

**JOHN A. LOGAN COLLEGE**

**T. Miksanek (Lecture) – FL 09**

**R. LaSalle (Lab) – FL 09**

**BIO 205-03, 09**

**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 terms.
2. Explain basic chemical concepts addressed in this course.
3. Describe the anatomy of cells and the 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 as well as the special senses.
6. List homeostatic mechanisms of the body.
7. Describe ways the body performs as a unified whole.

**COURSE OUTLINE:**

1. ORGANIZATION OF THE BODY  
The Human Body: An Orientation (Chapter 1: pp 1-22)  
Chemistry Comes Alive (Chapter 2: pp 23-60)  
Cells: The Living Units (Chapter 3: pp 61-112)  
Tissue: The Living Fabric (Chapter 4: pp 113-147)
2. COVERING, SUPPORT, AND MOVEMENT OF THE BODY  
The Integumentary System (Chapter 5: pp 148-171)  
Bones and Skeletal Tissues (Chapter 6: pp 172-197)  
The Skeleton (Chapter 7: pp 198-247)  
Joints (Chapter 8: pp 248-274)  
Muscles and Muscle Tissue (Chapter 9: pp 275-319)  
The Muscular System (Chapter 10: pp 320-384)

### 3. REGULATION AND INTEGRATION OF THE BODY

Fundamentals of the Nervous System and Nervous Tissue (Chapter 11: pp 385-428)

The Central Nervous System (Chapter 12: pp 429-483)

The Peripheral Nervous System and Reflex Activity (Chapter 13: pp 484-524)

The Autonomic Nervous System (Chapter 14: pp 525-546)

The Special Senses (Chapter 15: pp 547-593)

#### **METHOD OF EVALUATION:**

Lecture Chapter Tests (50%): Sept 11, Sept 25, Oct 16, Oct 30, Nov 20, Dec 7

Laboratory (30%)

Final Exam (20%)

Class Attendance & Participation (priceless)

-----The final grade is based on a possible total of 1,000 points. The grading scale is as follows:

A = 900-1,000

B = 800-899

C = 700-799

D = 600-699

E = less than 600

Six lecture tests will be given. Your best 5 scores will count in the lecture grade average. If you miss taking a lecture test, your score for it is zero. Attendance is required. Prolonged or frequent absence from class will be reported to the Department Chairperson. You are responsible for all assigned readings and all materials presented in class.

The laboratory grade will be based upon 2 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.

Use of CD ROM tutorials in the Biology Tutoring Center is recommended. Check-in is in room C243A. Suggested CD ROM titles include:

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 may include: classroom lecture and discussion; laboratory demonstrations, experiments, and dissection; microscopic examination of prepared slides and materials; anatomical charts; filmstrips, video, slides, transparencies, and overhead projector; videotapes and laser disc; chalkboard; preserved organs; human skeletons; models; various instrumentation; projected slides

## **College Information:**

**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 Room 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.

## **TEXT:**

**Human Anatomy & Physiology,** Marieb & Hoehn, 8<sup>th</sup> edition, 2010  
ISBN # 978-0-8053-9569-3

**Human Anatomy & Physiology Laboratory Manual,** Marieb and Mitchell, 9<sup>th</sup> edition,  
2009  
ISBN # 978-0-321-54245-8

**INSTRUCTORS:** Tony Miksanek (lecture)  
E-mail: [Tmiksane@aol.com](mailto:Tmiksane@aol.com)  
Phone: (618) 435-2362  
Office hours will be scheduled upon request.

Richard LaSalle (laboratory)  
Office: G219D  
Office hours will be scheduled upon request.  
E-mail address: richardlasalle@jalc.edu

**DATE:** Fall, 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	Exercises 1 & 2
Lab 2:	Use of microscope Cell structure Cell cycle Human chromosomes	Exercises 3 & 4
Lab 3:	Brownian movement Diffusion Dialysis Osmosis Filtration	Exercises 5A
Lab 4 & 5:	Epithelial tissues Connective tissues Muscle and nerve tissues	Exercise 6A
Lab 6:	Bone; gross anatomy, microscopic structure and chemical composition Axial skeleton: Skull, vertebral column, thorax	Exercises 9 & 10
Lab 7:	Pectoral girdle and upper limbs Pelvic girdle and lower limbs Fetal skeleton Joints: shoulder joint X-rays	Exercises 11 - 13
Lab 8:	Practical	
Lab 9:	Cat musculature dissection Video: Human cadaver muscle dissection	Exercises 14 & 15
Lab 10:	Cat musculature dissection	Exercises 14 & 15
Lab 11:	Human muscle models	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	Exercises 17 - 19
Lab 13:	Reflexes Spinal cord models Spinal nerve dissection, cat Video - Human cadaver Peripheral nervous system dissection	Exercises 20 - 23
Lab 14:	Receptors and somatic senses Eye models Ophthalmoscope Vision tests Dissection of sheep or cow eye Video of eye dissection	Exercises 24 & 25
Lab 15:	Practical	

### 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.