

**Cedar Crest College**  
**BIO 218, Human Anatomy and Physiology II**  
**Laboratory Syllabus and Operational Procedures**  
**Spring 2010**

**Instructor:** Mrs. Judith Malitsch

**Office:** Miller 23; Office Hours – M 4-5, W 1-4, R 2-3 and by appointment

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- I. Description: Human Anatomy & Physiology II** **4 credits (lecture and lab)**
- The laboratory component is a comprehensive complement and extension of lecture integrating the structure and function of the human body with a problem-based approach and clinical applications. Laboratory activities will involve a microscopic and macroscopic study of the following systems: Endocrine, Cardiovascular, Lymphatic/ Immune, Respiratory, Digestive, Urinary and Reproductive systems enhanced by a great deal of dissections including cats, fetal pigs, sheep and pig organs, observation of human organs, microscopy and clinical assessment. Although the laboratory focuses on anatomy, several exercises will investigate the physiology pertinent to a system including circulation, respiratory volume capacities, metabolism, fluid and electrolyte balance, and development.  
*Prerequisites: BIO 217 or Permission of Instructor*
- 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, posters, 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 and medical terminology and engage in direct application to professional health careers and their own health and wellness.  
**Assessment:** Lab practical exams and problem-solving assignments.
  - ◆ Students will demonstrate knowledge of the cellular importance of the anatomical and physiological design of the human body and its relationship to disease and disorder states.  
**Assessment:** Cytological and histological studies; lab practical exams.
  - ◆ Students will develop competencies in microscopy and dissections.  
**Assessment:** Laboratory practice, lab practical exams, dissection evaluation.
  - ◆ Students will develop critical thinking, analytical and scientific reasoning skills.  
**Assessment:** Problem-solving assignments, physiological experiments.
  - ◆ Students will demonstrate an understanding that function is determined by structure.  
**Assessment:** Dissections, exploration of models, cytological/histological studies, lab practical exams.
  - ◆ Students will demonstrate anatomical knowledge of endocrine glands, heart/blood vessels, fetal circulation pathways, respiratory, digestive, urinary, and reproductive systems.  
**Assessment:** Models, cat dissection evaluations, dissections (sheep heart, fetal pig, sheep pluck, pig kidney), human organs, cadaver photo study, lab practical exams.
  - ◆ Students will design and develop flowcharts of physiological pathways.  
**Assessment:** Class discussion, lab practical tests

#### IV. Laboratory Course Topics:

- Endocrine System
- Cardiovascular System
- Lymphatic/Immune System
- Respiratory System
- Digestive System/Metabolism
- Urinary System
- Reproduction System/Development

#### V. Required Texts:

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, 9th Ed. Update. Pearson Benjamin Cumming, San Francisco, CA (**BIO 218**)

Leboffe, Michael J. 2003. *A Photographic Atlas of Histology*, Morton Publishing Co., Englewood, CO (**BIO 218**)

Rohen, J.W., Yokochi, C., Lutjen-Drecoll, E. 2006. *Color Atlas of Anatomy, A Photographic Study of the Human Body*, 6<sup>th</sup> Ed. Lippincott Williams & Wilkins Publishers, Inc., NY.

**Optional:** Medical Dictionary

#### 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 and colored pencils (optional for drawings) **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 Class: 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 sheets (answer keys are provided for the review sheets). Problem-solving assignment(s) 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. Non-cooperation will be penalized. 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 the 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 to use your lab book's CD Rom for the videos, practice quizzes and histology atlas and review supplement

**Evaluation/Grading:**

- **There will be three non-cumulative practical exams.** Each *practical* will consist of *stations* with thought questions pertaining to a slide, model, specimen or laboratory activity and a *handout* with multiple choice questions, pathways and short answer questions. The Honor Code philosophy must be followed in all work and tests. Success on exams will depend upon your weekly preparation, participation and review which should include study time spent in the lab outside of class time. **YOU MUST COME INTO THE LAB TO STUDY.**

**A lab practical review session will be held on the weekend before 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: **FEBRUARY 20 (Saturday), APRIL 5 (Monday), and APRIL 25 (Sunday).** These review sessions will be held from 4-7 PM. The lab will be closed from 1-4 on these dates to prepare for the review sessions.

- 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 may 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 announced/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 the attention of the instructor. 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 Academic Services), and the Honor and Judicial Board.

There will be zero tolerance during lab and open lab times for disruptive, 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 may 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 2 weeks of class. Students who wish to request accommodations should contact the advising center.

### **Need to KNOW:**

- ◆ All students must have CCC email for lab communication and in the event of an emergency. Check it daily. During inclement weather, if the college is open, we will have lab and the attendance policy is in effect.
- ◆ ALWAYS bring your lab manual **and guides** to class.
- ◆ **Everyone must wear a lab coat**, not an oversized shirt, jacket or scrubs **at all times** and closed-toe shoes; wear gloves/goggles when necessary. Tie back long hair while in the lab. Clean your lab tables after each exercise with the bleach solution in 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 me 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 safety regulations and 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**.

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 as a result, you will 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 clinician including physician, physician assistant, dentist, veterinarian or nuclear medicine technologist.

- ◆ The *open lab policy* and *philosophy* provides 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 SC102. Open lab times will change during practical exam weeks and to accommodate BIO 112 practical exams. Check the lab for any posted notices regarding other necessary lab closures and check email for any announcements. Whenever you are in the lab studying, please 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 218 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.

*Science Center/SC 102 Hours: Sunday-Friday 7:00 AM – 10:00 PM*  
*Saturday 7:00 AM – 6:00 PM*

**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.**

- ◆ Seek the help of our very knowledgeable IA, Morgan Dorsey. Note the IA times and lab practical review sessions on the IA handout.  
Seek the help of a tutor (free) ASAP through Academic Services, Curtis 109, Ext. 3484.

**BIO 218 ANATOMY AND PHYSIOLOGY LABORATORY**  
**Spring 2010**

<b>DATE</b>	<b>LAB EX.</b>	<b>GENERAL INFORMATION</b>	<b>TOPICS</b>
Jan. 19	27, 28A Handout <b>32</b>	Chap. 16	Endocrine System Anatomy Endocrine System Physiology (Video) Begin blood vessel study
Jan. 26	29A  <b>32, Cat Ex. #3,4</b>	Chap. 17 Chap. 19	Blood Smear Study: Activities 2,3 Blood Pathology (handout) Prepare cats for blood vessel study Continue blood vessel study
Feb. 2	29A  <b>32, Cat Exercise #4</b>	Chap. 17	Hematology: Total RBC & WBC counts Glucose Testing, Activities 1,4,5,6,7 Blood Vessel Study
Feb. 9	30, 32 <b>Cat Ex #4</b>	Chap. 18, 19 (Parts 1&3)	Heart Anatomy Blood Vessels: Cat, Human
Feb. 16	32, 33A, 35A Fetal Pig Dissection  <b>Cat Ex #'s 4&amp;5</b>	Chap. 19, 20	Blood Vessels continued Special Circulation Patterns Cardiovascular Physiology Lymphatic System
<b>Feb. 23</b>	*****		<b>LAB EXAM I</b>
Mar. 2	36; <b>Cat Ex #6</b>	Chap. 22	Respiratory System Anatomy
Mar. 16	37A	Chap. 22	Respiratory System Physiology
Mar. 23	38; <b>Cat Ex #7</b>	Chap. 23	Digestive System Anatomy
Mar. 30	39A	Chap. 23, 24	Digestive System Physiology
<b>Apr. 13</b>	*****		<b>LAB EXAM II</b>
Apr. 20	40, 41A <b>Cat Ex #8</b>	Chap. 25	Urinary System Anatomy & Physiology Urinalysis
Apr. 27	42, 43, 44 <b>Cat Ex #9</b>	Chap. 27, 28	Reproductive System Anatomy  Embryonic Development
<b>May 4</b>	*****		<b>LAB EXAM III</b>

**NOTE:** No lab on March 19 (Spring Break) or April 6 (Monday schedule). Selected Reference Information from your text, Histology Atlas and the Cadaver Book will be listed on other lab handouts. Lab Exam #3 = last lab class. **Lab Review Dates: 2/20, 4/5, 4/25**