

Biology 204
Human Anatomy and Physiology
Spring Semester, 2012
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Course Coordinator

Introduction: Welcome to Biology 204! This four-credit course is the second semester of a challenging introduction to the structure and function of the human body. Like Biology 203, the first semester, the course is intended to provide majors in the health professions--nursing, dental hygiene, radiography and others--with a solid background in the structure and function of the human body. This semester's topics include the lymphatic system, the digestive system, the respiratory system, the cardiovascular system, metabolism, the urinary system, fluid and acid-base balance, and the reproductive systems. Since the course builds on many topics introduced in Biology 203, a passing grade in Biology 203 is a necessary prerequisite to this course.

The objectives of the course are (1) to impart basic information concerning the structure and function of the human body; (2) to introduce the principles and processes through which the body maintains life and health ("homeostasis"); and (3) to develop the critical thinking skills necessary to predict how the body responds to homeostatic imbalances.

Course Materials: The following materials can be purchased from the campus bookstore. No other bookstore items are essential or recommended for this course.

Textbook: *Seeley's Anatomy and Physiology*, 9th edition, by Rod. Seeley, Cinnamon VanPutte, Jennifer Regan, and Andrew Russo (McGraw-Hill, publishers) or *Anatomy and Physiology*, 8th edition, by Rod Seeley et al.)

Supplements: *Human Anatomy and Physiology Biology 204 Notebook 2011-2013*, by Marilyn M. Shannon
Laboratory Guide for Biology 204 Human Anatomy and Physiology 2011-2013, by Marilyn M. Shannon

Optional: *Anatomy and Physiology Revealed* CD's. The third and fourth volumes are useful for Biology 204, but are not required.

Lecture/Recitation: The lecture/recitation classes are designed to orient you to the topic to be learned. These emphasize physiology; that is, the function of the body. Most of the physiology that you need to learn will be presented during the lectures, and you will be invited to respond orally as physiological processes are presented. You will be encouraged to ask questions, to examine relationships between anatomy and physiology, to predict homeostatic responses, and to apply physiological knowledge to

pathological situations. While you will find attending the lectures essential to your success in the course, the course also requires considerable out-of-class study. You are welcome to audiotape the lectures, a practice that many students find helpful. Videotaping or photography is not permitted.

Laboratory: The two hours of lab each week emphasize human anatomy, giving you hands-on experience with a variety of life-like models and specimens. You will also have an opportunity to observe a human cadaver. Lab policies are included in the introductory pages of the *Laboratory Guide*, and will be explained to you by your lab instructor during the first lab class.

Out-of-Class Resources: Below is a list of resources that have been put in place to help you achieve success in this course. Please take advantage of as many of these as possible.

Biology 203-204 website: *Users.ipfw.edu/shannon* is your website for Biology 204. It contains back-up copies of course materials, including the syllabus, *Notebook*, *Lab Guide*, and Study Organizers. The “News You Can Use” section is updated often, and communicates times, dates, places, changes, and corrections as they occur. Cumulative grades and the current grading scale are posted here.

Supplementary instruction (lecture): Peer-led weekly "SI" help sessions are conducted by student leaders who have successfully completed the course in the recent past, and who are attending each lecture again this semester. Times and places will be posted on the Shannon website: *Users.ipfw.edu/shannon*.

Practice lecture test questions: A handout with sample lecture test questions will be provided in lecture the week before each lecture test. While these will not be the same as the actual test questions, they will give you a better sense of the coming test than the practice questions included at the end of each chapter. These will not be available on the web.

Lecture Study Organizer: The Lecture Study Organizer is a handout that summarizes what you need to learn from each chapter in our text. It assigns chapter questions, useful illustrations, and practice questions, and includes recommendations on how to study.

Supplementary instruction (lab): “Open labs,” held outside of your scheduled lab class, will be conducted by SI leaders who have successfully completed Biology 204. These open labs will be held on a weekly basis (except when the labs are closed for lab practicals), at times which will be posted on the website: *Users.ipfw.edu/shannon*.

Sample lab practical questions: Several practice lab practical questions will be set up during the week or two before each lab practical so that you may better prepare for these tests.

Instructor's Office Hours, Telephone and E-mail: I am interested in your success in this course and am available to help you achieve it. Please do not hesitate to contact me if I can be of assistance to you.

Office: SB 378
Office hours: Tuesday afternoons, 3:00-4:15 p.m. in SB 378
 Tuesday evenings, after evening lecture at 5:45 in LA 159
 Thursday afternoons, 3:45-4:15 p.m. in SB 378
 Thursday evenings, after evening lecture at 5:45 in LA 159
Telephone: Office: 260 481-5435
 Home: 260 489-1856
E-mail: shannon@ipfw.edu

Tests, Practicals, and Quizzes: Four lecture tests, two lab practical tests, and eight lab quizzes are scheduled throughout the semester.

Lecture tests: Each lecture test will be a one-hour, multiple-choice exam consisting of 50 items. They will test mainly physiology, consisting of (1) factual information; (2) your ability to understand physiological concepts and processes; and (3) your ability to apply factual information and physiological concepts in a new way. The final exam, Lecture Test 4, will not be cumulative.

Lab practicals: The two 60-item practicals will test your ability to recognize and name anatomical structures that you have learned in the laboratory. No lecture material will be covered on these tests. The practicals will require use of your "active" memory, since you will be required to recall and write the correct name of a structure, rather than merely to recognize the name, as on a multiple-choice test.

Lab quizzes: Eight lab quizzes, worth either seven, eight, or ten points, are scheduled during the semester, four before the first practical and four after the first practical. Most will cover material from the previous week, and like the lab practicals, they will test your active memory, since you will be asked to recall and write the names of anatomical structures exhibited in lab.

Grades and Grading Policy: Each test or quiz will be graded on a 90-80-70-60 basis, with 90% the lowest A, 80% the lowest B, 70% the lowest C, and 60 % the lowest D. A possibility for lowering this scale a bit exists but should not be assumed. Except for the quizzes, your raw scores will be converted to a percentage, and the percentage scores

will then be used as points which form the basis of assigning grades. Grades from lab quizzes will be used as raw points which will be added to your overall points. Your lowest lab quiz score from each half of the course will be dropped, so that you can gain a total of 48 points from the lab quizzes, 24 from each half of the semester. These quiz points are not bonus points. The points are distributed as follows:

Lecture Test 1	100
Lecture Test 2	100
Lecture Test 3	100
Lecture Test 4	100
Lab Practical 1	100
Lab Practical 2	100
Quiz Set 1	24
<u>Quiz Set 2</u>	<u>24</u>
Total possible points	648

At the end of the semester a 90-80-70-60 scale of cumulative points will be used to determine the final grade. That is, 583 points will ensure an A; 518 points a B; 453 points a C; and 388 a D. Plus and minus grades will not be assigned. If necessary, the scale will be lowered for individual tests, and if so it will be correspondingly lowered for final grade calculations, so that you will always know exactly what your grade is in the course. A consistent performance throughout the semester will result in a better grade than a "miracle finish," since no greater weight is put on points gained late in the semester rather than early.

I.D. Number and Assigned Seat Number: You will be assigned a three-digit I.D. number for use on every test throughout this course. All your lecture grades will be transferred electronically to a master grading program. Only your three-digit I.D. number, not your name, will be used by the computer to post your grades. Therefore, two practices are essential to your grade:

First, remember your 3-digit number and darken it in on every test answer sheet. Record your three-digit I.D. number here: ____ ____ ____

Second, always check the grades posted on our web page (users.ipfw.edu/shannon) to make sure your score is posted by your I.D. number. You will need to inform me if your number is incorrect or missing. I have no other reliable means of being informed of technical errors which may prevent your grade from being recorded.

All students will have assigned seats for taking lecture tests, and attendance will be taken during lecture tests based on your presence in your assigned seat. Your seat number, consisting of a letter and a number, will be available along with your I.D. number. Please record it here: _____

Make-up Test Policy: If you must miss any lecture test or lab practical for any reason, and if you wish to take a make-up test, you must leave me a voice-mail (260 481-5435) or e-mail (shannon@ipfw.edu) message *before* the test is missed. If more than one test or practical is missed, make-up test arrangements for a second make-up will require the Biology Chair's approval, based on your providing evidence of extenuating circumstances for *both* missed tests.

Lecture tests: All make-up lecture tests will be given on Tuesday or Thursday, April 24 or 26, during my regularly scheduled office hours, (except for Weekend students, who may take a make-up before or after lecture on Friday, April 27). All lecture make-up tests will consist of several short essay questions as well as write-in and multiple choice items.

Lab practical make-ups: All lab practical make-ups must be taken the same week they are scheduled, if they cannot be taken at the assigned time. Due to the lab space and time required to provide these tests, an incomplete (I) grade, to be completed during the next time the course is offered, will be the only option offered for make-up lab practicals after the week of the scheduled practical.

Lab quizzes: No make-ups are permitted for lab quizzes, even in another lab class during the same week it is scheduled. Any lab quiz not taken at the scheduled time will result in a score of 0. However, your lowest lab score for each half of the semester will be dropped.

Last Day to Withdraw with a Grade of W or Change to Audit -- Friday, March 16: After this date, only a serious reason, such as moving out of town, will justify a grade of W. After this date, you cannot drop due to poor performance. Students who discontinue any college course without officially withdrawing or changing to Audit before the last drop date automatically receive a grade of F. This is a university-wide policy to which the instructor cannot make exception.

Weather Cancellations: Weather cancellations are made by IPFW's administrators, not by course instructors. Local radio stations announce cancellations; or phone 481-6050 for weather-related announcements. Any canceled lecture test will be held during the next class meeting; any lecture test scheduled after a cancellation will be held as usual, but will not cover any missed material. Check the Biology 203/204 website at users.ipfw.edu/shannon if you are concerned about test scheduling or content after a weather cancellation.

University Disability Policy: If you have a disability and need assistance, please contact the director of Services for Students with Disabilities (Walb, Room 113, phone 481-6658), as soon as possible to work out the details. The director can provide you with a letter to bring to your instructors, attesting to your needs for modification.

LECTURE SCHEDULE FOR ALL BIOLOGY 204 LECTURE SECTIONS
Tuesday and Thursday 1:30-2:45 p.m., LA 159; or
Tuesday and Thursday 4:30-5:45 p.m.; or
Friday 5:00-7:45 p.m., LA 159

This schedule provides times for lectures other than your scheduled ones so that you may attend another lecture if you need to miss your own. You do not need to ask my permission to attend another lecture; however, you must take your lecture tests during your scheduled time unless you request permission to do otherwise.

Tuesday-Thursday, January 10 and 12; or
 Friday evening, January 13:
Lymphatic System 1 and 2. Text Chapter 22

Tuesday-Thursday, January 17 and 19; or
 Friday evening, January 20:
Digestive System 1 and 2. Text Chapter 24

Tuesday-Thursday, January 24 and 26; or
 Friday evening, January 27:
Digestive System 3; Completion and review. Text Chapter 24

Tuesday-Thursday, January 31 and February 2; or
 Friday evening, February 3:
LECTURE TEST 1 over Lymphatic and Digestive Systems.
 (Test will be held on **Tuesday** for Tuesday-Thursday students and during the first hour of lecture for Friday evening students.)
Thursday and Friday lecture: Respiratory System 1. Text Chapter 23

Tuesday-Thursday, February 7 and 9; or
 Friday evening, February 10:
Respiratory System 2 and 3. Text Chapter 23

Tuesday-Thursday, February 14 and 16; or
 Friday evening, February 17:
Heart 1 and 2. Text Chapter 20

Tuesday-Thursday, February 21 and 23; or
 Friday evening, February 24*
Heart 3/Cardiovascular System 1; Cardiovascular System 2. Text Chapters 20-21.

*Friday will have Completion/Review this week and CV 2 after Lecture Test 2 next week.

Tuesday-Thursday, February 28 and March 1; or
Friday evening, March 2:

Completion, Review*

LECTURE TEST 2 over Respiratory System, Heart, and Cardiovascular System 1

(Test will be held on **Thursday** for Tuesday-Thursday students and during the first hour of lecture for Friday evening students.)

*Friday will have Cardiovascular 2 after Lecture Test 2 this week.

SPRING BREAK MARCH 5-9

Tuesday-Thursday, March 13 and 15; or
Friday evening, March 16:

Cardiovascular System 3. Text Chapter 21

Metabolism 1. Text Chapter 25

Tuesday-Thursday, March 20 and 22; or
Friday evening, March 23:

Metabolism 2 and 3. Text Chapter 25

Tuesday-Thursday, March 27 and 29; or
Friday evening, March 30:

Urinary 1; Completion and Review. Text Chapter 26

[Urinary 2 also for Friday lecture]

No Weekend classes Friday, April 6, due to Easter Weekend.

Tuesday-Thursday, April 3 and 5; or
Friday evening, April 13

LECTURE TEST 3 over Cardiovascular System 2-3, Metabolism, and Urinary 1, and Blood Pressure information from lab of March 1-4

Thursday Lecture: Urinary System 2. Text Chapter 26

Friday Lecture: Fluid Balance. Text Chapter 27

(Test 3 will be held on **Tuesday** for Tuesday-Thursday students, and during the first hour of lecture for Friday evening students.)

Tuesday-Thursday, April 10 and 12;

Fluid Balance. Text Chapter 27

Acid-Base Balance. Text Chapter 27

Tuesday, April 17, and Thursday, April 19 (Friday, April 20 for Weekend students):
Make-up lecture tests. Students who have previously received permission to take a
make-up test should make arrangements to do so during regularly scheduled office
hours on Tuesday or Thursday or before or after lecture on Friday.]

Tuesday-Thursday, April 17 and 19:

Male Reproduction. Text Chapter 28

Female Reproduction. Text Chapter 28

Friday, April 20:

Acid-Base Balance. Text Chapter 27

Male Reproduction. Text Chapter 28

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Tuesday-Thursday, April 24 and 26;

Development; completion and review. Text Chapter 29

Friday, April 27:

Female Reproduction. Text Chapter 28

Development. Text Chapter 29

FINAL EXAM:

Subject to confirmation by the Registrar's office for time and location: All Tuesday-
Thursday afternoon and evening students are scheduled to take the final exam, Lecture
Test 4, on **Thursday, May 3** in LA 159 at their regularly scheduled time. Friday evening
students are scheduled to take the test at **5:00 p.m. Friday, May 4**, in LA 159. The
final, Lecture Test 4, covers **Urinary System 2, Fluid and Acid-Base Balance,**
Reproduction, and Development. It is not cumulative.

LABORATORY SCHEDULE FOR ALL BIOLOGY 204 STUDENTS
All labs are held in SB 369

University policy prohibits students from attending a lab for which they are not registered, unless they have the express permission of the laboratory instructor. In case you must miss a lab, this information can be used to help you arrange for a make-up, or to obtain permission for extra time in lab. Missed lab quizzes may not be taken in another lab under any circumstances, but one quiz grade from each half of the semester will be dropped.

Date	Topic	Assignment in Lab Guide
Jan. 10-13	Digestive System	1-5
Jan. 17-20	Body Cavities and Serous Membranes Lymphatic System Quiz 1 (8 points)	6-8 9-13
Jan. 24-27	Respiratory System; Quiz 2 (8 points)	14-21
Jan.31-Feb.3	Human Heart; Quiz 3 (8 points)	22-25
Feb. 7-10	Dissection of a Sheep Heart Quiz 4 (8 points)	27-35
Feb. 14-17	Dissection of a Pork Lung Review; Cadaver Observation	36-39
Feb. 21-24	LAB PRACTICAL 1	1-39
Feb. 28- Mar. 2	Urinary System, Blood Pressure Measurement* (*tested on Lecture Test 3)	41-44; 46-49
Mar. 5-9	SPRING BREAK	
Mar. 13-16	Diffusion, Osmosis, and Filtration Quiz 5 (10 points)	50-59
Mar. 20-23	Male Reproductive System; Female Reproductive; Quiz 6 over <i>Urinary System</i> (7 points)	60-64
Mar.27-30	Blood Vessels: Arteries Quiz 7 over Reproductive Systems (7 points)	66-69

No class for Weekend students Friday, April 6, due to Easter Weekend

Apr. 3-5 Apr. 13	Blood Vessels: Veins; Fetal Circulation (no quiz)	70-78
Apr. 10-12 Apr. 20	Review, Cadaver Observation Quiz 8 over all Blood Vessels and Fetal Circulation	22-35; 41-44; 60-78
Apr. 17-19	Review for Lab Practical 2*	22-35; 41-44; 60-78
Apr. 24-27 Apr. 27	LAB PRACTICAL 2 Half an hour of each lab time will also be used for lecture material for weekend students)	

**Weekend students may attend the reviews scheduled from Tuesday-Thursday.*

Biology 204 Laboratory Class Times and Instructors

All labs will be held in SB 369, except if noted otherwise.

Time	
Tuesday 9:00-10:50 a.m.	Stella Snyder
Tuesday 11:00-12:50 p.m.	Janet Minton
Tuesday 3:00-4:50 p.m.	Hasina Karki
Tuesday 6:00-7:50 p.m.	Hasina Karki
Thursday 9:00-10:50	Shaif Hayat
Thursday 11:00-12:50 p.m.	Shaif Hayat
Thursday 2:30-4:20 p.m.	Stella Snyder
Thursday 6:00-7:50 p.m.	Stella Snyder
Friday 3:00-4:50 p.m.	Laura Steele
Friday 8:00-9:50 p.m.	Marilyn Shannon

Biology 204 Open Lab times: These will be posted on the web:
Users.ipfw.edu/shannon