

**CHESAPEAKE COLLEGE  
DIVISION OF ARTS AND SCIENCES**

**BIO 212  
Anatomy and Physiology II**

**COURSE OF STUDY**

**Fall, 2009**

<b>I. COURSE NUMBER AND TITLE:</b>	BIO 212: Anatomy and Physiology II
<b>Instructor:</b> T.K. Field, Ph.D. Assistant Professor Office: Cambridge Center 410 - 228- 5754, x 609 <a href="mailto:tfield@chesapeake.edu">tfield@chesapeake.edu</a>	<b>Office Hours:</b> Monday: 12:30-1:00 pm, 2:30 – 3:00 pm Tues/Thurs: 1:10-2:10 pm Wednesday: 4:15-5:45 pm <i>Other times by appointment</i>

**II. COURSE DESCRIPTION:**

An introduction to the structure and function of the human body. This course is the second of two courses involving a systematic study of the cardiovascular, respiratory, digestive, urinary, and reproductive systems. Homeostasis and endocrine relationships are stressed. Laboratory study includes microscopic and gross anatomies of these systems, with selected experiments in physiology. Three hours lecture and two hours laboratory per week. (4 credits)  
Pre-requisite: BIO 211

**III. COURSE GOALS:** After the completion of the course, the student should be able to:

1. Understand the anatomy, physiology, and homeostasis of the cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems.
2. Explain the role of the endocrine and nervous systems in homeostasis of the cardiovascular, respiratory, digestive, urinary, and reproductive systems.
3. Use appropriate scientific terminology to facilitate communication.
4. Develop critical thinking skills in application of the scientific method in analyzing specific case studies, using information literacy resources.
5. Use information literacy skills (computerized systems) to complete ancillary projects (in cooperation with LRC and Academic Computer Center).

**IV. COURSE REQUIREMENTS:** Specific behavioral objectives are found in three sources: in the text, in the laboratory manual, and with each unit of the syllabus. To complete the requirements of the course, the student must meet course objectives and:

1. Complete Learning Outcomes as reflected in specific Chapter objectives.
2. Complete all theory quizzes and examinations, with a minimum grade of 75.
3. Complete all laboratory quizzes and examinations, with a minimum grade of 75.
4. Complete all laboratory, computer, and L.R.C. assignments on time.
5. Apply the scientific method in solving specific case studies, using information literacy resources.
6. Take any standardized tests given at the end of the course, if any.

<b>V. COURSE OUTLINE:</b>		
<b>DATE:</b>	<b>DISCUSSION TOPIC:</b>	<b>TEXT PAGES:</b>
Week # 1: Aug 25	Special Senses Review: The ear, eye, nose, taste	Chap. 13-15 Review with emphasis on reflex arcs
<b>Labs runs Tues-Thurs</b>	<b>Laboratory # 1:</b> Reflex Physiology and Special Senses Review	Ex. 22-26
Week #2: Sept. 1	Endocrine System	Chap. 16
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #2:</b> Complete Vision, begin Endocrine Glands	Ex. 24 <b>Cow Eye Dissection</b> Ex. 27 Endocrine Glands
Week #3: Sept. 8	Blood, begin Cardiovascular System	Chaps. 17-18
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #3:</b> Hematology- Blood, Heart Anatomy	Ex. 29A Blood Analysis Ex. 30 Heart Anatomy <b>Sheep Heart Dissection Demo</b> <i>PhysioEx #29B - HW</i>
Week #4: Sept.15	<b>Lecture Exam 1</b>	<b>Select readings from Chapters 13-18</b>
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #4: PRACTICAL</b>	<b>Lab Practical #1</b> – Selected Exercises 22-27, 29-30 <b>*PhysioEx #29B – Due in lab</b>
Week #5: Sept.22	Cardiovascular, begin lymphatic's	Chap. 19-20
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #5:</b> Circulation	Ex. #32-33A <i>PhysioEx #34B- Homework</i>
Week #6: Sept. 29, Oct. 1	Lymphatic's cont., Immunity	Chap. 20-21
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #6:</b> Circulation cont., lymphatic's	<b>Cat Dissection 3-5</b> Ex. #35
Week #7: Oct. 6	Respiratory System	Chap. 22
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #7:</b>	<b>Lab Practical #2</b> – Selected Exercises #32-33, 35, Cat Dissection 3-5 <b>*PhysioEx #34B- Due in lab</b>
Week #8: Oct. 13	<b>Lecture Exam 2</b>	<b>Select readings from Chapters 19-22</b>
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #8:</b> Respiratory System	Ex. #36-37A <b>Pork Pluck Dissection (see cd)</b>
Oct. 15	<b>Mid-term grades due</b>	
Week #9: Oct. 20	Respiratory system continued...Digestive System	Chap. 22-23.
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #9:</b> Digestive System	Ex. #38, 39A( <i>Review Only</i> )
Week #10: Oct. 27	Digestion and Nutrition	Chap. 23-24.
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #10:</b> Review body systems	<b>Cat Dissection 6-9, determine sex by reproductive organ identification</b>
Week #11: Nov. 3	<b>Lecture Exam 3</b>	<b>Select readings from Chapters 22-24</b>
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #11:</b> Urinary System	Ex. #40-41A <b>Kidney Dissection (see cd)</b>
Week #12: Nov. 10	Urinary System and Fluid Balance ( <i>PhysioEx.41B- HW</i> )	Chap. 25-26.

<b>Labs runs Tues-Thurs</b>	<b>Laboratory #12:</b>	<b>Lab Practical #3</b> – Selected Exercises #36-41, Cat Dissection 6-9
Week #13: Nov.17	Reproductive System	Chap. 27 - <b>PhysioEx.41B - Due Tuesday Lecture</b>
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #13:</b> Reproductive System and gamete formation	Ex. #27 (review Endocrine system glands and organs and tissues affected), Ex. 42-43
<b>Nov. 24 and 25</b>	<b>College Holiday - Thanksgiving</b>	<b>No Classes</b>
Week #14: Dec. 1	Integration of Endocrine and Reproductive Systems	Ch. 16, 27; Systems wrap-up
<b>Labs runs Tues-Thurs</b>	<b>Laboratory #14:</b>	<b>Lab Practical #4</b> – Selected Exercises #27, 42-43
<b>Final Exam Dec. 10</b>	<b>Lecture Exam 4</b>  <b>Sec. 301-302</b> <b>TTH: 9:30- 11:30am</b>  <b>Sec. 303</b> <b>TTH: 3:30-5:30pm</b>	<b>Comprehensive Final</b>

(\*As the schedule allows, tests may be rescheduled to meet learning needs of the entire class.)

### Academic Instruction Emergency Management Plan

In the event that Chesapeake College needs to close for an extended period of time due to a flu pandemic, severe weather event, or other emergency situation, consideration will be given to the timing and duration of the closure as follows:

1. Closure during the semester for up to one week – there will be an opportunity to make up work missed without significant alteration to the semester calendar.
2. Closure extending beyond one week (or in situations where classes are cancelled on the same days/evenings over multiple weeks) – the College may extend the length of the semester. Depending on the timing of the closure, scheduled breaks, end of semester dates, and/or the processing of final grades might be impacted. Students can acquire information about closures on the College website or by calling 410-822-5400 or 410-228-4360. Chesapeake College courses held at off campus sites will follow the protocol of the host facility.

## Laboratory Schedule

<b>DATE:</b>	<b>LABORATORY TOPIC:</b>	<b>LAB TEXT PAGES:</b>
Week # 1: Aug.25	Introduction to the Laboratory <b>Laboratory # 1:</b> Special Senses:	For new/all students. Ex. 22-26
Week # 2: Sept. 1	<b>Laboratory #2:</b> Special Senses: Eye and ear, Endocrine Glands	Ex. 24 <b>Cow Eye Dissection</b> Ex. 27
Week # 3: Sept.8	<b>Laboratory #3:</b> Hematology Blood	Ex. 29A, ( <i>PhysioEx. #29B Homework</i> ) Ex. Heart Anatomy <b>Sheep Heart Dissection Demonstration</b>
Week # 4: Sept. 15	<b>Laboratory #4:</b>	<b>Lab Practical #1</b> Ex. 22-27, 29-30 <b>PhysioEx. #29B – Due in Lab</b>
Week # 5: Sept. 22	<b>Laboratory #5:</b> Circulation	Ex. 32-33A
Week # 6: Sept. 29, Oct. 1	<b>Laboratory #6:</b> Circulation and lymphatics	Ex. 35 <b>Cat Dissection 3-5</b>
Week # 7: Oct. 6	<b>Laboratory #7: Test #2:</b> Blood, heart, circulation and lymphatics.	<b>Lab Practical #2</b> Ex. 32-33, 35, Cat Dissection 3-5, <b>PhysioEx. #34B- Due in Lab</b>
Week # 8: Oct. 13	<b>Laboratory #8:</b> Respiratory System	Ex. #36-37A <b>Pork Pluck Dissection Demo (see cd)</b>
Week # 9: Oct. 20	<b>Laboratory #9:</b> Digestive System	Ex. 38, 39A( <i>Review only</i> )
Week # 10: Oct. 27	<b>Laboratory #10:</b> Review Body Systems	<b>Cat Dissection 6-9</b> , determine sex
Week. # 11: Nov. 3	<b>Laboratory #11:</b> Urinary System	Ex. 40-41A, <b>Kidney Dissection (see cd)</b>
Week # 12: Nov. 10	<b>Laboratory #12:</b>	<b>Lab Practical #3</b> Ex. 36-41, Cat Dissections 6-9
Week # 13: Nov.17	<b>Laboratory #13:</b> Endocrine System and Reproductive System ( <i>gamete production, ovulation</i> )	Review Ex. 27, Ex. 42-43
Nov. 24 & 25	<b>School Holiday - Thanksgiving</b>	
Week # 14: Dec. 1	<b>Laboratory # 14: Laboratory Test #3;</b>	<b>Lab Practical #4:</b> Ex. 27, 42-43

### VI: **TEACHING METHODS:**

Lecture, discussion, cooperative learning, use of models, charts and diagrams, audiovisual aids (DVDs, CDs, interactive computer simulations, My A&P Place), microscopy, use of laboratory specimens (fresh, frozen, preserved), reading assignments; instructor prepared handouts, selected laboratory experimentation, real time internet search engine research applications.

### VII: **INSTRUCTIONAL MATERIALS:**

#### **REQUIRED TEXTS:**

**Theory Text:** Marieb, E.N. (2007). Human anatomy and physiology. 7<sup>th</sup> edition. California: The Benjamin/Cummings Publishing Company. (ISBN 0-8053-5909-5)

**Laboratory Text:** Marieb, E.N. (2008). Human anatomy and physiology laboratory manual. (Cat version) 9<sup>th</sup> edition. California: The Benjamin/Cummings Publishing Company (ISBN 0-8053-7362-4)

Dissection Kit (supplied)

Dissection Apron (supplied)

**VIII. METHODS OF EVALUATION:**

The following grading scale will be used:

A = 100-93

B = 92-84

C = 83-75

D = 74-65

F = 64 & Below

Evaluation will be based upon the following:

4 Lecture Exams = 60% of grade

4 Laboratory Practicals = 40% of grade

The weeks for examinations are found in the syllabus. The specific dates of all examinations will be announced in class. Tests consist of objective questions in the form of multiple choice, matching questions, and short answer questions. Attendance at testing is mandatory. If a student must miss an examination the student must notify the instructor **PRIOR** to the test (not during or after the test) to discuss the specifics of the situation. It is expected that the student will complete the test in the Testing Center prior to the next scheduled class. **There are no make-up laboratory practical exams.**

**Special Needs Students:** Student with special needs or disabilities who believe they may need accommodations in this class are encouraged to contact the ADA Coordinator at extension 5808 to arrange any needed accommodations.

**Academic Support Services:** In support of increasing academic success (tutoring in reading, writing, proof-reading papers, research skills, internet use, etc.) contact Mrs. Bridget Wood, 410-827-5854 located in the Cambridge Multi-Service Center, room L-105, or Ms. Cathy Sewell, 410-827-5854 x 368 on the Main Campus in the Academic Support Services (ASS) office or via e-mail at [asc@chesapeake.edu](mailto:asc@chesapeake.edu).

**IX. ATTENDANCE POLICY:**

As stated in Chesapeake College Catalog, 2008-2009 and supplements, and as clarified by the instructor. Learning is facilitated with student involvement, interest, motivation and attendance. Therefore, as adult learners, students are expected to attend all classes and laboratories. Since learning is a shared responsibility, both the instructor and the student must participate. In the event that a class is missed, it is the student's responsibility to notify the instructor of the absence, make up any missed work, as the student will be held responsible for all materials covered. Laboratories can **NOT** be made up.

In addition, as a matter of courtesy and convenience, it is requested that **all electronic devices** (beepers, cell phones, etc.) be turned **off** during scheduled learning times (classes, laboratories).

**NOTE:** The student is responsible for all work, labs, assignments, and announcement, whether present or not. ***Bio212 will follow a "zero tolerance" policy for cheating, which is punishable by failure of the assignment/examination, or failure of the course. In extreme cases, students may be dismissed from the College for academic dishonesty.*** The complete Academic Dishonesty policy can be found in the Chesapeake College Catalog.

**X. REFERENCES:**

Chesapeake College's Learning Resource Center has many suitable references and enrichment audiovisuals for student use in anatomy and physiology to include, flash cards, DVDs, and review lab exercise accuracy check sheets.

**NEED EXTRA HELP OR ADVICE?**

***If you have any questions or needs, please contact me immediately through e-mail [tfield@chesapeake.edu](mailto:tfield@chesapeake.edu) to set up an individual time to talk.***

***Don't forget about Chesapeake's Academic Support Services***

**Academic Support Services:** In support of increasing academic success (tutoring in reading, writing, proof-reading papers, research skills, internet use, etc.) contact Mrs. Bridget Wood, 410-827-5854 located in the Cambridge Multi-Service Center, room L-105, or Ms. Cathy Sewell, 410-827-5854 x 368 on the Main Campus in the Academic Support Services (ASS) office or via e-mail at [asc@chesapeake.edu](mailto:asc@chesapeake.edu).

Course Number & Section:           BIO 212          

Fall, 2009

INSTRUCTOR'S NAME:   T.K. Field  

This is to certify that I \_\_\_\_\_ have received a copy of the course outline and that it has been explained to me. I have read the outline and have agreed to the evaluation criteria as stated.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**SEPARATE HERE AND GIVE THE BOTTOM COPY TO YOUR INSTRUCTOR**

-----

Course Number & Section:           BIO 212          

Fall, 2009

INSTRUCTOR'S NAME:   T.K. Field  

This is to certify that I \_\_\_\_\_ have received a copy of the course outline and that it has been explained to me. I have read the outline and have agreed to the evaluation criteria as stated.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_