

*NORTH SHORE COMMUNITY COLLEGE
DANVERS, MASSACHUSETTS*

COURSE OUTLINE

Fall 2019

COURSES: BIO211-BD (93069), Anatomy and Physiology I

INSTRUCTOR: Professor Noel Ways

*TEXT: Anatomy and Physiology, 8th edition, by Saladin,
McGraw Hill Pub. Co., © 2018*

*LAB MANUAL: Laboratory Manual for Anatomy & Physiology, 6th edition, by
Michael G. Wood, Pearson Cummings Pub. Co.*

ADDITIONAL SUPPLIES: 1 1/2" binder, safety goggles, colored pencils

<i>LOCATION AND TIME:</i>	<i>Lecture:</i>	<i>H 219</i>	<i>Sat</i>	<i>9:00 – 11:50</i>
	<i>Lab:</i>	<i>H 221</i>	<i>Sat</i>	<i>12:00 – 1:50</i>

BIO 121 – Anatomy & Physiology I

*The basic principles of chemistry are reviewed and the basic principles of biology are introduced. These are followed by an introduction to the study of the structure and functioning of the human body. Systems covered are integumentary, skeletal, muscular and nervous. Emphasis will be placed on the interrelationships among the systems. Related topics such as diseases of the systems will be integrated where applicable. Laboratory work will include experiments, dissection, microscope work, and the study of charts and models. Please note: Prerequisites are BIO 115 Physiological Chemistry or CHM 111 Introduction to Chemistry or higher or high school chemistry in the past five years.
4.000 Credit Hours 3.000 Lecture hours 2.000 Lab hours*

ABOUT A SATURDAY CLASS:

There are some real benefits of having class meet once per week. First, an entire unit is typically completed from start to finish in one day, and the student now has the entire corpus of material to begin mastering immediately. Secondly, it greatly reduces commuting time (we only meet ~15 times per week). But there is a liability as well: it is a long day! So some forethought is necessary here. Plan to get good night's rest the night before class – even if there is an exam that day. Students who do not get sufficient rest tend to do poorer on their exams and struggle to

focus during lecture. Also, plan to bring high protein, low carbohydrate snack foods (consider bringing lunch as well) to help you be your best during this roughly five hour period.

INSTRUCTIONAL OBJECTIVES:

The primary objective of Human Anatomy and Physiology I is to build a foundational understanding of the human body for students pursuing a career in the medical and paramedical curricula or other related fields. The following is a listing that describes many of the details of this objective. This listing is partial and provides a broad overview of the course.

- 1. Students will describe and use anatomical terminology applicable to writing of medical reports and reading of professional literature associated with their discipline.*
- 2. Students will be able to identify all major body systems with their essential functions, particularly as they relate to homeostatic maintenance.*
- 3. Students will be asked to describe the homeostatic paradigm, and provide an example of both positive and negative feedback systems.*
- 4. Each student will be exposed to essential chemical principles necessary for further discussion of physiological concepts in both A&P I and A&P II.*
- 5. Students will know structural/functional relationships of major cellular organelles. Cell membrane structural and physiological functions will also be understood. Students will be exposed to and view stages of mitosis under microscope.*
- 6. Each student will recognize about twelve different tissues found in the body and equate to each appropriate function-location relationships.*
- 7. The student will identify major components of the Integumentary System and their functions. The students will also explain the relationship of the integument to associated homeostatic control mechanisms. The student will explain in writing the process of deep wound healing, while taking into account the logical progression of healing events through time.*
- 8. The student will be able to describe the structural makeup of osseous tissue and explain why the system exists. Key homeostatic mechanisms involved in the maintenance of normal blood calcium levels will be explained and illustrated. Lastly, the process of bone growth will be explained in writing, and how growth hormone affects the overall process.*
- 9. The student will then be required to identify both name and function of most bones of the body as well as numerous processes, fosses, etc. of the same.*
- 10. The student will then focus on articulations and be able to identify the various types of joints, identify essential range of movements, and lastly understand the basic anatomy of the synovial joint.*
- 11. The next unit will revolve around muscle tissue and the muscular system. Here, the students will be able to recognize essential anatomy of muscle tissue and*

- their associated physiology.*
- 12. Following this the student will take a close look at how energy, in the form of ATP is produced in cellular respiration. The entire essential metabolic pathway will be examined and the student will be expected to identify all critical actions and processes for these metabolic pathways.*
 - 13. The student will be able to identify select muscle groups as well as their origins and insertions and the specific action of each muscle.*
 - 14. The final unit of study will be an examination of the nervous system. Here the student will recognize nervous tissue types and be able to identify their respective functions. The students will also demonstrate in writing his/her understanding and explanation of nerve impulse propagation.*
 - 15. Following nervous tissue, the students will look at the function of the spinal cord with particular emphasis on spinal reflexes. The student will be able to illustrate select reflexes and appropriately label them.*
 - 16. The student will then be required to identify the basic parts of the human brain and their respective functions. But beyond this, the student will be able to explain how the different parts work in a coordinated manor.*
 - 17. Student will describe the anatomical characteristics of the eye and ear and the basic functions of major anatomical parts.*
 - 18. Lastly, the student will have a basic understanding of the autonomic nervous system and how each branch effects the viscera, with particular emphasis on the “fight and flight response” vs. maintenance of homeostasis.*

TEACHING PROCEDURES:

The lecture sequence will be presented in a systematic fashion with accompanying overheads to facilitate organization and understanding of the lecture material. Lecture outlines and other course materials are provided on-line and are to be brought to each class to facilitate information integration.

The laboratory is designed to give the student a “hands on” appreciation for the anatomical considerations being discussed in lecture and to familiarize the student with some of the more basic physiological considerations as they relate to gross anatomy. The laboratory period will also be used for lecture purposes.

GRADING POLICY

The course content is divided up maximally so as to reduce total load content on any particular exam. Each exam is worth 100 points. The “lowest” grade may be dropped with the exception of the last exam set and potentially other exams that are “non-droppable”. The student will be informed ahead of time if an exam cannot be dropped. The final grade is based upon an absolute scale

and is determined by the college and can be accessed on-line. A number/letter equivalence chart is provided at the end of this syllabus.

ATTENDANCE POLICY:

Attendance of every lecture and every lab is strongly encouraged, as material will be presented that may not be otherwise covered in the text. A student will not be penalized for failure to attend a class; however, it should be noted that lecture exams and laboratory practicals will have strong representation from class instruction. A name call will be taken for registrar tracking purposes. Further, critical announcements may be made in class and an absentee would otherwise miss.

NOTES “the fine print”

1 Administrative

- a. **The Syllabus** Please keep a copy of this syllabus as a record of course content for future application purposes.*

2 Recording of lectures

- a. **Recording of Lectures** Recording of the lectures is always permitted. The use of laptop computers or word processors is encouraged if it helps the student integrate the material. Feel free to use a digital camera to photograph laboratory dissections, models, or any other supportive tool. You may videotape the lecture if you like. In short, you may do anything you deem necessary to master the subject matter as long as it is legal, ethical, and non-disruptive.*

3 Attendance

- a. **Attendance** of every lecture and every lab is strongly encouraged, as material will be presented that may not be otherwise covered in the text. Also, as special assignments or lecture sequence modifications or exam date changes may occur; it is imperative that you are proactive in ascertaining if changes have been made and what material has been covered.*
- b. **Tardiness** Please be on time. Tardiness is disruptive to both the students and the instructor. If you are late, please make sure that you are marked down on the attendance sheet before you leave. Further, announcements, schedule changes, exam date changes*

etc, may be given at the very beginning of class.

- c. **Leaving Early** - *Never leave class early as lecture topics could be discussed that are not anticipated or special announcements or schedule modifications may be made at the very end of class.*

4 **Course Materials/Services**

- a. **Alternative Textbook** *If the student chooses to use an alternative textbook, or an edition other than the one required for this course, it is the student's responsibility to obtain information that is either not covered or otherwise not approached in a similar manner as in the required text.*
- b. **Textbook Usage** *The role of the textbook is to be a supportive tool to the lectures. The student is not expected to memorize the entire textbook, but to use it to reinforce concepts and material presented during lecture.*
- c. **Website** *The website associated for this course can be found at the following address: www.noelways.com . Once the site is accessed, select your course and there you will find your lecture outlines, handouts, and other support material. There is also an email button for correspondence with your instructor.*
- d. **Lecture Outlines and Supplemental Materials** *are to be found on the internet. All course materials should be downloaded and organized in a three-ring binder during the first week of classes.*
- e. **Tutoring** *The college provides free tutoring services during Fall and Spring semesters. Contact the academic support center for the days and times. Tutoring is a free service of the college and designed to assist students who desire to excel in their mastery of the material as well as those struggling.*

5 **Exams**

- a. **The Exam Schedule** *below is a tentative but probable schedule of topics and dates. The schedule will be modified according to the progress of the lectures. The exam dates are target dates and will represent only material actually covered in class and video assignments. Specifics regarding content will be given as the exam date approaches.*
- b. **Exam Filing** *All exams are returned to the instructor and filed after being handed back for review.*
- c. **Make-up Lecture Exams** *are to be avoided! But if a make-up is needed, documentation is required to certify that the need is*

legitimate. If documentation is not presented, a make-up is still permitted, but a penalty is applied at the discretion of the instructor. If there is to be a make-up, this task should be accomplished within a week that the student returns to school in good health. Dates and times are limited, so the students may need to make special arraignments to do the make-up. Contact me so that a time and date can be coordinated. After a week, the instructor reserves the right to refuse a make-up.

- d. ***Make-up Lab Exams*** Lab exams (practicals) are very difficult to make up. If you miss a lab practical, this may be the exam grade you drop.

6 ***Grading***

- a. ***Dropping One Exam*** The lowest grade of the semester is dropped, with exception of the last exam set and any other exams that the instructor designates as “non-droppable”.
- b. ***Final Grade*** Your final course grade is typically determined the day of the final exam. Once the grades are submitted, confirm your grade with the college, and contact me if there are any issues. After four weeks of the grades being submitted, exams are recycled, and grades are final.
- c. ***Exam Grades*** are not given over the internet.

7 ***School Closings and Emergencies***

- a. ***Unscheduled School Cancellations*** If there is a college cancellation, please check the announcements button on the web for instruction. Class time missed due to unscheduled school cancellations must be made up. Follow instructions on the web for details. If there is a scheduled exam, this will be covered the next time we meet.
- b. ***Adverse Weather*** Phone number: ext. 3002

8 ***Final Points***

- a. ***Contact Information*** See email address for the contact link. When emailing, always identify yourself and the class that you are in. Always have the subject line appropriately filled in. I will not open mail that is not properly identified.
- b. ***Recommendations*** Should you seek a letter of recommendation to future programs, please provide the instructor with appropriate information and deadlines that you are facing and a stamped and addressed envelope. Finally, to assure that your application is complete, please contact the school after a reasonable period of time to assure their having received the letter. Contact me if there

- are any problems.*
- c. **Identification** of all texts, recorders, and lab manuals is important. Please put your name and phone number on all personal belongings. If you leave something behind, you may be contacted as to where to pick it up.
 - d. **Cellular Phones and Text Messaging** - Unless you anticipate an emergency call, please turn your phones off. Text messaging is prohibited during class.

Fall Schedule

This schedule of topics and exam dates is tentative but probable and will be adjusted according to the progress of the lectures. Any alteration of the exam schedule will be announced in class.

<i>Day of</i>	<i>LECTURE</i>	
<i>September 7</i>	<i>Organization of the Human Body</i>	<i>--</i>
<i>September 14</i>	<i>Chemistry of Life</i>	<i>Exam #1</i>
<i>September 21</i>	<i>Cytology</i>	<i>Exam #2</i>
<i>September 28</i>	<i>Histology</i>	<i>Exam #3</i>
<i>October 5</i>	<i>Histology, cont., The Integumentary System</i>	<i>Exam #4</i>
<i>October 12</i>	<i>Skeletal Tissue, Axial Skeletal Sys.</i>	<i>Exam #5</i>
<i>Oct 14 - Columbus Day – No Class – Video Assignment</i>		
<i>October 19</i>	<i>Axial Skeletal Sys.</i>	<i>Exam #6</i>
<i>October 26</i>	<i>Appendicular Skeletal Sys.</i>	<i>Exam #7</i>
<i>November 2</i>	<i>Articulations</i>	<i>Exam #8</i>
<i>November 9</i>	<i>Cellular Respiration</i>	<i>Exam #9</i>
<i>Nov 11 - Veterans Day – No Class – Video Assignment</i>		
<i>November 16</i>	<i>Myology (Muscularx Sys – TBD)</i>	<i>Exam #10</i>
<i>November 23</i>	<i>Nervous Tissue</i>	<i>Exam #11</i>
<i>November 30</i>	<i>No Class – Thanksgiving Break</i>	
<i>Nov 28-30 - Thanksgiving Break</i>		
<i>December 7</i>	<i>Spinal Cord, Brain, Auto NS</i>	<i>Exam #12</i>
<i>December 14</i>	<i>Final Exam (Date TBA)</i>	<i>Exam #13</i>
<i>Classes formally end Dec. 16, therefore class is in session</i>		
<i>Dec 17-18 - Final Exam period</i>		

Note: some exams listed above may be combined or divided. This will be announced and the exam time approached.

Anatomy and Physiology I Exam Contents

(Modification of content, dates, or number of exams will be announced in class, should any be made. Exams may not be given in the order designated below.)

Exam #1:	_____	Introduction
Exam #2:	_____	Chemistry of Life
Exam #3:	_____	Cytology
Exam #4:	_____	Histology
Exam #5:	_____	Integumentary System
Lab Prac #1:	_____	Tissues
Exam #6:	_____	Skeletal Tissue
Lab Prac #2:	_____	Skeletal System
Exam #7:	_____	Articulations
Exam #8:	_____	Myology
Exam #9:	_____	Cellular Respiration
Lab Prac #3:	_____	Muscle Movements
Exam #10:	_____	Nervous Tissue
Exam #11:	_____	Spinal Cord, Brain Autonomic Nervous System

Calculation of your grade is simple. Drop your lowest grade, then do a simple average. This is your course grade to date. Note your grade in the numeric/letter equivalence chart below.

Grading Policy:

A	4.0	93-100	C	2.0	73-76
A-	3.7	90-92	C-	1.7	70-72
B+	3.3	87-89	D+	1.3	67-69
B	3.0	83-86	D	1.0	60-66
B-	2.7	80-82	F	0.0	0-59
C+	2.3	77-79			

Course Average: _____

Letter Grade: _____

Exam Taking Rules

Here is a set of Rules regarding taking exams:

Things you may NOT do:

- Look at another students exam
- Go to the bathroom
- Have any electronic devices in hand/lap or in operation
- Nothing may be on desk - water bottles, papers, hats ETC.
- After an exam is complete, if you leave the room, do not reenter until the rest of the class is finished
- If a key of the exam is posted, this may not be photographed
- Cheat (Dah !!)

Things you may do:

- Put down the correct answers
- Hold it, until the exam is over.
- Look at your own exam
- Look at me (I'll smile)

What if you:

- Look at another students exam: Exam is dropped / 0
- Go to the bathroom during exam: Exam is dropped / 0
- Have electronic devices in hand/lap (even if they are off):
Exam is dropped / 0
- Have on desk water bottles, papers, hats ETC:
Exam is dropped / 0
- Cheat: Exam is dropped / 0

Exams are “open brain” not “open book”: STUDY HARD !!!

Students who study hard and know the material well, often enjoy the exams - a reward and confirmation of hard work, and a job well done.

Fall 2019 Academic Calendar

Registration for students begins for fall credit classes	April 1, 2019
Fall course payment is due by 5:00 pm	August 1, 2019
Labor Day, no classes	September 2, 2019
Credit classes begin, day and evening	September 5, 2019
Student add/drop period	September 5 - 11, 2019
Deadline to withdraw from 15-week classes and receive 100% refund of tuition and fees due at 5:00 pm	September 11, 2019
Deadline to withdraw from 15 week classes and receive 100% refund of tuition only is 5:00 pm	September 18, 2019
Deadline for student to change from audit to credit or credit to audit	September 26, 2019
Columbus Day, no classes	October 14, 2019
Winter/Spring schedule opens for viewing	October 28, 2019
Winter/Spring registration opens for students	November 4, 2019
Veterans Day, observed (no classes)	November 11, 2019
Student evaluation week for full-time faculty	November 18 - 22, 2019
Final exam schedule posted	November 25, 2019
Deadline for IP contracts for Spring and Summer 2019 courses	November 27, 2019
Last day to withdraw from the College with a "W" grade	November 27, 2019
Thanksgiving recess, no evening or weekend courses	November 27 - 30, 2019
Thanksgiving recess, no day courses	November 28 - 30, 2019
Student evaluation week for adjunct faculty	December 2 - 7, 2019
Winter/Spring course payment due by 5:00 pm	December 5, 2019
Classes end, weekend only	December 14, 2019
Classes end, day and evening	December 16, 2019
Final exam period, day classes	December 17 - 18, 2019
Grades posted on myNorthshore	December 24, 2019