

BIO 205

HUMAN ANATOMY AND PHYSIOLOGY I

4 cr. (3-2)

COURSE DESCRIPTION:

A study of the structure, functions, and homeostatic mechanisms of the normal human body. Subjects covered include: fundamentals of the chemical basis of life; cell structure and physiology; tissues; integumentary, skeletal, muscular, central and autonomic nervous systems; and special senses. The laboratory includes dissection of a cat, small mammal, mammalian eye, and appropriate physiological experiments.

PREREQUISITES: None**COURSE OBJECTIVES:**

Upon completion of the course, the student will be able to:

1. Understand and use basic anatomical terminology.
2. Explain basic chemical concepts addressed in this course.
3. Describe anatomy of cells and function of cell organelles.
4. Identify the types of tissues and explain their functions relative to their structure.
5. Identify components and explain functions of the integumentary, skeletal, muscular and nervous systems and the special senses.
6. List homeostatic mechanisms of the body.
7. Describe ways the body performs as a unified whole.

COURSE OUTLINE:

- I. BODY AS A WHOLE
 - A. Anatomical Terms Chapter 1
 - B. Homeostatic Mechanisms Chapter 1
 - C. Chemical Basis of Life Chapter 2
 - D. Cells Chapter 3
 1. Organelles
 2. Movement through cell membranes
 3. Metabolism
 - E. Tissues Chapter 4
 1. Epithelial
 2. Connective
 3. Muscle
 4. Nervous
 - F. Integumentary System Chapter 5
 1. Membranes
 2. Skin

II. SUPPORT AND MOVEMENT

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|--|------------|
| A. Skeletal System | |
| 1. Skeletal tissue | Chapter 6 |
| 2. Bones | Chapter 7 |
| 3. Articulations | Chapter 8 |
| 4. Functions | Chapter 8 |
| B. Skeletal Muscles | Chapter 9 |
| 1. Cells | |
| 2. Muscular contraction | |
| 3. Muscular responses | |
| 4. Skeletal muscle location and function | Chapter 10 |

III. COMMUNICATION, CONTROL AND INTEGRATION

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|------------------------------|------------|
| A. Nervous System | Chapter 11 |
| 1. Cells | |
| 2. Impulse conduction | |
| B. Central Nervous System | Chapter 12 |
| C. Peripheral Nervous System | Chapter 13 |
| D. Autonomic Nervous System | Chapter 14 |
| E. Sense Organs | Chapter 15 |

COURSE REQUIREMENTS:

Attendance is necessary for your success in this course. Attendance (or lack of) will be considered in the determination of your final grade.

All cell phones are to be turned off before entering the classroom or lab.

Student Success Center. Tutors may be obtained through the Student Success Center. Contact the staff in C219 if this service is desired. John A. Logan College will make reasonable accommodations for students with documented disabilities under Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990. Any student with a disability that may have some impact on work in this class, who feels she/he needs an accommodation, should make an appointment with the Coordinator of Services for Students with Disabilities on campus, Jennifer Frost, Room C219B, Ext. 8516. Before services can be provided, this advisor must determine eligibility and arrange appropriate academic adjustments. ***It is the student's responsibility to register in advance of a school term with this office and to turn in a schedule each term to ensure that there is every opportunity for success in this class.***

English Writing Center/Tutoring: For assistance with writing assignments in any college course, students are encouraged to visit "The Write Place" in E109. English instructors are available for one-on-one tutoring each semester during hours posted at the center.

Financial Aid. Students who receive financial assistance and completely withdraw from classes prior to 60% of the semester being completed (approximately 2-3 weeks after midterm) could be responsible to return a portion of their Federal Pell Grant award. Prior to withdrawing from courses, students should contact the Financial Aid Office.

Course Withdrawal Information. It is expected that you will attend this class regularly. If you stop attending for any reason, you should contact your advisor and withdraw officially to avoid the posting of a failing grade (an E) to your transcript. It is also advisable to discuss the situation with your instructor before dropping.

METHOD OF EVALUATION:

Lecture (Chapter tests)
Laboratory
Final Examination
Total

Total Number of Points Earned
Total Number of Points Available

Grading Scale:

90 - 100 = A
80 - 89 = B
70 - 79 = C
60 - 69 = D
Below 59 = E

Length of course: 16 weeks = 1 semester

Class participation: 48 hours
Laboratory participation: 32 hours
Total 80 hours

The laboratory grade will be based upon two practical examinations, skeleton and muscle diagram tests, and a composite score based on lab reports, quizzes, and dissections. Students will be required to complete selected lab review sheets in the back of the lab manual.

Approximately six lecture tests will be given and the student's lowest score will not be counted in the lecture average. For a test to be dropped, all exams must be taken.

Only one makeup exam will be given per student; the make up will be taken during the instructor's office hours the following day.

Examination grades will not be curved, however, point adjustment may occur via open note, open book, or impromptu (pop) quizzes and critical thinking activities.

Use of CD ROM tutorials in the Biology Tutoring Center is recommended, and acceptable for extra credit. Check-in in room C244. CD ROM titles which may be used are:

1. A.D.A.M. Standard
2. A.D.A.M. Ideal Gross Anatomy Practical
3. Mitosis
4. Interactive Physiology--Muscular System
5. Interactive Physiology--Nervous System

METHOD OF PRESENTATION:

The course will be taught from a systematic approach to the anatomy and physiology of the body and will include:

1. Classroom lecture and discussion
2. Laboratory demonstrations, experiments, and dissection
3. Microscopic examination of prepared slides and materials
4. Anatomical charts
5. Filmstrips, video, slides, transparencies, and overhead projector
6. Videotapes and laser disc
7. Chalkboard
8. Preserved organs
9. Human skeletons
10. Models
11. Various instrumentation
12. Projected slides: Human cadaver dissection

TEXT:

Human Anatomy and Physiology, Elaine Marieb, Benjamin/Cummings, 7th Ed., 2006.

Human Anatomy and Physiology Laboratory Manual, Elaine Marieb, Pearson/Benjamin/Cummings, 8th Ed., 2004.

INSTRUCTOR:

Jill Hunt
Office: G219D
Office Hours: Mon. 4:30-5:30; Wed. 4:30-5:30
E-mail: jillhunt@jalc.edu

DATE:

Spring, 2009

John A. Logan College Telephone Numbers

Carterville and Williamson County	985-3741 (operator)
	985-2828 (direct extension access)
Carbondale and Jackson County	549-7335 (operator)
	457-7676 (direct extension access)
Du Quoin	542-8612
West Frankfort.....	937-3438
Crab Orchard, Gorham, & Trico areas	1-800-851-4720
TTY (hearing-impaired access)	985-2752

John A. Logan College does not discriminate on the basis of race, religion, color, national origin, disability, age, sexual orientation, or gender orientation.

Laboratory Schedule (tentative)

Lab 1:	Human torso model Body organization Organ systems overview	Mon. Jan. 12	Exercises 1 & 2
	Holiday	Mon. Jan 19	
Lab 2:	Use of microscope Cell structure Cell cycle Human chromosomes	Mon. Jan. 26	Exercises 3 & 4
Lab 3:	Brownian movement Diffusion Dialysis Osmosis Filtration Phagocytosis	Mon. Feb. 2	Exercises 5A
Lab 4:	Epithelial tissues Connective tissues Muscle and nerve tissues	Mon. Feb. 9	Exercise 6A
	Holiday	Mon. Feb. 16	
Lab 6:	Bone; gross anatomy, microscopic structure and chemical composition Axial skeleton: Skull, vertebral column, thorax	Mon. Feb. 23	Exercises 9 & 10
Lab 7:	Pectoral girdle and upper limbs Pelvic girdle and lower limbs Fetal skeleton Joints: shoulder joint X-rays	Mon. Mar. 2	Exercises 11 - 13
	Spring Break	Mon. Mar. 9 -14	
Lab 8:	Practical	Mon. Mar. 16	
Lab 9:	Skeletal muscle structure Video: Human cadaver muscle dissection	Mon. Mar. 23	Exercises 14 & 15
Lab 10:	Cat musculature dissection Skin removal Head and neck muscle Thorax and abdominal wall Muscle	Mon. Mar. 30	Exercises 14 & 15

Lab 11:	Cat musculature dissection Shoulder and back muscles Fore limb muscles Hips and hind limb muscles	Mon. Apr. 6	Exercises 14 & 15
Lab 12:	Nervous tissue Ganglion slides Brain models and cranial nerves Preserved sagittal section of human brain Dissection, sheep brain Video – Human cadaver Central nervous system dissection	Mon. Apr. 13	Exercises 17 - 19
Lab 13:	Reflexes Spinal cord models Spinal nerve dissection, cat Video - Human cadaver Peripheral nervous system dissection	Mon. Apr. 20	Exercises 20 - 23
Lab 14:	Receptors and somatic senses Eye models Ophthalmoscope Vision tests Dissection of sheep or cow eye Video of eye dissection	Mon. Apr. 27	Exercises 24 & 25
Lab 14:	Practical	Mon. May 4	

Additional Information

Your instructor welcomes you to Human Anatomy and Physiology and is most interested in your having success in this course.

Students may make up any missed lecture class by attending other lecture sections taught by the instructor. Labs may be made up only if lab space is available and the material to be covered is the same as that missed by the student. Please check with the instructor.

Because of safety and potentially inappropriate material or disruption, children should not be present in the laboratory or classroom.

Laboratory Help Sessions. The laboratory will be open for students needing assistance each _____. I will be available to help you at this time. Students may also have access to the lab at other times when no classes are scheduled in the lab. Please check in and out with the laboratory technician or student worker in Room C251-A and keep the laboratory locked during these times.