

**Cedar Crest College**  
**BIO 217, Human Anatomy and Physiology I**  
**Laboratory Syllabus and Operational Procedures**  
**Fall 2009**

**Instructor:** Mrs. Judith Malitsch

**Office:** Miller 23; Office Hours – M 4-5, W 1-4, R 1-2 and by appointment.

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**I. Description:** Human Anatomy & Physiology I (0 credits for lab; 4 credits lecture & lab)

This laboratory course is a comprehensive, experiential study complementing lecture and integrating the structure and function of the human body with a problem-based approach and clinical applications. Although the laboratory will focus on anatomy, several exercises will investigate the physiology pertinent to cell or system study. Laboratory exercises will include anatomical terminology, a survey of body systems, microscopy, cytology, histology and a macroscopic and microscopic study of the integumentary, skeletal, muscular, nervous and sensory systems coupled with cat and organ dissections.

*Pre-requisites: Bio 121, 122 or permission of instructor; lab must be taken concurrent with lecture*

**II. Course Objectives:** In a hands-on approach of experiences, students will develop a coherent understanding of the human body through the use of slides, models, specimens, experiments and audiovisual aids in order to:

- ◆ Learn, understand and appreciate the anatomical and physiological design of the human body.
- ◆ Learn, understand and appreciate the intimate relationship between structure and function.
- ◆ Learn, understand and appreciate the interrelationships of the body systems.
- ◆ Learn, understand and appreciate the concept of homeostasis.

**III. Learning Outcomes/Assessment:**

- ◆ Students will demonstrate knowledge of anatomical (medical) terminology and engage in direct applications to health careers.  
**Assessment:** Lab practical tests and problem-solving assignments.
- ◆ Students will demonstrate knowledge of physiology and the understanding that structure determines function.  
**Assessment:** Experiments, lab practical tests, problem-solving assignments.
- ◆ Students will develop critical thinking and scientific reasoning skills in the analysis of physiological experiments and macroscopic to microscopic comparisons.  
**Assessment:** Discussions, physiological pathways, and lab practical tests.
- ◆ Students will demonstrate knowledge of the cellular importance of the anatomical design of the human body and use microscopy skills to appreciate that relationship.  
**Assessment:** Cytological and histological studies; lab practical tests.
- ◆ Students will demonstrate anatomical knowledge of bones, muscles, the nervous system and senses.  
**Assessment:** Skeletons (articulated, disarticulated), cat dissections, sheep brains, cow eyes, cadaver photos.
- ◆ Students will develop skills and competencies in microscopy and dissections.  
**Assessment:** Cat dissection evaluations, lab practical tests

#### IV. Laboratory Course Topics:

- Anatomical Terminology
- Organ Systems
- Microscopy
- Cell Structure/Function
- Tissues
- Integumentary System
- Skeletal System
- Muscular System
- Nervous System
- Special Senses

#### V. Required Books:

Marieb, E. and Hoehn, K. 2010. *Human Anatomy and Physiology*, 8th Ed. Pearson/Benjamin Cummings, San Francisco, CA

Marieb, Elaine N., Mitchell, Susan J. 2009. Human Anatomy and Physiology Laboratory Manual. (Cat), 9<sup>th</sup> Ed. Update. Pearson Benjamin Cummings, San Francisco, CA

Leboffe, Michael J. 2003. A Photographic Atlas of Histology, Morton Publishing Co., Englewood, CO.

Rohen J.W., Yokochi, C., Lutjen-Drecoll, E. (2006). *Photographic Anatomy of the Human Body*, 6<sup>th</sup> Ed. Lippincott, Williams & Wilkins, Philadelphia, PA

#### VI. POLICIES: Attendance

Laboratory attendance is **MANDATORY**. Notification from the Dean of Student's Office is the **only** acceptable documentation for an absence. **Undocumented lab absences on non-test days will result in a 10% current test grade reduction for each absence. Undocumented lab absences on test days will result in a zero for the test.**

A documented absence on a test day will result in an incomplete grade for the course providing you have completed 75% of the course with an overall minimum average of a C-. The test will then be completed in accordance with the policy as stated in the college catalog and at my discretionary time. We will discuss the consequences of any documented absences

Tardiness may also be penalized at my discretion. If you arrive late for a test, you will forfeit that time for completion of the test.

#### Preparation for Class:

Lab coats and closed-toe shoes are mandatory. Fingernail length must not interfere with lab skills. Bring your lab manual, supplemental guides, folder, notebook, highlighter, colored pencils (optional) **to every lab**. Prepare for each lab by reading through the exercise. Since the labs are very comprehensive and thorough in design, it is imperative that you are prepared to work. Use all available class time for laboratory work, written work, or both.

#### While in Lab: Take notes!

**Written Work:** You are expected to completely answer all questions and label all diagrams in the lab exercise and study the laboratory review sections (answer keys provided). Problem-solving assignments will be assigned and due the next lab period unless otherwise indicated.

**Laboratory Work:** You are expected to complete each exercise. You will be required to work on cat dissections on your own time to prepare the cats for dissection grading and to study for the lab tests. You are expected to contribute 100% as a team member. In order to be successful in A&P lab, **YOU MUST COME INTO THE LAB TO STUDY!** Plan your time for study/dissection review in the lab during *open lab times* and on weekends.

**When not in lab:** Use the *PAL* (Practice Anatomy Lab) study tool linked to the [www.MyA&P.com](http://www.MyA&P.com) website. You must register using the access code in your lab manual. This site contains five modules that are excellent for reviewing lab. Also, be sure the lab book's CD-ROM for the videos, practice quizzes and histology atlas and supplement

**A lab practical review session will be held on the Sunday preceding the first lab exam in the cycle.** To help you schedule time for these lab exam review sessions, please note the following dates for these review sessions: **SEPTEMBER 20, OCTOBER 25 and NOVEMBER 29.** Further details regarding times will be announced in lab and through emails. You can plan on these review sessions occurring during late afternoon, approximately 4PM however, this time is subject to change.

### **Evaluation/Grading:**

- **There will be three (3) non-cumulative practical exams.** Each *practical* will consist of *stations* with thought questions pertaining to a model, slide, specimen and a *handout* with multiple choice questions, pathways and short answer questions. The Honor Code must be followed in all work and on tests. Success on exams will depend upon your weekly preparation and participation and review during open lab times. **YOU MUST COME INTO THE LAB TO STUDY.**
- **Cat Dissections**, where applicable, **problem-solving assignments and lab analyses will be graded** as announced and averaged into your final lab grade along with your test grades. Lack of teamwork on the cat dissections will result in a zero for the dissection grade of the uncooperative team member followed by an independent dissection without the benefit of teamwork in order to earn back points.
- Your lab grade is then 50% of your final course grade.
- You are responsible for **EVERYTHING** discussed in lab.

**Cedar Crest :** The professors within the Department of Biological Sciences support the campus-wide policies as described in the *Student Handbook*.

I fully support the **Cedar Crest College Honor Code, Academic Standards of Integrity and Classroom Protocol Code** as stated in the *Student Handbook*. Cheating will result in a zero for the test/assignment. Any violation should be brought to my attention. Violations may result in removal from lab and be formally addressed by the appropriate individuals: Dr. Carol Pulham (Provost), Dr. John Cigliano (Chair), Dr. Denise O'Neill (Acting Dean of Students), Christine Nowik (Director of the Academic Services), and the Honor and Judicial Board. There will be zero tolerance during lab and 'open lab times' for disruptive and disrespectful behavior. Security will be called in the event such behavior occurs.

I fully support the College's policy on plagiarism as described in the Student Handbook. Based on the severity of the offense, students will be required to redo an assignment or get an F for the assignment. Cases will be reported to the Provost as necessary.

Students with documented disabilities who may need academic accommodations should discuss these needs with their professors during the first two weeks of class. Students with disabilities who wish to request accommodations should contact the advising center.

### **Need to Know:**

- All students must have CCC email for laboratory communication and in the event of an emergency. Check it daily.
- ALWAYS bring your lab manual **and guides** to class.
- **Everyone must wear a lab coat**, not an oversized shirt, apron, or disposable microbiology coat and closed toe shoes; wear gloves/goggles when necessary. Tie back any long hair while in the lab. Clean your lab tables after each exercise with the bleach solution in the spray bottles on the lab tables. Wash your hands frequently.
- Laboratory equipment, slides, specimens, models etc. must not be removed from SC 102.
- Cell phones, digital cameras and other electronic devices are not allowed in lab. If there is an impending situation that warrants cell phone availability, please discuss this with your professor before lab begins. **The use of digital cameras for photography during lab class is prohibited.**
- Due to the hazards in lab and abiding by the classroom protocol code establishing a learning environment for all registered students, children are not permitted to be in the lab. Food and beverages (including anything bottled) are not permitted in the lab.
- If you don't understand instructions, **ASK**; whenever you are unsure, **ASK**.
- Our *open lab policy* and philosophy provide you with opportunities to prepare/complete lab exercises and cat dissections, review lab exercises and prepare for tests. Open labs will be posted on the door of Room 102. Open lab times will change during practical exam weeks and to accommodate BIO 111 practical exams. Check the lab for any posted notices regarding other necessary lab closures. Whenever you are in the lab studying, SIGN IN and SIGN OUT on the clipboard in the lab and always bring your student ID.

Additionally, Security has a list of all BIO 217 A&P Lab students. Therefore, if you wish to stay later or arrive after hours (within reason), security will allow you to do so with your college ID. If you need assistance or help, use any campus telephone to dial '0' to reach a Safety & Security Officer. While off campus, call 610-437-4471 and ask for assistance. **However, if any lab equipment is found to be missing, extended lab privileges will be terminated and the lab will be locked over the weekends**

*Science Center Hours: Sunday-Friday 7:00 AM – 10:00 PM*  
*Saturday 7:00 AM – 6:00 PM*

- It is my responsibility to provide you with the highest quality experience in A&P lab and the overall course. Taken as an elective or as required by your major, you will be experiencing a course chock full of information, opportunities to learn, acquisition of new skills and become adept in handling clinical and scientific information regarding the human body. In addition to the enormous benefits of self-knowledge about your body, you will be prepared to handle any medical aptitude tests, graduate work in the fields of anatomy and physiology and professional training as a physician assistant, physician, dentist, veterinarian or nuclear medicine technologist.
- Seek the help of our very knowledgeable IA, Morgan Dorsey (note the IA handout). Seek the help of a tutor (free) through the Academic Services, Ext. 3484, Curtis 109

## BIO 217 ANATOMY AND PHYSIOLOGY LABORATORY SCHEDULE FALL 2009

DATE	LAB EX.	GENERAL REFERENCE INFO.	TOPICS
Aug. 25	1, 2	Chap. 1 <i>PAL</i>	Introduction Anatomical Terminology Organ Systems Body Membranes
Sept. 1	3, 4	Chap. 3	Microscopy Cell Structures, Organization & Functions, Mitosis/Meiosis
Sept. 8	6, 7	Chap. 4,5 Lab Reference: 9,17	Histology ( <i>PAL</i> ) Integumentary System
Sept. 15	5,6,7,8	Chap. 3,4,5	Membrane Transport Histology Review/Membranes
<b>Sept. 22</b>	<b>****</b>	<b>****</b>	<b>LAB EXAM I</b>
Sept. 29	9,10,11,	Chap. 6,7,8	Skeletal System
Oct. 6	11,12,13,15 Begin Cat Ex. #1	Chap. 6,7,8	Skeletal System Muscular System Intro.
Oct. 20	15, <i>16A (Activity 1), 14</i>	Chap. 9,10	Muscular System
Oct. 27	15	Chap. 9,10	Muscular System <b>Cat Dissection Evaluation</b>
<b>Nov. 3</b>	<b>****</b>	<b>****</b>	<b>LAB EXAM II</b>
Nov. 10	17,19,21	Chap. 11-14	Nervous Tissue and Brain Study
Nov. 17	21,22,23,24 Cat Ex. #2	Chap. 11-15	Spinal Cord Anatomy, Nerves, Reflexes/Testing, General Sensation Eye Dissection
Nov. 24	25, 26	Chap. 15	Ear Anatomy Complete Sensory Testing
<b>Dec. 1</b>	<b>****</b>	<b>****</b>	<b>LAB EXAM III</b>

*Note: No lab Oct. 13-Fall Break. Final lab Class = Lab Test #3 on 1212 (no separate lab final)  
Selected reference information from your Text, Histology Atlas and Photographic Anatomy book aka  
Cadaver Book will be listed on your other lab handouts.*