

**NMSU-GRANTS
SPRING 2007**

**HUMAN (ANATOMY AND) PHYSIOLOGY (II)
BIOLOGY 254/L**

- Instructor:** Dr. Charlotte Otts
MH 111a, 287-6649
cotts@nmsu.edu
- Class:** MW 2:25—5:05 PM
Room MH 110
January 22 – May 9, 2005
- Office Hours:** MW 1:30—2:15 PM, 6:30—8:00 PM
TTh 1:30—3:15 PM
- Texts:** Marieb, Elaine N. 2005. *Anatomy & Physiology*, second edition. Benjamin Cummings.
- Marieb, Elaine N. 2005. *Laboratory Manual for Anatomy & Physiology*, second edition. Benjamin Cummings.
- Other study aids are available in the bookstore. Those are not required, but may be helpful.

Overview: BIOL 254/L, Human (Anatomy and) Physiology, is the second semester of a two-semester sequence (BIOL 225 and BIOL 226 or BIOL 254/L) designed especially for students preparing for medical careers. The two texts listed above are used for both semesters. This sequence is designed to be extensive and thorough, to prepare students adequately for work involving human health. Therefore, I expect real commitment on the part of the students to prepare for class lecture/discussion and laboratory, to study the material all along, not just in preparation for tests, to come to class ready to ask questions that result from reading, studying, and thinking, and to show interest in and dedication to what you have chosen as your career. You have my commitment.

BIOL 254/L begins with the study of joints. We will move quickly (because you know what is involved) with a study of nervous tissue, the central nervous system, blood, heart, circulatory system, immune system, and the respiratory system. If there is time, we will add the study of the fluid, electrolyte, and acid-base balance. Again, we begin each system with a study of the anatomy and follow it with the associated physiology. There is a great deal of information in each unit, and you are expected to

become very familiar with all aspects of each and to understand how each system works in harmony with the others.

The anatomy and physiology laboratory will provide information and practical hands-on experience for each unit that we study. You are expected to be as prepared for the lab as you are for the lecture/discussion.

Please expect human anatomy and physiology to be a solid, demanding, science course. A four-credit course normally requires a 12-hour commitment outside of class for reading, studying, and reviewing. This is an average of three hours per week per credit outside of class. Please keep this commitment in mind when you consider all the courses you are taking and the other time commitments you have. There are only 168 hours in a week; anatomy and physiology deserve and need a good 17 (5 + 12) of that!

Prerequisites: Prerequisites for BIOL 254/L include CHEM 110G or 111, a general biology course, and BIOL 225. BIOL 211G/L is recommended, but may be taken as a co-requisite. Certain substitutions may be made with the permission of the instructor.

Learning Goals: The successful student will:

1. Describe the structure and function of the different joint types in the body.
2. Explain the propagation of an action potential and the mechanism of the chemical synapse.
3. Describe the structure and function of the various components of the brain and spinal cord.
4. Describe the cellular and chemical components of the blood, their derivations and functions.
5. Describe the structure and electrical conductivity of the heart.
6. Describe the anatomy of the blood vessels, the biofeedback mechanisms that maintain blood pressure, and the fluid flow in and out of the capillaries.
7. Explain the specific and non-specific defenses of the immune system.
8. Describe the structure and physiology of the entire respiratory system.
9. Apply the understanding of the principles of human anatomy and physiology to practical laboratory questions and explain the results of these experiments.

Assessment: There will be at least one activity designed to assess the effectiveness of classroom techniques (lectures, discussions, videos, tests, labs, etc.) Additionally, there will be periodic questions that are designed to assess the effectiveness of these classroom techniques. Both types of assessment (your success and direct questions) will provide feedback to help in the on-going development of teaching techniques and will not be used for grading purposes.

Expectations of Students:

- Attend all scheduled class meetings. Arrive on time and stay for the entire class.
- Call me ahead of time if you have a conflict or problem.
- Try not to leave the classroom except during the break.
- Bring textbook and laboratory manual to all class meetings.
- Retrieve PowerPoints from the class web site and bring to class at the appropriate times.
- Be prepared for each class meeting by keeping up with the reading (and the re-reading).
- Participate appropriately in classroom discussions and lab activities.
- Complete all assignments on time.
- Be responsible for everything covered in each meeting and in the text, even if not present at the class meeting.
- Work for at least 12 hours per week outside of class for Biology 254.
- Come to me during office hours or after class if you are not doing as well as you could be doing.
- If there is a problem with me or with this course, come to see me first.

Expectations of Instructor:

- Be on time and well-prepared for each class and lab session.
- Facilitate activities that enhance the students' understanding and appreciation of human anatomy and physiology.
- Provide opportunities inside and outside of class for questions and clarification.
- Be available during office hours on a dependable basis.
- Be fair and clear in grading practices and treatment of students.

Evaluation and Grading:

Major tests	50%
Quizzes	15%
Labs and lab reports	25%
<u>Attendance, full participation</u>	<u>10%</u>
Total	100%

A = 90-100%

B = 80-89%

C = 70-79%

D = 60-69%

F = below 60%

Plus/minus modifiers are the approximate upper and lower thirds of each letter grade range.

Class Web Page:

Materials important for your success in human anatomy and physiology will be found on the class web page. These materials include the syllabus, a class calendar, the instructions for reworking tests, and the PowerPoint notes for each chapter. It is your responsibility to access the web page and to print these materials in a timely manner; please do not plan to leave class or be late to class while printing the PowerPoints, for example.

Testing:

The major tests will include multiple choice, terms, definitions, illustrations, and some short discussion questions. Tests may be made up only under extraordinary circumstances (e.g., illness). Please inform me by telephone or email as soon as you know that you will miss the test (i.e., *before* the test if at all possible), and that test *must be made up within the week*. Tests may be reworked for a slightly higher grade. The instructions for reworking the tests properly are found on the class web page. There will be one or two vocabulary quizzes given with each chapter. The quizzes will consist of the definition of a term; you provide the appropriate term, hopefully spelled correctly. The lowest quiz grade will be dropped at the end of the semester.

Laboratory:

Laboratory exercises provide a practical, hands-on addition to your understanding of human anatomy and physiology. Lab reports are due at the beginning of the next class after the in-class part of the lab work is finished. The lab manual includes instructions and some questions in the first half of the book and worksheets in the second half. Both sections must be completed. To turn in your lab exercises, you may xerox the appropriate sections or turn in the entire lab manual. There is usually no make-up of the in-class part of the labs; there will not be time to set up the lab again for students who have been absent and there are very few times during the week when Room 110 is available.

University Attendance Policy: Students are expected to attend regularly all classes for which they are registered. When the number of absences is excessive and hinders a student's progress—normally, for a 15-week course that would mean ***more than three consecutive absences or five cumulative absences***—the instructor may recommend expulsion from the class.

Based on the recommendation of the instructor, and with the concurrence of the Campus Academic Officer and the Campus Student Services Officer, a student will be dropped for persistent absences or for persistent failure to complete assignments. Similarly, a student may be dropped for behavior that interferes with the educational environment of the class. Any student who has been dropped has the right to appeal through the Student Academic Grievance Policy (see Student Handbook).

I will follow this NMSU rule for Biology 254/L. If you are absent *for any reason* for three consecutive meetings or five cumulative meetings, I will begin the drop procedures. If you miss parts of class meetings, I will begin the drop procedures when your cumulative total has reached the equivalent of five meetings. (This really should be your responsibility). Notice, that there are not particular types of absences that are excused. Five cumulative absences are more than enough; be sure that you do not use up your absences for non-essential reasons. (I am able to drop you only before the drop date, March 12; after that time I will not be able to help you in this way). Attendance does affect your grade.

Statement Regarding Academic Misconduct:

Any student found guilty of academic misconduct shall be subject to disciplinary action. Academic misconduct includes, but is not limited to, the following actions:

- CHEATING
- PLAGIARISM
- UNAUTHORIZED POSSESSION OF EXAMINATIONS, RESERVE LIBRARY MATERIALS OR LABORATORY MATERIALS
- UNAUTHORIZED CHANGING OF GRADES ON AN EXAMINATION, INSTRUCTOR'S GRADE BOOK OR GRADE REPORT
- NONDISCLOSURE OR MISREPRESENTATION IN FILLING OUT APPLICATIONS OR OTHER COLLEGE RECORDS

Americans with Disabilities Act (ADA)

If you have, or believe you have, a disability and would benefit from any accommodation(s), you may wish to register with the Student Services Office on the first floor of Martinez Hall. All medical information will be treated confidentially.

After you have registered, please make sure that I receive a copy of the accommodation memorandum from Student Services within the first two weeks of class. It will be your responsibility to inform me or the Office of Student Services (in a timely manner) if the services/accommodations provided are not meeting your needs.

If you have a condition that may affect your ability to exit safely from the premises in an emergency or that may cause an emergency during class, you are encouraged to discuss any concerns with Ms. Irene Lutz, Campus Student Services Officer, at 287-6629, or with me at 287-6649.

Feel free to call Ms. Lutz at the number above or Ms. Elva G. Telles, NMSU EEO/ADA Director, at 505-646-3333 with any questions about the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act of 1973.

Tentative class schedule:

Text Chapter

Lab Exercises and Review Sheets

8: Joints	10: Joints and Body Movements
11: Fundamentals of the Nervous System and Nervous Tissue	13: Neuron Anatomy and Physiology
12: The Central Nervous System	14: Gross Anatomy of the Brain and Cranial Nerves 15: Spinal Cord and Spinal Nerves 16: Human Reflex Physiology
16: Blood	19: Blood
17: The Cardiovascular System: The Heart	20: Anatomy of the Heart
18: The Cardiovascular System: Blood Vessels	21: Anatomy of Blood Vessels 22: Human Cardiovascular Physiology—Blood Pressure and Pulse Determinations
20: The Immune System	(none)
21: The Respiratory System	23: Anatomy of the Respiratory System 24: Respiratory System Physiology

Tests, lasting approximately 1-1½ hours, will be given after every chapter; dates will be determined during class. Work will continue after each test.

Disclaimer: The instructor, at her discretion, may modify this syllabus to meet the needs of the students. Please realize that the content-driven format of this course cannot be altered.

IMPORTANT DATES TO REMEMBER:

March 12, 4 pm—Last day to drop a course with a W

March 19-23—Spring Break

April 20—Last day to withdraw from the university

May 7—Continued work during exam week

May 9—Last test