

**BIOLOGY 204**  
**HUMAN ANATOMY AND PHYSIOLOGY**  
**Marilyn M. Shannon, M.A., Course Coordinator**  
**Summer Session II**  
**June 26-August 3, 2017**

Welcome to Summer 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 provides majors in the health professions--nursing, dental hygiene, medical imaging and others--with a solid understanding of the anatomy and physiology 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, 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.

By the end of the semester successful students will be able to

- (1) recognize and use the specialized vocabulary of the human organ systems named above;
- (2) understand and apply the principles and processes through which the body maintains life and health ("homeostasis")
- (3) use critical thinking skills to predict how structure and function interact to maintain homeostasis.

**Required Course Materials**

McGraw-Hill's online *Connect Plus with Learn Smart*. The access code for *Connect Plus* also gives you access to the digital text.

*Anatomy & Physiology Biology 204 Lecture Notebook, Laboratory Guide & Photo Atlas*, 3<sup>rd</sup> ed., by Karen K. McLellan, M.S., and Marilyn M. Shannon, M.A. (Fountainhead Press, 2016)

**Course Textbook**

*Seeley's Essentials of Anatomy and Physiology*, 9<sup>th</sup> ed., by VanPutte, Regan, and Russo (McGraw-Hill, 2015). This is the hard copy of the textbook, which you may or may not wish to purchase.

**Instructor's Office Hours, E-mail, and Telephone:**

I am interested in your success in this course and am available during office hours, via e-mail, and via the telephone to help you achieve it.

Office Hours: Mondays, Tuesdays and Thursdays 12:30-1:00 p.m. in SB 338  
Office telephone: 260 481-6314 (voice mail anytime)  
E-mail: [shannon@ipfw.edu](mailto:shannon@ipfw.edu)  
Website: <http://users.ipfw.edu/shannon>  
Connect Website: <http://connect.mheducation.com> (800 331-5094)

**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 some students find helpful.

**The Laboratory**

The labs emphasize human anatomy, giving you hands-on experience with a variety of life-like models and specimens, as well as observation of a human cadaver. Lab policies will be explained to you by your lab instructor during the first lab class.

**> Lab personal protection dress policy:** The University's "personal protection" regulations require that students in *all* science teaching labs wear closed-toed shoes, long pants and/or long skirt. Short-sleeve shirts covering the same anatomy as a T-shirt are permissible, but not sleeveless shirts, tank tops, or midriff-exposing tops.

**Attendance**

Attendance is expected in lab and lecture. However, even when the reason for not attending a class is very necessary, missing even one day of lecture or lab makes it hard to keep up. This is especially true during the accelerated pace of Summer II, where each day is equivalent to one week of the regular semester. If you know that you are taking a vacation during Summer II, it is advisable for you to take another course, not Biology 204.

### **Academic Honesty**

A conscientious effort will be made by your course coordinator and your lab instructor to ensure that all tests are carefully proctored and that your grade will not be exceeded by someone who chooses to act dishonestly in Biology 204. Academic dishonesty, whether giving or receiving test information during a test, will result in a failing grade for the entire course. The Student Handbook also states that when such events occur, the students' major department chair and the dean of their school must receive a letter concerning the incident, and they may choose to drop the students from their program.

### **Assessments**

Four required lecture tests (including the final exam), one optional semi-cumulative lecture test, two lab practical tests, eight lab quizzes/experiment and fourteen online lecture assignments are scheduled throughout the semester.

**>Required lecture tests (4):** Each of the four required lecture tests is a one-hour, 50-item, multiple-choice test. Each 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 using critical thinking skills. The final exam, Lecture Test 4, is not cumulative.

**>Optional semi-cumulative lecture test:** An optional semi-cumulative lecture test, over the same material as covered on Lecture Tests 1, 2, and 3, will be offered to students who wish to replace their lowest current lecture test score with a higher score from this cumulative test. (If this test's score is lower than the first three, it will not be used as part of your accumulated points.) However, the optional test cannot not replace the score from the required final exam. There is no make-up for this optional test.

**>Online lecture homework (SmartBook modules):** Fourteen online lecture homework assignments will come from SmartBook, which you will complete in McGraw-Hill's online Connect. Each homework assignment is worth 5 points, and the lowest of seven assignments will be dropped for each half of the course. The assignments are designed to assist you with the current lecture material. You can access these assignments via Blackboard by clicking on the McGraw-Hill Campus button and then clicking on the Connect button. The assignments are adaptive and will help you master the concepts covered in the text. You need to complete each assignment prior to the posted online due date. If you need technical help with Connect, contact McGraw-Hill's Help Center at 800 331-5094 (much faster than using their website). A McGraw-Hill agent will assist you. At the completion of the call they will share a case number with you. Please write down that case number. If for some reason you are unsatisfied with their support or feel that you need further technical assistance, you will need to share that case number with me. I will only answer your Connect technical questions if you have a case number showing that you have made the effort to work through the proper channels.

**>Lab practicals:** The two 60-item practicals will test your ability to recognize and name anatomical structures as well as functional anatomy 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 or function of a structure, rather than just recognize the name, as on a multiple-choice test.

**>Lab quizzes/experiment:** Eight lab quizzes and two lab experiments, worth 8 points each, are scheduled during the semester, five before the first practical and five after the first practical. Most will cover material from the previous week, and like the lab practicals, you will be asked to recall and write the names or functions of anatomical structures exhibited in lab. The lab experiments will be graded based on data gathered and written conclusions.

### Grades

Each lecture test, lab practical, quiz and online homework assignment 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.

Scores from the lecture tests and lab practicals will be converted to percentages, and the percentage scores will then be used as points to be accumulated to earn the final grade in the course.

Grades from the Online Homework will be added as raw points; each assignment is worth 5 points. Your lowest homework grade from each half of the semester will be dropped, so that you can gain a total of 60 points from the homework assignments.

Grades from the eight lab quizzes/experiments will be used as raw points which will be added to your overall points; each is worth 8 points. Your lowest lab quiz from each half of the semester will be dropped (*but you may not drop the score from the lab experiments*), so that you can gain a total of 64 points from the lab quizzes.

Lecture Test 1	100
Lecture Test 2	100
Lecture Test 3	100
Lecture Test 4 (Final Exam)	100
Lab Practical 1	100
Lab Practical 2	100
Online Homework Set 1	30
Online Homework Set 2	30
Quiz Set 1	32
Quiz Set 2	<u>32</u>
	724

**Final Grade Assignment**

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, 652 points will ensure an A; 579 points a B; 507 points a C; and 434 a D. Plus and minus grades will not be assigned. If necessary, the scale will be lowered slightly for individual tests, and if so it will be correspondingly lowered for final grade calculations, so that you will always know 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.

**3-Digit ID Number and Assigned Seat Number for Lecture Tests and Lab Practicals**

You will be assigned your own 3-digit ID number for use on every test throughout this course. All your lecture grades will be transferred by computer to a master grading program. Only your 3-digit ID number, not your name, will be used by the computer to post your grades. Therefore, two practices are essential to your grade:

>First, know your number and write it in on every test answer sheet. It will be given to you via Blackboard during the first week of class.

>Second, always check your score on Blackboard to make sure your score is correctly posted. You will need to let me know immediately if your score is incorrect or missing.

>Record your 3-digit ID number here: \_\_ \_\_ \_\_.

A free point, worth 2% on each lecture test, will be given automatically to all students whose lecture tests do not require individual handling to correct technical errors.

At the time you receive your 3-digit I.D. number, you will also receive a seat number consisting of a letter followed by a number, which is assigned for taking all lecture tests.

>Record your seat number here: \_\_\_\_ \_\_\_\_\_.

Your lab instructor will also assign you a seat before each lab practical.

**Last Day to Withdraw with a Grade of W**

The last day to withdraw from the course with a grade of W is Friday, July 21. After this date, you cannot drop due to poor performance. This is a university-wide policy to which the instructor cannot make exception.

### **Make-up Tests**

If you must miss a lecture test or lab practical, and if you wish to take a make-up test, you will need to leave an e-mail ([shannon@ipfw.edu](mailto:shannon@ipfw.edu)) or voice-mail message (260 481-6314) for me *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. Make-up lecture tests will be given on Monday, July 31, after the lecture class. All lecture make-up tests will consist of several short essay questions as well as write-in and multiple choice items. There is no makeup for the Optional Test.

**Lab Practicals:** Due to the lab space and time required to provide these tests, an incomplete (I) grade, to be completed when the lab practical is scheduled during the Fall 2017 semester, will be the only option offered for make-up lab practicals. Incomplete grades can only be assigned if the student is passing the course and if the reason for missing the test is beyond the student's control. It must be approved by the department.

**Lab quizzes/experiment:** There are no make-ups for lab quizzes. However, your lowest lab quiz from each half of the semester will be dropped, so that if a quiz must be missed, it will not affect your overall grade. The lab experiment grades cannot be dropped.

**Online lecture homework:** No late assignments will be accepted, unless you have a case number due to a technical problem from McGraw-Hill to confirm your inability to complete the assignment. However, your lowest homework score from each half of the semester will be dropped.

### **Out-of-Class Resources**

Below is a list of resources put in place to help you achieve success in Biology 204. Please take advantage of these!

**>Biology 203-204 Website--** "The Green Screen," available through Blackboard or [users.ipfw.edu/shannon](http://users.ipfw.edu/shannon). This website contains course materials including the syllabus, the lecture PowerPoint illustrations, Lecture Study Organizers, photographs of lab models, and the textbook's Online Learning Center. The "News You Can Use" section is updated often, and communicates times, dates, places, changes, and corrections as they occur. The current grading scale is also available here.

**>Biology 204 Lecture Study Organizers:** Available on the Biology 203-204 website, these summarize what you need to learn from each chapter in the text. They note useful reading, chapter questions, useful illustrations, and practice questions.

> **Seeley's Essentials of Anatomy and Physiology Online Learning Center:** [www.mhhe.com/seeleyess8](http://www.mhhe.com/seeleyess8). The Student Edition allows access to a wealth of learning tools for each chapter, such as animations and downloadable chapter study guides.

>**Practice lecture test questions:** A handout with sample lecture test questions will be available before each lecture test. While these will not be the same as the actual test questions, they will help you know what to expect on the coming test.

>**Practice lab practical questions:** Several practice practical questions will be set up during the week before each lab practical so that you may prepare for these tests.

>**Open lab:** Weekly "Open Labs," giving you time to work in the lab outside of your scheduled lab, will be held at times and locations to be announced (see [users.ipfw.edu/shannon](http://users.ipfw.edu/shannon)).

### **University Disability Policy**

If you have a disability and need assistance, special arrangements can be made to accommodate most needs. Contact the director of Services for Students with Disabilities (Walb, Room 113, phone 260 481-6658), as soon as possible to work out the details. Once the director has provided you with a laminated card attesting to your needs for modification, bring the card to your instructors.

**LECTURE SCHEDULE**  
**Mondays, Tuesdays, and Thursdays, 10:00 a.m.-12:20 p.m.**  
**LA 159**

- Monday, June 26 **Lymphatic System 1 and 2 (Chapter 14)**  
 Tuesday, June 27 **Digestive System 1 and 2 (Chapter 16)**  
 Lymphatic System Online Homework due Wednesday, June 28
- Thursday, June 29 **Digestive System 3 and 4 (Chapter 16)**  
 Digestive System 1 online homework due Thursday, June 29  
 Digestive System 2 online homework due Friday, June 30
- Monday, July 3 Class canceled  
 Tuesday, July 4 Independence Day—no class  
 Thursday, July 6 **LECTURE TEST 1 over Lymphatic and Digestive Systems.**  
**Respiratory System 1 (Chapter 15)**  
 Respiratory System 1 online homework due Monday, July 10
- Monday, July 10 **Respiratory System 2 and 3 (Chapter 15)**  
 Tuesday, July 11 **Heart 1 and 2 (Chapter 12)**  
 Respiratory System 2 online homework due Tuesday, July 11
- Thursday, July 13 **Cardiovascular 1 and 2 (Chapter 13)**  
 Heart 1 online homework due Thursday, July 13  
 Heart 2 online homework due Friday, July 14
- Monday, July 17 **LECTURE TEST 2 over Respiratory System, Heart, and Cardiovascular**  
**1 (Chapters 15, 12, and part of 13).**  
**Cardiovascular 3 (Chapter 13)**
- Tuesday, July 18 **Metabolism 1 and 2 (Chapter 17)**  
 Cardiovascular System online homework due Tuesday, July 18
- Thursday, July 20 **Metabolism 3 and 4 (Chapter 17)**  
 Metabolism online homework due Friday, July 21
- Monday, July 24 **Urinary 1 and 2 (Chapter 18)**  
 Tuesday, July 25 **Fluid Balance; Acid-base Balance (Chapter 18)**  
 Urinary System online homework due Tuesday, July 25
- Thursday, July 27 **LECTURE TEST 3 over Cardiovascular System 2-3, Metabolism, and**  
**Urinary System (Chapters 13, 17, and first part of 18), and Blood**  
**Pressure lab.**  
**Male Reproduction (Chapter 19)**  
 Fluid & acid-base balance online homework due Friday, July 28

- Monday, July 31    **OPTIONAL SEMI-CUMULATIVE LECTURE TEST** over material from  
**Lecture Tests 1, 2 and 3**  
**Female Reproduction 1 (Chapter 19)**  
Male reproduction online homework due Monday, July 31
- Tuesday, August 1    **Female Reproduction 2 (Chapter 19); Development (Chapter 20)**  
Female reproduction online homework due Tuesday, August 1  
Development online homework due Wednesday, August 2
- Thursday, August 3    **FINAL EXAM (Lecture TEST 4) over Fluid Balance and Acid-Base  
Balance, Reproduction, and Development (Chapters 18, 19, 20)**

### LABORATORY SCHEDULE

**Mondays, Tuesdays, and Thursdays, 8-9:50 a.m. or 1-2:50 p.m. in SB 369**

Time	Instructor
8:00-9:50 a.m.	Alysa Hopkins
1:00-2:50 p.m.	Cecelia Smith

<b>Date</b>	<b>Topic</b>
Monday, June 26	<b>Digestive System (Lab Guide [L.G.]1-8)</b>
Tuesday, June 27	<b>Lymphatic System; Body Cavities and Serous Membranes;(L.G. 9-16) and Quiz 1 over Digestive System</b>
Thursday, June 29	<b>Respiratory System (L.G. 17-27) and Quiz 2 over Lymphatic System, Body Cavities, and Serous Membranes</b>
Monday, July 3	Class canceled
Tuesday, July 4	Independence Day–No class
Thursday, July 6	<b>The Human Heart Anatomy, Coronary Circulation (L.G. 28-34), and Quiz 3 over Respiratory System</b>
Monday, July 10	<b>Dissection of a Sheep Heart (L.G. 35-45), and Quiz 4 over Human Heart Anatomy</b>
Tuesday, July 11	<b>Inflation of a Pork Lung (L.G. 46-49), Cadaver Observation, Review, and Quiz 5 over Sheep Heart Anatomy and Pork Lung</b>
Thursday, July 13	<b>LAB PRACTICAL 1 over above topics (L.G. 1-49)</b>
Monday, July 17	<b>Urinary System; Blood Pressure Measurement (L.G. 50-60)</b> (Blood pressure will be tested on Lecture Test 3)
Tuesday, July 18	<b>Filtration, Diffusion, and Osmosis (L.G. 61-69) Worth 8 points as “Quiz 6”; may not be dropped</b>
Thursday, July 20	<b>Reproductive Systems (L.G. 70-76) and Quiz 7 over Urinary System</b>
Monday, July 24	<b>Blood Vessels 1 ( L.G. 77-80; Arteries) and Quiz 8 over Reproductive Systems</b>
Tuesday, July 25	<b>Blood Vessels 2 (L.G. 81-84, Veins, and Fetal Circulation L.G. 89-94). No quiz</b>
Thursday, July 27	<b>Genetics Lab (Handout) worth 8 points as “Quiz 9”</b>
Monday, July 31	<b>Review, including review of heart models and sheep hearts; cadaver observation, and Quiz 10 over all Blood Vessels and Fetal Circulation</b>
Tuesday, Aug. 1	<b>LAB PRACTICAL 2 (L.G. 28-45; 50-94) except Blood Pressure Measurement, Diffusion, Osmosis, Diffusion, Filtration Lab, and Genetics Lab) Sheep hearts and heart models will be on this lab practical.</b>