, Cell Structures and Their Functions, provide optional background reading. If you have previously had a college course in biology you can likely skip them. If not, they may prove useful for you to read and helpful in understanding the physiological material throughout the textbook.

<u>Lesson</u>	<u>Text Chapter(s)</u>
1 Introduction; Tissues; Skin	1; 4; 5
2 Practice Examination	
3 Skeletal System	6
4 Practice Examination	
5 Muscular System	7
6 Practice Examination	
7 Nervous System; the Senses	8, 9
8 Practice Examination	
9 Endocrine System	10
10 Practice Examination	
11 Blood; Heart; Circulation	11; 12; 13
12 Practice Examination	
13 Lymphatics and Immunity	14
14 Practice Examination	
15 Respiratory System; Urinary System*	15; 18
16 Practice Examination	
17 Digestion; Nutrition	16; 17
18 Practice Examination	
19 Reproduction; Development	19; 20
20 Practice Examination	

*These chapters are out of sequence because they are more related to each other than to the other material around them.

Other Features of the Lessons

In addition to required reading and written work to turn in, each lesson includes the following features for each chapter discussed:

- **The Big Picture**—Offers an overview of the chapter
- **What to Know**—Presents learning objectives for the chapter
- **Snapshots**—Provides your course author's views and generalizations about that chapter as well as a detailed outline of the most important concepts and terms; relevant figures of the text that illustrate these points are frequently referenced
- **Medically Speaking**—Provides brief examples of the ways in which major bodily structures or activities have everyday importance and relevance.