

BIOLOGY 203
HUMAN ANATOMY AND PHYSIOLOGY
Marilyn M. Shannon, M.A., Course Coordinator
Fall Semester, 2018

INTRODUCTION

Welcome to Biology 203! Biology 203, Human Anatomy and Physiology, is the first semester of a challenging two-semester introduction to the structure and function of the amazing human body. The course will continue as Biology 204 during Spring, 2019. Students who successfully complete the course will demonstrate the ability to

- (1) recognize and use the specialized vocabulary of human anatomy and physiology,
- (2) understand and apply the principles and processes through which the body maintains life and health (“homeostasis”), and
- (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 203 Lecture Notebook, Laboratory Guide & Photo Atlas, 4thth ed., by Karen K. McLellan, M.S., and Marilyn M. Shannon, M.A. (Fountainhead Press, 2018)

COURSE TEXTBOOK

Seeley’s Essentials of Anatomy and Physiology, 10th ed., by VanPutte, Regan, and Russo (McGraw-Hill, 2019). This is the hard copy of the textbook, which you may or may not wish to purchase.

INSTRUCTOR’S OFFICE HOURS, E-MAIL, TELEPHONE, AND WEBSITE

Office Hours:	Tuesdays	3:00-4:15 p.m. in SB 338 5:45-6:15 p.m. (after lecture) in LA 159
	Thursdays	3:45-4:15 p.m. in SB 338 5:45-6:15 p.m. (after lecture) in LA 159
	Friday	Before and after lecture in LA 159

Office: Science Building 338 (same floor as the anatomy lab)

Office telephone: (260) 481-6314 (office hours and voice mail anytime)

E-mail: shannon@pfw.edu

Website: <http://users.pfw.edu/shannon>

Connect Website: <http://connect.mheducation.com>

BIOLOGY 203 GENERAL EDUCATION STATEMENT

The General Education program at Purdue FW requires that approved courses be taken in seven state-mandated different competencies, one of which is Competency B.4, “Ways of Knowing, Scientific Ways of Knowing.” Biology 203 fulfills the requirements for Competency B.4. Students who successfully complete Biology 203 with a C or better will fulfill the following outcomes of Competency B.4. Specifically, this course meets four state-mandated learning outcomes for Scientific Ways of Knowing and one state-mandated learning outcome for Quantitative Reasoning.

- 4.2. Distinguish between scientific and non-scientific evidence and explanations.
- 4.3. Apply foundational knowledge and discipline-specific concepts to address issues or solve problems.
- 4.4. Apply basic observational, quantitative, or technological methods to gather data and generate evidence-based conclusions.
- 4.5. Use current models and theories to describe, explain, or predict natural phenomena.

In addition, Biology 203 fulfills Competency 3.2, Quantitative Reasoning, Outcome 3.2: Represent information/data in mathematical form as appropriate (e.g with functions, equations, graphs, diagrams, tables, words, geometric figures).

Biology 203 fulfills the Area II, “Natural and Physical Sciences” General Education requirement for students enrolled before the 2013-2014 academic year.

LECTURE / RECITATION

The lecture/recitation portion of the class emphasizes physiology--the function of the human body. Much 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 homeostatic imbalances. Attending the lectures is essential to your success, but the course also requires considerable out-of-class study.

>Lecture Courtesy Expectations Biology 203 is one of the largest lecture classes on campus, with over 180 students. Your learning depends on your ability to concentrate on the lecture and PowerPoint illustrations. It is certainly advisable not to distract yourself with electronic devices or chatting with a neighbor in class. However, students who distract other students or the instructor by using electronic devices for any reason other than the topic at hand, or who chat with others, or who get up and leave before the class is dismissed will be asked to leave (or not return) until the next class. If you know that you have to leave early or that you in some way might distract others, including your instructor, please sit in the back of the lecture hall.

LABORATORY

The lab classes emphasize human anatomy and are completely hands-on. We are fortunate to have teaching labs well provided with a large variety of full size anatomical models, real and artificial skeletons and bones, and some preserved specimens. Lab policies will be explained during your first lab class, and are also detailed in the introductory pages of your *Lab Guide*.

> Lab Courtesy Expectations You are expected to participate in lab. Electronic devices may not be used for any purpose other than the topic at hand. Interfering with the learning of others or the effectiveness of the instructor by inappropriate chatter or use of electronic devices will result in offending students being asked to leave until the next week.

> Lab Personal Protection Dress Policy: The University's "personal protection" regulations require that students in *all* teaching labs wear closed-toed shoes, long pants and/or long skirt. Short-sleeve shirts covering at least 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. Even when the reason for not attending a class is very necessary, missing even one day of lecture or lab makes it difficult to keep up. If you know in advance that you must miss a class, you may be able to make it up during a different time that week by permission of the instructor.

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 203. 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, ten 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, will not be 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 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, non-cumulative 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 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. 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: Nine lab quizzes and one lab experiment, 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 experiment will be graded based on data gathered and written conclusions.

GRADES

Each test, practical, or quiz or 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. Except for the lab quizzes/experiment and online homework, your raw scores will be converted to percentages, and the percentage scores will then be used as points which will be accumulated to assign the final grade in the course. The lecture constitutes about 65% of your overall accumulated points; the lab contributes about 35% of your overall grade.

Grades from the Online Lecture Homework will be added as raw points; each 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. These homework points are not bonus points.

Grades from the ten 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 experiment*), so that you can gain a total of 64 points from the lab quizzes. These quiz points are not bonus points.

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 Lecture Homework	60
Lab Quizzes/Expt.	<u>64</u>
Total possible points	724

At the end of the semester a 90-80-70-60 scale of the cumulative points will be used to determine the final grade. That is,

652 or more points,	A
579-651 points,	B
507-578 points,	C
434-506 points,	D
433 or fewer points,	F

Plus and minuses will not be assigned to your final grade. A consistent performance throughout the semester will result in a better grade than a "miracle finish" at the end of the semester, since no greater weight is put on points gained late in the semester rather than early. Because the grading scale and current cumulative point totals are updated after each test, *you will always know your current grade is in this course*. You will be

able to view your test scores and cumulative points on Blackboard, and will see the current grading scale on users.pfw.edu/shannon, the course website. In addition, an unofficial mid-semester grade will be submitted to the Registrar's Office.

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 darken it in on every machine-gradable test answer sheet. (It will be given to you in lab during the third lab 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 quiz and lab practical.

MISSED TESTS, HOMEWORK, OR QUIZZES

If you must miss any lecture test or lab practical for any reason, and if you wish to take a make-up, you must leave me an e-mail (shannon@pfw.edu) or a voice-mail message (260 481-6314) *before* the test is missed. More than one make-up test will require documentation for both absences, and approval by the Biology Department Chair. There is no make-up for the Optional Lecture Test.

>**Lecture Test Make-ups:** The large number of students make individually scheduled make-up tests impossible. Therefore, make-ups for all missed lecture tests (except for the Optional Lecture Test, for which there is no make-up) will be given on Tuesday, November 20, or Tuesday, November 27, at a mutually agreeable time. Make-up lecture tests may consist of a completely different format than the regular tests-- a mix of multiple choice, fill-ins, labeling, and essay questions.

>Lab Practical Make-up Policy: Due to set-up space and time required to provide a lab practical, no make-ups are available. Instead, an incomplete (I) grade to be completed during the next time the course is offered (Spring 2019) is the only option offered for make-up of lab practicals.

>Lab Quiz Policy: No make-ups are permitted for lab quizzes, even in another lab class during the same week. Any lab quiz not taken will result in a score of 0. However, your lowest lab quiz score for each half of the semester will 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. However, your lowest homework score from each half of the semester will be dropped.

LAST DAY TO WITHDRAW WITH A GRADE OF W

IUFW students: FRIDAY, OCTOBER 21, 2018

PFW students: FRIDAY, OCTOBER 26, 2018

After this date, only a serious, documented reason, approved by the dean, will justify a grade of W. After this date, you cannot drop due to poor performance. This is a university-wide policy to which the instructor cannot make exception.

OUT OF CLASS RESOURCES

Below is a list of resources put in place to help you achieve success in Biology 203. Please take advantage of these!

>Biology 203-204 Website “Green Screen”: Available through Blackboard or users.pfw.edu/shannon, this website contains course materials including the syllabus, the 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 grading scale is also available here.

>Biology 203 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. The Student Edition allows access to a wealth of learning tools for each chapter, such as animations and downloadable chapter study guides. The Biology 203 Lecture Study Organizers (above) detail useful learning aids.

>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 to be announced (see the "Green Screen," users.ipfw.edu/shannon).

>Lecture Supplementary Instruction (SI): Weekly group help sessions, conducted by an undergraduate student who has recently been successful in this course, will be held at times to be announced (see users.ipfw.edu/shannon).

>Tutoring: Tutoring is available through Math and Science Tutoring in Kettler Hall G-19 or G-21. There is no cost for this service. E-mail and telephone access will soon be established.

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 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.

BIOLOGY 203 LECTURE SCHEDULE

and online homework assignments

Afternoon Lectures: Tuesday-Thursday, 1:30-2:45 p.m., LA 159 or

Evening Lectures: Tuesday-Thursday, 4:30-5:45 p.m., LA 159

Tuesday and Thursday, August 21, 23

Introduction to Physiology. Text Chapter 1

Cells 1. Text Chapter 3

Chapter 1 online homework due Tuesday, August 28. (Homework assignments are all due at 11:59 p.m. of the assigned date.)

Tuesday and Thursday, August 28, 30

Cells 2. Text Chapter 3

Tissues 1. Text Chapter 4

Chapter 3 online homework due Friday, August 31

Tuesday and Thursday, September 4, 6

Tissues 2. Text Chapter 4

Integumentary System. Text Chapter 5

Chapter 4 online homework due Wednesday, September 5.

Chapter 5 online homework due Friday, September 7

Tuesday and Thursday, September 11, 13

LECTURE TEST 1 over Introduction through Integumentary System, and anatomical terms from Lab 1.

Skeletal System 1 (Thursday). Text Chapter 6

Tuesday and Thursday, September 18, 20

Skeletal System 2. Text Chapter 6

Muscular System 1. Text Chapter 7

Chapter 6 online homework due Friday, September 21.

Tuesday and Thursday, September 25, 27

Muscular System 2. Text Chapter 7

Muscular System 3. Text Chapter 7

Chapter 7 online homework due Monday, October 1.

Tuesday and Thursday, October 2, 4

Nervous System Introduction. Text Chapter 8

Action Potentials. Text Chapter 8

Chapter 8, "Nervous System Introduction," online homework due Friday, October 5

Tuesday and Thursday, October 9,11

Synapses. Text Chapter 8

Completion/review of Skeletal, Muscular, Nervous System Intro.

PFW Fall Break: No class Tuesday, October 16

Thursday, October 18

LECTURE TEST 2 over Skeletal System, Muscular System, and Introduction to Nervous System.

Tuesday and Thursday, October 23, 25

Spinal Cord and Brain as an Organ. Text Chapter 8

Brain Functions and Autonomic Nervous System 1. Text Chapter 8

Chapter 8, "Action Potentials, CNS" online homework due
Wednesday, October 24

Tuesday and Thursday, October 30, November 1

Autonomic Nervous System 2. Text Chapter 8

General and Chemical Senses. Text Chapter 9

Chapter 8 Nervous System "Nerve Tracts + ANS" online homework
due Wednesday, October 31

Chapter 9 Senses: "General and Chemical" online homework due
Monday, November 6

Tuesday and Thursday, November 6, 8

Completion/review of Nervous System through Chemical Senses

**LECTURE TEST 3 (Thursday) over Action Potentials through
Chemical Senses**

Tuesday and Thursday, November 13, 15

Balance and Hearing. Text Chapter 9

Vision. Text Chapter 9

Tuesday, November 20

**Optional Semi-cumulative Lecture Test over previously covered
material from Lecture Tests 1, 2, and 3**

[Tuesday November 20 or Tuesday, November 27: Make-up
lecture tests. If you have missed Lecture Tests 1, 2, or 3, you
should have already arranged to take a hand-gradable make-up
test at a mutually agreeable time.]

No class Thursday, November 22: Thanksgiving Day

Chapter 9 Senses: "Balance, Hearing, Vision" online homework
due Monday, November 26

Tuesday and Thursday, November 27, 29

Endocrinology 1. Text Chapter 10

Endocrinology 2, Blood 1. Text Chapters 10 and 11

Chapter 10 online homework due Friday, November 30

Tuesday and Thursday, December 4, 6

Blood 2. Text Chapter 11

Blood 3; review. Text Chapter 11

Chapter 11, Blood, Part 1 online homework due Friday, December 7

Chapter 11, Blood, Part 2 online homework due Friday, December 7

Thursday, December 13 (*Subject to confirmation of time and place by Registrar's Office, final will be in LA 159 at the same time that your lecture section usually meets.*)

FINAL EXAM (Lecture Test 4) over Balance and Hearing through Blood. It will not be cumulative.

BIOLOGY 203 LABORATORY SCHEDULE

(All assignments are found in the *Lab Guide*.)

Lab 1 Tuesday- Thursday, August 21-23

Introduction to Human Anatomy (Lab Guide pages 1-6)

Note: This information will be tested on Lecture Exam I.

Lab 2 Tuesday-Thursday, August 28-30

Introduction to Bones and Muscles (Lab Guide pages 7-12)

Lab 3 Tuesday-Thursday, September 4-6

The Pelvic Girdle and Lower Limb (Lab Guide pages 13-21)

Quiz 1 over last week's material

Lab 4 Tuesday-Thursday, September 11-13 **Bone and Joint Anatomy** (Lab Guide pages 22-28)

Quiz 2 over last week's material

Lab 5 Tuesday-Thursday, September 18-20

The Pectoral Girdle and Arm (Lab Guide pages 29-36)

Quiz 3 over last week's material

Lab 6 Tuesday-Thursday, September 25-27

The Forearm, Wrist and Hand (Lab Guide pages 37-44)

Quiz 4 over last week's material

Lab 7 Tuesday- Thursday, October 2-4

Review (Lab Guide pages 7-44)

Quiz 5 over last week's material

Lab 8 Tuesday- Thursday, October 9-11

LAB PRACTICAL 1. Any and all boldfaced material from all previous topics (Labs 2-7, pages 7-44) will be covered on a write-in test using mostly bones and models. This test will have 60 items and will last 55 minutes. Your instructor will announce your starting time.

PFW Fall Break: No class Monday and Tuesday, October 15 and 16. Additionally, no labs are scheduled on October 17 or 18.

Lab 9 Tuesday-Thursday, October 23-25

The Brain, Cranial Nerves I-IV, and Spinal Cord (Lab Guide pages 45-53)

Lab 10 Tuesday-Thursday, October 30-November 1

The Eye, The Ear, Cranial Nerves V-VIII, (Lab Guide pages 54-64) **Quiz 6** over last week's material

Lab 11 Tuesday-Thursday, November 6-8

Skull, Muscles of Head and Neck, Cranial Nerves IX-XII (Lab Guide pages 65-73)
Quiz 7 over last week's material

Lab 12 Tuesday-Thursday, November 13-15

**Vertebral Column, Rib Cage, Muscles of the Back and Abdomen;
Peripheral Nerves** (Lab Guide pages 74-84)
Quiz 8 over last week's material

Optional Open Lab for all students **Tuesday, November 20**, in SB 377 at times to be announced

Thanksgiving Holiday Recess: Wednesday-Friday, November 21-23

Lab 13 Tuesday-Thursday, November 27-29

Review (Lab Guide pages 46-85), and **Two-Point Discrimination Test** (Handout, worth 8 points)
Quiz 9 over last week's material

Lab 14 Tuesday-Thursday, December 4-6

LAB PRACTICAL 2. Any and all bold-faced vocabulary from Labs 9-13 (pages 45-84) will be tested on a write-in test using mostly bones and models. This test will have 60 items and will last 55 minutes. Your instructor will announce your starting time.

203 Laboratory Class Times
All labs classes meet in SB 377.

University policy prohibits students from attending any labs for which they are not registered, unless they have the express permission of the laboratory instructor. In case you must miss a lab, the schedule below can be used to help you arrange for a make-up lab. *You may not arrange for a make-up quiz, and you may not enter a lab when a quiz is being given.*

BIOL 203 Labs

Lab Time	Location	Instructor
Tuesday, 9:00-10:50 a.m.	SB 377	Jonathan Danielson
Tuesday, 11:00-12:50	SB 377	Ken Saillant
Tuesday, 1:00-2:50	SB 377	Andrea Funk
Tuesday, 3:00- 4:50	SB 377	Ken Saillant
Tuesday, 6:00-7:50	SB 377	Ken Saillant
Wednesday, 8:00-9:50 a.m	SB 377	Aparna Biswas
Wednesday, 10:00-11:50	SB 377	Aparna Biswas
Wednesday, 1:00-2:50	SB 377	Andrea Funk
Wednesday, 3:00-4:50	SB 377	Jonathan Danielson
Wednesday, 5:30-7:20	SB 377	
Thursday, 9:00-10:50 a.m.	SB 377	Geral'n McGee
Thursday, 11:00-12:50	SB 377	Patrick Ransbottom
Thursday, 2:30- 4:20	SB 377	Sushanta Ratna
Thursday, 6:00-7:50	SB 377	Aparna Biswas

Weekend College Labs*

Friday, 9:00-10:50 a.m.	SB 377	Jonathan Danielson
Friday, 11:00-12:50	SB 377	Ken Saillant
Saturday, 9:00-10:50 a.m.	SB 377	Jonathan Danielson
Saturday, 11:00-12:50	SB 377	Ken Saillant

*Weekend College labs may or may not be a week behind regular Weekday labs.