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, 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, 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:


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 assignments will be as announced.

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 Class: Use the PAL (Practice Anatomy Lab) study tool linked to the www.myap.com website. You must register using the access code in your lab manual. This site contains five modules that are excellent for reviewing lab. Be sure to use the Histology Module in addition to your lab book’s CD Rom for the first lab test. Also, be sure to use your lab book’s CD Rom for the videos, practice quizzes and histology atlas and review 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: FEBRUARY 22, APRIL 5, and APRIL 26. 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.

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 an additional handout with objective questions, pathways and discussion 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.

- 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.

- 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. Any violation should be brought to the attention of the instructor. Cheating will result in a zero for the test/assignment. Lack of teamwork on cat dissection projects may result in a zero for a dissection grade. You may also be required to completely redo a dissection or experiment without the benefit of teamwork. Violations may result in removal from lab and be formally addressed by the appropriate individuals: Dr. Amy Faivre (Acting Chair), Dr. Carol Pulham (Provost), Christine Nowik (Director of Academic Services), Dr. Denise O’Neill (Acting Dean of Students) 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 often.

♦ ALWAYS bring your lab manual and guides to class.

♦ Everyone must wear a lab coat, not an oversized shirt or apron, 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 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, Laura Christman. 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.
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<th>DATE</th>
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<th>TOPICS</th>
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<tr>
<td>Jan. 20</td>
<td>27, 28A Handout Cat Ex #3 (if time)</td>
<td>Chap. 16</td>
<td>Endocrine System Anatomy Endocrine System Physiology (Video)</td>
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<td>Jan. 27</td>
<td>29A</td>
<td>Chap. 17 Chap. 19</td>
<td>Blood Smear Study: Activities 2,3 Blood Pathology (handout) Prepare cats for blood vessel study Begin blood vessel study</td>
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<td>Feb. 3</td>
<td>29A</td>
<td>Chap. 17</td>
<td>Hematology: Total RBC &amp; WBC counts Glucose Testing, Activities 1,4,5,6,7 Blood Vessel Study</td>
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<td>Feb. 10</td>
<td>30, 32 Cat Ex #4</td>
<td>Chap. 18, 19 (Parts 1&amp;3)</td>
<td>Heart Anatomy Blood Vessels: Cat, Human</td>
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<td>Feb. 17</td>
<td>32, 33A, 35A Fetal Pig Dissection Cat Ex #’s 4&amp;5</td>
<td>Chap. 19, 20</td>
<td>Blood Vessels continued Special Circulation Patterns Cardiovascular Physiology Lymphatic System</td>
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<td>Feb. 24</td>
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<td>LAB EXAM I</td>
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<td>Mar. 3</td>
<td>36; Cat Ex #6 Chap. 22</td>
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<td>Respiratory System Anatomy</td>
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<tr>
<td>Mar. 17</td>
<td>37A</td>
<td>Chap. 22</td>
<td>Respiratory System Physiology</td>
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<td>Mar. 24</td>
<td>38; Cat Ex #7 Chap. 23</td>
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<td>Digestive System Anatomy</td>
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<td>Mar. 31</td>
<td>39A</td>
<td>Chap. 23, 24</td>
<td>Digestive System Physiology</td>
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<td>Apr. 7</td>
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<td>LAB EXAM II</td>
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<td>Apr. 14</td>
<td>40, 41A Cat Ex #8</td>
<td>Chap. 25</td>
<td>Urinary System Anatomy &amp; Physiology Urinalysis</td>
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<td>Apr. 21</td>
<td>42, 43, 44 Cat Ex #9</td>
<td>Chap. 27, 28</td>
<td>Reproductive System Anatomy Embryonic Development</td>
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<td>Apr. 28</td>
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<td>LAB EXAM III</td>
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**NOTE:** No lab on March 10 (Spring Break). 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.