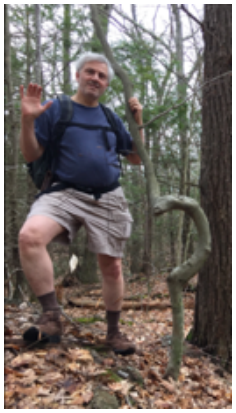
North Shore Community College
Danvers, Massachusetts
BIO 211 O03 (65501) – Anatomy and Physiology I
Summer 2022 (July 11, 2022 – August 20, 2022)

Welcome

Welcome to Anatomy and Physiology I. My name is Noel Ways. I am a biologist by training, and for over 30 years, I have had the privilege to teach both A&P I and A&P II hundreds of times. Oddly, the content never gets old. The material is the same, but what breathes life into the classroom every semester is the student. We work together, and we learn together. As you begin your journey into this segment of your academic career, I am here to help guide and encourage you to be the best you can be. Welcome to the class.



Instructor Contact Information

Instructor: Noel Ways
Email: nways@northshore.edu
Virtual Office Hours: As our schedules vary dramatically from one person to another, specific "office hours" that work for all can be challenging. If you would like to meet, email me, and we can set up a timely meeting with Zoom. On Blackboard, you will find a link, "Zoom, Let's Talk," where you will find an "office hours" link.

Course Information

BIO 211 O03 – Anatomy and Physiology I **CRN:** 65501
Credits: 4 Credit Hours. 3 Lecture hours, 2 Lab hours
Prerequisites: Communication & Mathematics proficiency and BIO101 or BIO105 with a C or better.

College Course Description

This is the first course of a two part sequence that studies the human body. It is primarily designed for those students pursuing majors in the health professions. Topics include tissues, and the skeletal, muscular, and nervous systems including the organs of special sense, and a review of basic chemistry and cellular structure and function. Laboratory work is designed to supplement the lecture material. Fulfills, open, liberal arts, and with BIO212, the laboratory science sequence electives. (3 hours of lecture and 2 hours of laboratory per week). Pre-requisite equivalents for BIO211 include: TEAS - Science section score of 50 or higher (no time limit), LPN Certificate (no time limit), CLEP test with a score of 50 or higher, High School Biology with a grade of C or better taken within 5 years, AP Biology Test with a score of 3 or better with the last 5 years, Bachelor's degree or higher in Biological science or chemistry. Formerly BIO103

General Course Description

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 dissection, microscope work, and the study of charts and models.

General Course Objectives

As we endeavor to prepare you for a career in the allied health professions, specific goals and benchmarks have been established towards this aim. Looking towards this end, the general course objectives listed below expand on the overall course description. As the flow of the course ensues, you will find that the course topics and laboratory work will align with these objectives.

- Develop a working knowledge of anatomical terminology applicable to writing medical reports and reading professional literature associated with their discipline.
- Develop an understanding of how homeostasis is maintained through negative and positive feedback systems
- Distinguish between essential chemical processes and molecular classifications in preparation for further discussion of physiological concepts in both A&P I and A&P II, and clinical instruction.
- Compare and contrast the functional relationships of major cellular organelles.
- Compare and contrast transport mechanisms for substances entering and exiting through the cell membrane.
- Critique different tissues found in the body according to their function-location relationships.
- Differentiate between the regions of the Integumentary System and their functions.
- Write the process of deep wound healing while taking into account the logical progression of healing events through time.
- Relate the structural makeup of osseous tissue to healthy bone maintenance.
- Diagram the homeostatic mechanisms involved in the maintenance of normal blood calcium levels.
- Compare and contrast the stages in the process of healthy bone growth.
- Develop a working knowledge of the body's major bones and the numerous processes, fosses, etc. of the same.
- Categorize the major articulations of the body, both structurally and functionally.
- Relate the anatomy of muscle tissue to how muscles contract.
- Predict the amount of ATP produced per one glucose molecule based upon an illustrated • Predict the actions of various muscle contractions based upon their location, origin, and insertion.
- Compare and contrast the major parts of the central nervous system according to their essential functions.
- Examine the process of nerve impulse propagation.
- Produce illustrated diagrams of select spinal reflexes.
- Distinguish between the different parts of the human brain and their respective functions.
- Compare and contrast how the different parts of the central nervous system work in a coordinated manner.
- Predict the levels of both sympathetic and parasympathetic nervous activity under various degrees of stress and rest.

Course Materials

- **Textbook (Required):** Anatomy & Physiology, by OER Commons
  Note, the textbook is obtained as a free online resource, and can be accessed at:
  https://www.oercommons.org/courses/anatomy-and-physiology-4/view
- **Videos:** YouTube Lecture Videos with Closed Caption
- **Handouts:** Accessible and downloadable PDFs
- **Internet:** Web sites that feature animations explaining complex physiology

The required text and all course material can be accessed through blackboard.

Zoom Links

Click Here to Open Zoom Office Hours → Office Hours

Join Zoom Meeting
https://northshore-edu.zoom.us/j/98810917738

Meeting ID: 988 1091 7738
One tap mobile
+16465588656,,98810917738# US (New York)
+13017158592,,98810917738# US (Germantown)

Dial by your location
+1 646 558 8656 US (New York)
+1 301 715 8592 US (Germantown)
+1 312 626 6799 US (Chicago)
+1 669 900 9128 US (San Jose)
+1 253 215 8782 US (Tacoma)
+1 346 248 7799 US (Houston)
Meeting ID: 988 1091 7738
Find your local number: https://northshore-edu.zoom.us/u/abDA6LcITI

Method of Instruction – Asynchronous Online Presentation

This course is delivered asynchronously online, and will be utilizing resources available through Blackboard and the instructor's website, to which Blackboard is linked. The course curricula are divided up into modules. With few exceptions, each lecture/module has a:

- **Learning Guide** that will guide the student through the lecture, videos, animations, and other media under consideration.
- **Lecture Outline** that provides structure to the course content, focuses on preparing the student for assessment exams, and includes space for note-taking. In addition,
- **Handouts** – Additional handouts are provided as needed where support may be needed
- **Video Support** - Archived Videos of the lectures/modules provide instructional delivery in an online lecture setting. Both the lecture outlines and the video support page can be found online. In the videos, I will walk you through everything!

- **Image Bank** – for each module there is an image bank with photos, illustrations, and powerpoints that may be used as needed by the student.
- **Laboratory** – As anatomy and Physiology is a laboratory course, special links are provided to laboratory material, videos and photographs, and guides.
- **Exams** are given on a lecture by lecture basis and should be completed before beginning the next lecture sequence. These exams will cover the material covered in the outlines, handouts, and videos. The exams are noncumulative, but any lecture topic assumes a working knowledge of previous lecture topics.

For additional details of the module week, see "Course Walkthrough (or Instructional Rhythm) in the Getting Started folder on Blackboard.

Workload

We all come from different backgrounds, varying employment obligations, family relationships, and responsibilities that need to be maintained. With all the various pulls on our time and resources, it can sometimes be difficult to schedule another significant activity into one's daily routine. And scheduling several hours daily for study can be a daunting prospect for some. But this must be looked at immediately and requires a quality decision if success is to be assured.

I encourage you to talk to those people important in your life about your educational needs at this juncture in your developing career. I would encourage you to look carefully at all the time demanding activities in your life and make appropriate adjustments in light of your important career aspirations. The word "priorities" comes to mind here.

Assignments

Anatomy and Physiology I is a content-heavy course. Your primary assignment for each Module is to build for yourself a foundation that will carry you through the rest of your developing career. So, beginning a module/lecture topic, your assignment will be to gain a working knowledge of the module content presented. Each Module will have a **Learning Guide** that will walk you through the particular goals and points worthy of consideration in preparation for an assessment. The module content is outlined in the **"Lecture Outline."** The Lecture Outline will have the following functions:

- The "Lecture Outline" is designed for note taking purposes.
- The "Lecture Outline" is your study outline.
- The "Lecture Outline" is also the exam outline. If something is on the outline you will need to know it. If something is not on the outline, you do not need to know it, even if it is in the textbook.

Also, as Anatomy and Physiology I is a laboratory course, some topics are presented and assessed more than once, once in a lecture context and the other in a laboratory context. For example, we will discuss histology in a lecture context and have an appropriate assessment.

However, we will also study actual histological samples, and these are assessed using another assessment format, the laboratory practical, where the material is presented entirely visually. Having alternative methods of studying the material and alternative forms of assessment provides students with different ways to access the content, demonstrate mastery, and reinforce important topics.

To begin the learning process, start with the **Learning Guides**. These documents will provide insight into approaching the material on a module by module basis and point out issues that require special attention or preparation. The **lecture outline** will guide you systematically through the text and lecture content. If something is on the outline, you need to know it; if something is not on the outline, you are not responsible for it, even if it is in your text. **Handouts** and videos will supplement and reinforce key concepts in our online class settings. Regarding the **Video Support**, here I will talk through the lecture content, following the outline closely. Note, if something is on the outline, you are responsible for it, even if I do not talk about it. Nevertheless, it will require TIME to review the outlines, view associated videos, and study the handouts to understand the material. Regarding laboratory material, mastery of the anatomical characteristics of tissue, bones, organs, etc., will be important, as well as associating appropriate functions with them.

Proctored Exams, the Testing Center, and Make-Up Work

The assignment of a final semester grade will depend upon completing all exams listed on the syllabus below, of which the lowest grade may be dropped (with the exception of the last unit). These exams will cover material from both online assignments, handouts, and video presentations. The nature of the exams is non-comprehensive. However, any particular unit will assume a working knowledge of previous units.

Exams consist of a variety of question types listed below. For details, see the "Assessments" document online.

- True and False
- Matching
- Fill in the Blanks
- Illustrations
- Guided Essays
- Short Answers

Exams are to be taken on **Blackboard** through the college **Testing Center**. The exams are to be taken on the day listed below and during the testing center's normal hours of operation. In addition, the testing center offers Proctored Testing. Therefore, you will be responsible for contacting the Testing Center to schedule your exam during the time designated on the syllabus. The Registration Form can be located at:

https://www2.registerblast.com/northshore/Exam/List

Procedure for taking Proctored Exams Online (and comments):

1. Note exam date on the syllabus, below
2. Complete the registration form (link is above). Please do this well in advance.
   - As the testing center closes at 5 pm, you will want to schedule your exam early enough so that you can use the whole time allotted to the exam. For example, if an exam is 1 hour long, you will want to schedule a time before 4 pm. (I suggest giving yourself even extra time allowing for any issues)
3. By the time you are ready to do the exam, the Testing Center will have sent you a confirmation and a zoom link.
4. Please make sure all background applications are closed (they can interfere with the exam, you do not want the computer to freeze up in the middle of the exam.) Only have what is absolutely necessary open.

5. Open the exam on blackboard.
6. Connect with the Testing Center via Zoom.
7. The testing center will give you the exam password.
8. Put in the password and take the exam.

TESTING CENTER STATEMENT OF RULES:

The student must have a PC, laptop or Chromebook with a camera and microphone. IPads and smartphones can NOT be used.

- I understand that if I am late to my scheduled appointment, I will not be able to enter the test and I will have to reschedule.
- I understand that although I'm taking this test in a private environment, the test proctor will be viewing my activities via ZOOM
- I understand that I will be required to show the test proctor various parts of the room I'm in prior to testing to ensure no unauthorized aids are around me.
- I understand that taking this test in a private environment may require my proctor to access my computer screen.
- I understand that a photo ID is required (license, school ID, passport). You will need to show the test proctor your ID before you start testing. If you do not have a photo ID you can not test.
- Only aids authorized by my instructorare allowed for this test. Cell phones, watches, books, notes and all other devices and materials should be removed from the area of testing.
- If your instructor allows scrap paper, you must show the test proctor both sides of the paper before testing, and you will be required to tear up the scrap paper into very small pieces before your results will be released.

I understand that if my test proctor feels that I have not followed any of the rules above, my test session will be terminated and my results will be invalid.

Makeup Exams - Makeup Exams are to be avoided! But if a makeup is needed, documentation is required to certify that the need is legitimate. If documentation is not

presented, a makeup is still permitted, but an adjustment is to the grade is made at the discretion of the instructor. This adjustment is typically a reduction in extra points that would otherwise bolster your grade. You will never get a grade lower than your earned grade. But if there is to be a makeup, this task should be accomplished within a week that the student returns to school. Contact me so that a time and a date can be coordinated.

Communication and Interaction:

Throughout the semester I will be contacting you on a weekly/biweekly basis to offer advice, provide comments, and give reminders. If you have questions that have class wide import, the questions may be answered and shared with the class on the Student Interaction Board (a Discussion Board). The other venue may be scheduling meetings using Zoom. Students will be encouraged to form online study groups. I have found that students who study together and talk through the material tend to excel. Details will be forthcoming on how to set this up.

Blackboard

Please make sure to log in to the Blackboard site AT LEAST once a day. I will also regularly broadcast emails or post announcements to the class on Blackboard. In such cases, Blackboard will send the email to your NSCC student email account. If you wish, you can change which email account these messages are sent to in your Blackboard settings.

If you find that you are having difficulty with blackboard, contact the college "helpdesk" at bbhelp@northshore.edu

Email

Please check your student email daily. You can also forward your student mail to any another email account. Email is the way to contact me. The turnaround time is typically 24 hours, or less.

Email: nways@northshore.edu

When you send me an email, always include:

- Your name
- Your class (either course number or title, day, and time)
- A relevant subject

Basis for Grading

As mentioned above, this course aims to build a foundational knowledge base so that you may become a competent medical professional. A commitment of time and hard work goes a long way towards realizing your career goals. Further, when one receives good grades on exams it gives a certain satisfaction of a job well done.

Note, **Grading Criteria** are presented in the **Learning Guides** available on Blackboard. See the Learning Guides for specifics on the criteria for grading, suggestions on where to focus, and for special exam

activities. Exams are given on a weekly basis. On the day of an exam, the exam will be found in the appropriate folder (i.e., Exam #1 will be in the "Organization of the Human Body" folder; Exam #2 will be in the "Chemistry of Life" folder).

Exam #1	Organization of the Human body	100 points
Exam #2	Cytology	100 points
Exam #3	Histology	100 points
Exam #4	Integumentary system	100 points
Exam #5	Skeletal (Osseous) Tissue	100 points
Lab Exam #1	Histology Practical	100 points
Exam #6	Glycolysis and Cellular Respiration and Articulations	100 points
Lab Exam #2	Laboratory Practical on Skeletal System	100 points
Exam #7	Myology	100 points
Exam #8	Nervous System	100 points

The assignment of grades is based upon an absolute scale, see "Number/Letter Equivalency Chart" below. If you miss an exam, that will be the exam you drop. If you miss two exams, one you will drop, the other will be a 0. The student is strongly encouraged to take all the exams.

Grade Calculation - The assignment of a final semester grade will be dependent upon the completion of all lecture exams and lab practicals. All exams are weighted equally. Of all the exams given, the lowest grade may be dropped except for the last unit. To calculate your grade: drop the lowest grade, do a simple average, and then use the Number/Letter Equivalency chart (below). You will know where you stand in the class regarding your grade at any particular point in time.

Number/Letter Equivalency:

A	4.0	93-100	C-	1.7	70-72
A-	3.7	90-92	D+	1.3	67-69
B+	3.3	87-89	D	1.0	63-66
B	3.0	83-86	D-	0.7	60-62
B-	2.7	80-82	F	0	Below 60
C+	2.3	77-79	W	0	Withdrawal
C	2.0	73-76	IP	--	In progress

Accessibility/Learning Disabilities

Accessibility Services Statement - "As a student at North Shore Community College (NSCC), you are invited to engage in an interactive, collaborative partnership with Accessibility Services and your professor to meet any disability-related need for reasonable academic accommodations in this course.

- To begin this process, please visit www.northshore.edu/accessibility_services and follow the outlined procedure to request services.
- If you have already received approval for accommodations from Accessibility Services at NSCC, please present your professor with your Faculty Notice of Academic Accommodations during the first week of the semester or as soon as possible. Accommodations go into effect once you hand-deliver this

notice to your professor.
- If you will require assistance during an emergency evacuation on campus, please notify your professor immediately. For your reference, evacuation procedures are posted in all classrooms."

As your instructor, I feel I have a responsibility to do everything within reason to actively support a wide range of learning styles and abilities. As such, I have taken training and applied the principles of Universal Design for Learning (UDL) to this course. Feel free to discuss your progress in this course with me at any time. In addition, if you require any accommodations, submit your verified accommodations form to me during the first two weeks of the course.

Statement on Plagiarism and Academic Integrity

As students pursuing a career in the allied health professions, you will someday be in a position with medical or other important responsibilities. The health and well-being of the people you work with and for is paramount in importance. To operate competently in such positions, a strong foundation in anatomy and physiology is essential. Towards this end, exams serve as weigh points along your road to success. They indicate that your progress is proceeding well, and you are succeeding in your career goals at this time. But to assure that this process proceeds well, academic integrity and ethical behavior are vital. To receive a grade that does not accurately reflect your knowledge and skill undermines your academic progress and puts you at risk of not fulfilling your goals or potentially harming others in your care. All future course work and clinical activity will stand squarely on the shoulders of the knowledge base you are lying down now.

All work done on assessments and practicals must be your own. You are encouraged to work together, prepare together, and collaborate, but the work must be your own when an exam is done. Therefore, the following guidelines are established to help guide you in an ethical and legitimate approach to your assessments.

1. When exams are taken, no electronic devices may be on.
2. No web browsers or other sources of information may be used.
3. Violation of the above will result in one of the following:
   - a "0" on the exam
   - an "F" for the Course
   - a meeting with the dean of students who would assess the infringement and follow college disciplinary procedures.

Getting Help

I am here to help you with this course and to make this an enjoyable and successful experience. If you would like assistance regarding study tips, progress, or other issues, please send me an email. We can also collaborate through an appointment on Zoom. Please do not wait until the last moment to ask for help. Remember, I am just an email away.

Additional Educational Services

Tutoring: NSCC also offers FREE tutoring and other services at:
https://www.northshore.edu/support/tutoring/index.html

Lecture Syllabus

Below is the schedule of topics and dates. The schedule could be adjusted should unforeseen circumstances occur. Note, the modules below always start on a Tuesday, and the assessment for that module can be anticipated the following Tuesday. It is best to take the assessment first before starting the new module.

Assignments

On a module start date, a particular Lecture Topic will be under consideration. Your assignment is to use what is presented in lecture and the resources provided to you to begin mastering that topic in preparation for an exam on that topic. As mentioned above, read the Learning Guide found on Blackboard for particular guidance on how to approach the material. The Lecture Outline will provide structure and organization for the lecture content, and it provides room to take notes. Supplemental handouts will reinforce and expand on anatomical and physiological topics of particular importance or complexity. During our lecture times, I will walk you through all (with a few exceptions) the material. You will find that the videos will do likewise.

SCHEDULE - Summer 2022 - Bio 211 O03

New Module START DATES		Exams must be completed by 11:59 pm
July 11 (Mon)	→ Start Module #1 - Organization of the Human Body	
July 14 (Thur)	Exam #1 - Organization of the Human Body → Start Module #2 - Cytology	
July 18 (Mon)	Exam #2 – Cytology → Start Module #3 - Histology	
July 21 (Thur)	Exam #3 – Histology → Start Module #4 - The Integumentary System	
July 25 (Mon)	Exam #4 – The Integumentary System → Start Module #5 - Skeletal Tissue	

July 28 (Thur) Exam #5 – Skeletal (Osseous) Tissue
→ Start Module #6a - Axial Skeletal System

August 1 (Mon) Lab Practical #1 – The Histology Practical
→ Start Module #6b - Appendicular Skeletal System

August 4 (Thur) No Exam
→ Start Module #7 – Articulations, continue study of Bones

August 8 (Mon) Lab Practical #2 – Bone Practical
→ Start Module #8 – Glycolysis and Cellular Respiration

August 11 (Thur) Exam #6 – Glycolysis and Cellular Respiration ***and*** Articulations
→ Start Module #9 - Myology

August 15 (Mon) Exam #7 – Myology
→ Start Module #10 – Nervous System

August 19 (Friday) Exam #8 – Nervous System

Academic Calendar (Copied from web site)

Summer Session II - 6 Week (July 11-August 20)	
Classes begin	July 11, 2022
Student add/drop period	July 14, 2022
*For summer 2022 refund schedule	add/drop deadlines
Last day to withdraw and receive W grade	August 5, 2022
Adjunct student evaluations	August 8-13. 2022
Classes end	August 20, 2022
Grades posted on MyNorthShore	August 25, 20