

BIOL 217 ✧ Human Anatomy & Physiology I and Lab ✧ 2009 Syllabus

A&P I Lecture and Lab Course Information ✧ Fall 2009 ✧

A&P I Lecture-Discussion: Mon., Wed., Fri. at 11:00-11:50 in AH 153.

A&P Laboratory (you must attend the section for which you are officially registered):

- Tues. 2:00-4:50 in AH 107 Dr. Patricia Martin (pmartin3@cbu.edu)
- Wed. 2:00-4:50 in AH 107. Dr. Anna Ross (aross@cbu.edu)
- Thurs. 2:00-4:50 in AH 107. Dr. Katie Sauser (ksauser@cbu.edu)
- Lecture and Lab are corequisites and must be taken concurrently.
- BIOL 217–218 is a **Group I Biology elective** (applicable to the Biology Major). Both semesters of the sequence should be completed for the course to apply toward the Biology major or Biology minor.
- BIOL 217 and 217L course homepage: <http://www.cbu.edu/~aross/APIhome.htm>

Goals: The Biol 217–218 two-semester course sequence offers a comprehensive study of human anatomy and physiology at the cell, tissue, and organ system levels of organization. Whatever your major, if you take A&P, you need to take **both semesters** and the labs. The first semester topics include anatomical terminology, cells, cell metabolism, tissues, and the integumentary, skeletal, muscular, nervous, sensory, and endocrine systems. Dissection of preserved mammalian specimens is required.

The A&P course is designed for pre-pharmacy, pre-nursing, pre-physical therapy and other allied health students as well as students preparing for secondary school teaching in biology.

Students who want the strongest preparation for medical school, dental school, or other graduate programs in biology should select sophomore level electives such as BIOL 211 Vertebrate Embryology and BIOL 212 Comparative Anatomy as well as upper division biology courses (including BIOL 312 Human Physiology) instead of the Biol 217–218 sequence. Consult your academic advisor to be sure that BIOL 217–218 is the best course selection for you.

- **Prerequisites:** BIOL 111 and BIOL 112 (**Principles of Biology I and II and labs**) and CHEM 113 (**Principles of Chemistry I and lab**) are prerequisites for BIOL 217 and BIOL 217L. Students who have not achieved grades of “C” or better in each of the prerequisite courses are advised to repeat the necessary courses before attempting further course work in biology. BIOL 217, BIOL 217L, CHEM 113, and CHEM 113L are prerequisites for BIOL 218 and BIOL 218L (offered Spring semester). *Students who have not successfully completed Biol 217 and Lab will not be admitted to Biol 218. Students who have earned less than a “C” in either the lecture or lab for Biol 217 should repeat Biol 217 before taking Biol 218.*
- **Prerequisites by Topic:** See <http://www.cbu.edu/~aross/biology/b217.html>

Professors for the A&P Course:

Course Director:

Dr. Anna E. Ross, Professor of Biology. **Home page:** <http://www.cbu.edu/~aross>

Office: AH 111 **Office Phone:** 321-3436 **E-mail:** aross@cbu.edu

Office hours: Monday, Tuesday, Thursday, and Friday 2:00–4:30.

Additional times by appointment (use the posted schedule).

- Tues. 2:00 A&P I Lab: **Dr. Patricia Martin** (pmartin3@cbu.edu)
- Wed. 2:00 A&P I Lab: **Dr. Anna Ross** (aross@cbu.edu)
- Thurs. 2:00 A&P I Lab: **Dr. Katie Sauser** (ksauser@cbu.edu)

- **Required Materials** [The text, lab manual, and supplement are required for both lecture and lab. The text and lab manual are used both semesters.]

Text: Shier, Butler, and Lewis. 2010. *Hole's Human Anatomy and Physiology*, 12th ed. McGraw-Hill Book Co. ISBN 9780077276188
[11th ed. 2007 ISBN 9780073213644. Either the 11th or 12th edition is acceptable... but page number references in class will be to 12th ed.]

Laboratory Manual: Marieb, Elaine and Susan Mitchell. 2008. *Human Anatomy and Physiology Laboratory Manual: Cat Version*. Ninth ed. update. ISBN-10: 0321535979 ISBN-13: 9780321535979 (Includes PhysioEx CD and access to on line Practice Anatomy Lab and "myA&P" companion website.) [You must have a **new** copy of the lab manual.]

Required Supplement: Ross, Anna E. 2009. *Biology 217 A&P I Lecture and Lab Course Supplement*. Purchase from CBU Print Shop Kenrick, lower level (\$40 cash or check)

Essential References for Both Lecture and Laboratory (used both semesters):

- Medical Dictionary: Choose a comprehensive, professional Medical Dictionary, for example:
 - Stedman, Thomas L. 2005. *Stedman's Medical Dictionary* (28th ed.) Lippincott Williams & Wilkins. ISBN 978-0781733908
- Van De Graaff and Crawley. 2007. *A Photographic Atlas for the Anatomy and Physiology Laboratory*, 6th ed., Morton Publishing Co., Englewood, CO. ISBN 978-0895826985

Students must provide their own disposable gloves (latex or nitrile examination gloves)

Student Responsibilities

A cooperative and open atmosphere is expected during all class and lab meetings. Students are encouraged to work together and to study together. Lecture and laboratory topics will often overlap, and some use of lab time to review lecture material is expected. The lab room (AH107) will be available during [posted hours](#) so that you can review lab materials and complete class assignments. **You will want to spend at least two hours per week working in [AH107](#) in addition to scheduled class and lab sessions.**

Laboratory attendance is required. In a laboratory course, there is simply no substitute for "being there." Much of the benefit of the lab course is derived from your active participation during the scheduled lab meetings. You will learn more by working with your classmates doing the lab than can be assessed by any quiz or exam. In fact, your active participation in lab is so important that no quiz or exam scores could possibly be high enough to compensate for missing the actual experience of being present in the laboratory. **Therefore, you must complete all of the labs to pass the course.**

Lecture attendance is required. Success in the lecture course will require your active participation during class. Class meetings depend upon the questions raised by students. You are responsible for information presented during all class and laboratory sessions. If you are ever absent, *contact a classmate immediately* because you will be held responsible for announcements regarding quizzes, exams, changes in lab protocols, etc. Absences will lower your grade. Excessive absences are grounds for automatic failure. There are no excused absences.

Laboratory sessions require the entire scheduled period. You will need the entire lab time to work in the lab room. You will be responsible for cleaning up before you leave lab. **Do not plan to leave lab before the scheduled time.** Tardiness will not be tolerated.

- You will need to read the relevant text material and the appropriate lab material *before* you come to class or lab. You will need your textbook, supplement, and all lecture handouts during all class meeting. You will need your textbook, supplement, lab manual, and other lab materials with you during all lab meetings.
- No wireless devices (cell phones, pagers, PDAs or calculators), no programmable calculators, and no devices with ear plugs are allowed during exams, quizzes, labs or classes. Students are encouraged to use laptop computers during class or lab but only for directly course-related tasks and, of course, not during exams or quizzes.

The course has been structured to afford you every opportunity to develop your ability to learn, to master the required material, and to demonstrate your success in these endeavors. Students who choose to enroll in this course are seeking rigorous pre-professional preparation. This course will provide the level of preparation you require. Nevertheless, you need not feel intimidated by the demanding career path you have selected. I am here to help you overcome any difficulties you may have with the course material and to help you do your best work.

Exams and Grades

Your grade will be determined by your own achievement. There is no curve.

- Grading scale:

90.0–100% = A, 80.0–89.9% = B, 70.0–79.9% = C, 60.0–69.9% = D, below 60.0% = F.

- Makeup exams or lab quizzes will only be available under extraordinary circumstances.
- *If you miss a lab quiz or an exam (lecture or lab) without prior arrangement to take a makeup and you fail to contact me (within one hour of the quiz or exam) to schedule a makeup quiz or exam, it is likely that you will not be eligible for a makeup quiz or exam and you will receive a zero for the missed quiz or exam.*
- It may be impossible to make up a missed lab exam (i.e., lab midterm and lab final).
- Ordinarily, a student will be granted no more than one make up lecture exam or lab quiz for the course. (And this would be a very unusual event, permitted only by special arrangement.)
- If you request a makeup lecture exam and you are given permission, you must take the make up exam before the next scheduled class meeting. Ordinarily, **no make up lecture exam will be available after graded exams have been returned to the class.**
- If you request a makeup lab quiz and you are given permission, you must take the make up quiz before the next scheduled lab meeting. Ordinarily you will be required to complete any missed lab work before you are considered eligible for a make up quiz.
- **Missed lab work must be made up and verified by your lab professor before the next lab meeting.** You will not be eligible to take the *next* quiz until you have completed the missed work. This applies for excused as well as unexcused absences.
- Ordinarily, there will be no makeups for exams or quizzes missed because of unexcused absence or lateness (but you will be required to complete any missed lab work).
- In accordance with CBU policy, if you miss 8 hours of class or lab, you will receive an “F” or be withdrawn from both the lecture and lab course. This policy applies regardless of your quiz and exam scores.
- **If you need special consideration, please ask.**

An honor system is in effect for all lecture and lab exams and lab quizzes. This means zero tolerance of cheating or attempted cheating. You may neither receive nor give assistance on an examination or lab quiz.

☆ **In this course, students may not keep exams or quizzes and students may not have copies or notes containing exam or quiz questions.** ☆ **In this course, the possession or use of old or current quizzes, Moodle questions, lecture or lab examination questions or answers is considered a violation of the CBU Code of Conduct.**

Grades and Evaluation in the Lecture Course:

There will be five lecture exams plus an objective, *comprehensive* final exam. Each exam counts 100 points. No exam may be dropped. You are responsible for reviewing your graded exams and you will be expected to learn from any errors you make.

Lecture exams are comprehensive, but emphasize the topics indicated on the schedule unless specific changes are announced in class. Each exam will cover material from lecture, discussions, worksheets, supplement, the text, and lab. Lecture and lab are interdependent. It is expected that material studied in laboratory will be incorporated into your responses on lecture exams. Exams will consist of objective, short answer, and specific essay questions. Exam questions may require

well-labeled diagrams and always require **detailed** and **precise** responses **employing the specialized terminology introduced in the course**. All questions on the 100 point comprehensive final lecture exam will be objective format.

Online Lecture Quizzes: There will be one 5-point online quiz for each text chapter (13 quizzes for A&P I). These quizzes are administered and graded through Moodle. Each online quiz consists of 10 multiple choice &/or T-F questions and will only be available for a few days. Once begun, an online quiz must be completed within 30 minutes. You must complete each online quiz by yourself. No answers are accepted past the 30 minute time limit, but you may consult your notes, text, and supplement during the quiz. Online Quiz questions are selected at random from a large set of questions for each chapter. You may attempt each quiz twice. Each attempt will be a different selection of questions on that chapter.

Grades and Evaluation in the Laboratory Course:

There will be eleven lab quizzes; each counts 10 points. Lab quizzes include practical and short answer questions on the topics covered during the previous lab session as well as related text and lecture material. Remember: Lab quizzes and lab exams will include information from the text and supplement as well as the lab.

- Your lowest lab quiz grade will be dropped. **You may not drop a lab quiz missed because of absence.** Lab quizzes will begin promptly at 2:00 or 5:30 pm. If you are late without having made prior arrangement, you may receive a zero on that week's quiz. (See box on previous page.)
- In case of absence, missed lab work must be made up and verified by Dr. Ross or your lab professor before the next lab meeting. (See box.)

The lab midterm and lab final exams each count 100 points. The midterm covers all topics from the first part of the lab course. The lab final covers all topics following the lab midterm. Lab exams include short answer and practical questions covering physiological principles, lab procedures, terminology, identification of structures, and their functions.

Completion of several Worksheets will be required during the lecture and lab courses. Satisfactory completion of assigned Worksheets and lab reports will be required to pass the lecture or lab course. If you are required to turn in any worksheets or lab reports, they must be received by the announced deadline. Late assignments will not be accepted.

You must complete all of the lab work to pass the course. If you attend all the labs and complete all the work, your lab grade is determined by averaging your lab quiz and lab exam scores. If you are absent from any lab you must make up the lab work and have your lab professor verify that the work is complete before the next scheduled lab meeting. Then your grade will be determined by averaging your quiz and exam scores. If you have missed any labs and do not complete the make up lab work in a timely manner, you will be withdrawn or receive an "F" for the course regardless of your lab quiz and lab exam scores.

- **All evaluation opportunities for the lecture and lab courses are listed above and are equally available to each student. In order to be fair to all students, there will be no last-minute "extra credit."**

Teacher Education Program

The Biol 217, Biol 217L, Biol 218, Biol 218L course sequence includes the following knowledges and skills required for teacher licensure by the Tennessee Department of Education:

- Understanding of how scientists and technologists create, describe, disseminate, and refine new knowledge within their disciplines.
- Ability to apply scientific methods in appropriate situations.
- Ability to identify and demonstrate the processes of science common to the scientific fields, including observing, investigating phenomena, interpreting findings, and communicating results.
- Ability to use basic problem solving skills such as identifying, postulating and evaluating, planning and acting, and assessing results.
- Understanding the structure and function of the human body.
- Ability to operate laboratory instrumentation, including the compound and stereoscopic (dissecting) microscopes.
- Understanding of and ability to use the metric system of measurement.
- Understanding of cell theory, structure of the cell, and cellular reproduction and genetics, including the progressive and developmental structure of living things.

☆☆ A&P I Course Schedule ☆ Fall 2009 ☆☆☆

<u>2009 Dates</u>	<u>Lecture Topic (Text Ch.)</u>	<u>Laboratory (Tues., Wed., or Thurs.) Marieb Ex. and other materials</u>	<u>Text Chs. for Lab</u>
Aug 24 M	Anatomical Terms (1)	[1] <u>Ex. 1, 2, 8 Anatomical Terms, Body Cavities</u> ; Practice Moodle quiz, \\facstaff\biology and other Course Resources.	1. Anatomical Terminology and Reference Plates
26 W	Chemicals of Life (2)		
28 F	Chemicals of Life (2)		
Aug 31 M	Chemicals of Life (2)	[2] <u>Ex. 3, 4, Microscopy, Cell Structure, Mitosis</u>	2. CT scans and PET Imaging
Sept 2 W	Cells (3)		
4 F	Cells (3)	LAB QUIZ 1	3. Cells
Sep 7 M	Holiday	[3] <u>Ex. 5A, 5B, 37A Osmosis, pH, Buffers</u>	2. pH, Buffers
9 W	Cells (3)		3. Cells, Osmosis
11 F	Lab Review	LAB QUIZ 2	
Sep 14 M	LECTURE EXAM 1 (Chs. 1, 2, & 3)	[4] <u>Ex. 6A, 6B, 7 Tissues, Integument</u> ; digital images	5. Tissues
16 W	Cell Metabolism (4)		6. Skin and Integument
18 F	Cell Metabolism (4)	LAB QUIZ 3	
Sep 21 M	Cell Metabolism (4)	[5] <u>Ex. 9, 10, 12 Bone and Skeleton: Skull</u>	7. Skeletal System, Skull
23 W	Tissues (5)		
25 F	Tissues (5)	LAB QUIZ 4	
Sep 28 M	Tissues and Skin (5-6)	[6] <u>Ex. 11, 12, 13 Skeleton and Joints</u>	7. Skeletal System
30 W	Integument (6)		8. Joints
Oct 2 F	Integument (6)	LAB QUIZ 5	
Oct 5 M	LECTURE EXAM 2 (Chs. 4, 5, & 6)	[7] MIDTERM LAB EXAM (100 points) Diss. Ex. 1 Start Cat Muscles.	
7 W	Skeletal System (7)		
9 F	Skeletal System (7)		
Oct 12 M	Bone Devel. & Joints (7-8)	[8] <u>Diss. Ex. 1, Ex. 15 Muscle Anatomy</u> (No lab quiz this week)	9. Muscular System
14 W	Joints (8)		
16 F	Muscular System (9)		
Oct 19–23	Fall Break	No labs this week— Fall Break .	
Oct 26 M	Muscular System (9)	[9] <u>Ex. 15, 14 Muscle Anatomy</u> , DVD's, Interactive Physiol. CD	9. Muscular System
28 W	Muscular System (9)		
30 F	Muscular System (9)	LAB QUIZ 6	
Nov 2 M	LECTURE EXAM 3 (Chs. 7, 8, & 9)	[10] <u>Ex. 14, 16A, 16B Muscle Physiol.</u> Biopac and PhysioEx	9. Muscular System
4 W	Nervous System (10-11)		
6 F	Nervous System (10-11)	LAB QUIZ 7	
Nov 9 M	Nervous System (10-11)	[11] <u>Ex. 17, 21, 22 NS Histology</u> , Spinal Cord, Reflexes and Reaction time (Biopac L 11)	10. Nervous System I
11 W	Nervous System (10-11)		11. Nervous System II
13 F	Nervous System (10-11)	LAB QUIZ 8	
Nov 16 M	Nervous System (10-11)	[12] <u>Ex. 19, 20 Brain Anatomy & Function</u> . Models, sheep brain dissection, EEG (Biopac)	11. Nervous System II
18 W	Nervous System (10-11)		
20 F	Nervous System (10-11)	LAB QUIZ 9	

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<u>2009</u> <u>Dates</u>	<u>Lecture Topic (Text Ch.)</u>	<u>Laboratory (Tues., Wed., or Thurs.)</u> <u>Marieb Ex. and other materials</u>	<u>Text Chs. for Lab</u>
Nov 23 M	Nervous System (10-11)		
25 W	LECTURE EXAM 4 (Chs. 10 & 11)	No labs this week (Thurs. Holiday)	
27 F	Holiday		
Nov 30 M	Somatic & Special Senses (12)	[13] Ex. 24 Eye, Ex. 25 Ear , Ex.	12. Somatic & Special Senses
Dec 2 W	Somatic & Special Senses (12)	23, 26 Other Senses.	
4 F	Somatic & Special Senses (12)	LAB QUIZ 10	
Dec 7 M	Endocrine System (13)	[14] Ex. 27 Endocrine Glands.	13. Endocrine System
9 W	Endocrine System (13)	Histology and Function	
11 F	LECTURE EXAM 5 (Chs. 12 & 13)	LAB QUIZ 11	
Dec 14-18	LECTURE FINAL	FINAL LAB EXAM (100 points)	

- ✓ Lecture Exam dates will not be changed unless the majority of the class agrees.
- ✓ There may be minor changes in the scheduling of lecture topics.
- ✓ Lab Exam dates will not be changed.
- ✓ Handouts will specify additional lecture and lab topics and materials where necessary.



Keep a Record of Your Exam and Lab Quiz Scores (check Moodle):

- **BIOL 217 lecture course**

13 Online Quizzes @ 5 pts. ea.: 1.____ 2.____ 3.____ 4.____ 5.____ 6.____ 7.____
8.____ 9.____ 10.____ 11.____ 12.____ 13.____

Lecture Exam 1 _____/100

Lecture Exam 2 _____/100

Lecture Exam 3 _____/100

Lecture Exam 4 _____/100

Lecture Exam 5 _____/100

Total of 13 Online Quizzes @ 5 pts. ea. _____/65

Comprehensive Lecture Final _____/100

Total Course Points _____/665

Lecture Grade = % earned of possible 665 points.

- **BIOL 217 lab course**

- Midterm Lab Exam _____/100

Worksheets (pass/fail) _____

- Final Lab Exam _____/100

Lab Reports (pass/fail) _____

- Lab Quizzes (drop one Quiz)

Lab Q#1 _____/10

Lab Q#2 _____/10

Lab Q#3 _____/10

Lab Q#4 _____/10

Lab Q#5 _____/10

Lab Q#6 _____/10

Lab Q#7 _____/10

Lab Q#8 _____/10

Lab Q#9 _____/10

Lab Q#10 _____/10

Lab Q#11 _____/10

Best 10 Lab Quizzes _____/100

Total Lab Points _____/300

Lab Grade = % earned of possible 300 points.