

# **ZOO 2010: Human Anatomy & Physiology I**

## **Fall 2021 1H**

**4 Credit hours: Lecture: Online**

**Laboratory: Wednesday 5:30 – 7:10 pm**

**Room: SM 241**

**YES WE WILL MEET THE FIRST WEEK OF CLASS SEPT. 1<sup>ST</sup>**

### **Instructor Information**

Prof. Mathew Osborne, Assistant Professor of Biology

Office: SM 222 Office Phone: (307) 754-6231

Office Hours: Tuesday and Thursday 8:30-9:30 am and 10:40 am-12:00 pm or **by appointment**

E-mail: [mathew.osborne@nwc.edu](mailto:mathew.osborne@nwc.edu)

### **Resources**

- A textbook is required although the text you utilize does not matter to me. Here is a list of books I have found to be worth the purchase price. (I recommend purchasing used with as low a purchase price as possible)
  - Human Anatomy and Physiology (Amerman 1<sup>st</sup> or 2<sup>nd</sup> edition)
  - Human Anatomy and Physiology (Marieb 9<sup>th</sup> or 10<sup>th</sup> edition)
  - Openstax Anatomy and Physiology (this is a link to a free PDF download)  
<https://openstax.org/details/books/anatomy-and-physiology>
  - Holes Human Anatomy and Physiology (12<sup>th</sup>-14<sup>th</sup> editions)
- Visible Body software: <https://support.visiblebody.com/hc/en-us/articles/115003980634-Join-a-Course-and-Purchase-Courseware>
  - You will purchase this software (\$50) and will have access for 1 year. I will utilize this software for A&P 1 and 2.

**A note about text books. If you have a copy of another Anatomy and Physiology text book please don't purchase another text book, your copy with the provided lecture notes will do just fine. Also, if you are taking this class for the first time and plan on taking Anatomy and Physiology II from Mr. Wallace consider purchasing the Holes Anatomy and Physiology text book.**

### **Course Description**

Human anatomy and physiology are the study of the form and function of the human body. I am excited to lead you in your learning of this very complex but rewarding subject material. No matter if you're going to medical school, nursing school, or going to be a PE teacher this class has something for everyone. I hope you find the class challenging, engaging, and rewarding. Generally, this course will introduce foundational principles of anatomy and physiology. We will spend our time studying the structure and function of our bodies cells, tissues, organs, and organ systems.

**ZOO 2010:** The first course in a two-semester sequence. Includes cell chemistry, cellular structure and function, histology, the integumentary, skeletal, muscular, central, and peripheral nervous systems. Emphasis focused on the functional anatomy of the human body. Laboratory activities complement the lecture material with an appropriate balance between anatomy and physiology.

**Sensitive Materials:** This course is about the study of the human body. Students should anticipate a frank and open discussion of all aspects related to the human body.

**Course Outcomes:**

The broad goal of this course is to aid in student acquisition of an anatomy/physiology vocabulary that will enable the development of skills that will inspire learners to be responsible in applying anatomy/physiology knowledge as a tool to enact positive change within the context of their chosen fields.

**Skill and Process-based Learning Outcomes**

Student who successfully complete Anatomy and Physiology I will be able to

- 1) access and summarize / retain important points from instructor-synthesized written resources, vodcasts, biomedical literature and open educational resources (OER).
- 2) synthesize connections between instructor-synthesized written resources, vodcasts, biomedical literature and open educational resources (OER) within an active learning / discussion-based class session to answer questions in all levels of Bloom's thought.
- 3) work effectively in a team-based environment.
- 4) formulate a hypothesis that is based in pertinent background information, is testable and has clear outcomes.
- 5) summarize literature-based findings as they relate to a hypothesis or any general question.

**Departmental Learning Outcomes:**

1. Demonstrate an understanding of the major biological principles pertinent to specialization in nursing, pre-physical therapy, etc.
2. Demonstrate sound scientific reasoning and familiarity with basic scientific methodology and experimental procedures.
3. Be able to organize, analyze and interpret data
4. Demonstrate oral and written communication skills.

**General Education Outcomes:**

Human Anatomy and Physiology I meets the general education requirements for Norwest College under Physical and Natural Sciences. After completing this course students will

- 1) Explain the principles of the scientific method.
- 2) Formulate and test ideas through analysis and interpretation of data.
- 3) Use scientific and quantitative logic to examine contemporary problems.
- 4) Use quantitative data analysis as the basis for making critical judgments and drawing conclusion.
- 5) Examine the impact of technology on science and society.

# Northwest College Universal Syllabus Information

<https://my.nwc.edu/AcademicAffairs/Syllabirelated%20Information/NWCUniversalSyllabiInformationFall2020.pdf>

## Important Excerpts

### XVI. Northwest College Student Resources

Northwest College offers a multitude of resources to increase student success including:

#### *Northwest College Student Success Program*

Contact Person – Ty Barrus (Ty.Barrus@nwc.edu)

Location – Orendorff 101 Phone – (307) 754-6135

Website - <http://nwc.edu/services/success.html>

#### *Northwest College Tutoring Center*

Contact Person – Jen Schneider

([jen.schneider@nwc.edu](mailto:jen.schneider@nwc.edu))

Location – 2nd Floor of Hinkley Library Phone – (307) 754-6137

Website - <https://nwc.edu/tutoring/>

Net Tutor Online Tutoring (free to students):

<http://nwc.edu/tutoring/online.html>

#### *Northwest College Hinckley Library*

Contact Person – Nancy Miller

([nancy.miller@nwc.edu](mailto:nancy.miller@nwc.edu))

Location – Hinkley Library

Phone – (307) 754-6207

Website - <http://nwc.edu/library/>

#### *TRIO Student Support Services for College Success*

Contact Person – Terri Meyer

([terri.meyer@nwc.edu](mailto:terri.meyer@nwc.edu)) Location – Frisby Building 101

Phone – (307) 754-6224 Website -

<https://nwc.edu/trio/>

#### *Instructional Technology*

Contact Person – Dustin Dicks

([dustin.dicks@nwc.edu](mailto:dustin.dicks@nwc.edu))

Location – Moyer Building 110

Phone – (307) 754-6090

Website - <https://nwc.edu/academics/online/lms/>

#### *Computing Services*

Contact Person – [it@nwc.edu](mailto:it@nwc.edu)

Location – Moyer Building 101

Phone – 307-754-6080

Website - <https://nwc.edu/it/>

### VI. Northwest College Statement on Academic Dishonesty

(\*NOTE – This language is adapted from the NWC Student Handbook Academic Code of Conduct – please refer to that document for more information.)

Northwest College is committed to creating and maintaining an environment of academic honesty. It is the faculty's responsibility to affirm the importance of academic integrity and to try to educate students as to standards of academic behavior. Students, too, bear the responsibility for academic integrity. Northwest College expects each student to learn and comply with academic expectations, display appropriate conduct in classroom situations, accept Northwest College's "Student Academic Rights" and "Student Academic Responsibilities," and preserve academic integrity by upholding the spirit and letter of the Academic Code of Conduct. Violations of academic integrity include but are not limited to the following: plagiarism, cheating, trafficking, copyright infringement, and interfering with the learning of other students.

## Course Components

### *Pre-class Preparation & Active Learning Classes*

Since this is a hybrid class and we will only meet once a week, you will have an increased responsibility to succeed in this class. I will provide lecture notes as well as 10–15-minute videos of me covering course content. These videos were recorded in Fall of 2020. This will be a way for you to introduce yourself to the material, NOT LEARN the material. Research has shown we learn best when we become an active participant in our learning. To incorporate this active approach, you will be responsible to complete a homework assignment for every chapter. Engaging with and working out the questions from the homework assignments will be THE BEST way to prepare for each exam. During lab we will dissect, study anatomical structures, work on homework, and ask questions.

### Graded Components

	Number Given	Percentage of grade	Special consideration
Exams	6	50%	These are timed exams taken at home. The final exam is included in this portion of your grade. The final exam will be proctored.
Homework Quizzes	11	20%	For each chapter you will be given homework to complete, then you will take a quiz on your work.
Labs	15	15%	During the semester you will be given different labs and subsequent questions to complete for this portion of your grade.
Readiness and Quizzes	5-10	15%	A formative quiz will be given before each exam and at different times pre-class assignments will be given.

### *More Details: Graded work*

#### *1. Exams (50% of your overall grade)*

A total of five-unit exams will be given this semester. Each exam will be taken online. **You will be timed but can have access to your notes.** You may not take the exams together. Exams will consist of multiple choice, true/false, short answer, essay, and practical based questions. Again, you are not allowed to help each other in any way on the exam. If this is done, all parties involved will receive zeros for the exam in question; with a repeat offense earning an F in the course. **No make-up exams will be given, but the final exam can replace a low exam score including a missed exam. The final exam will not replace an exam score of 0 earned from a cheating offense.**

The final exam will be comprehensive in nature. This may include multiple choice, short answer, essay, matching, or labeling questions. You will have two opportunities to earn the full points for this exam. You will take a comprehensive exam in the first week of the semester. **For every 3 questions you answer correctly, you will earn 1 point towards your final exam.** You will take a similar exam during finals week. I will add both of your scores to obtain your final exam score.

#### *2. Homework Quizzes (20% of your overall grade)*

For each chapter there will be a homework assignment. This will include questions covering important concepts of the chapter. You will be required to take a quiz covering this homework assignment. You will need to have completed the homework and have it sitting in front of you when you attempt the online questions. You will only have 10-15 minutes to take the quiz and many of the questions will consist of "What is the correct answer for question #4?" Your lowest score will be dropped.

#### *3. Group activities and Labs (15% of your overall grade)*

Every week we will have a group activity to be completed. Most of these activities will be completed during class whereas some lab assignments will be completed at home such as dissections or other experiments. There will be 10-15 assignments over the course of the semester.

#### *4. Readiness and in Class Quizzes (15% of you overall grade)*

Through the course of the semester, different assignments or activities will be assigned to be completed before coming to class. Work will be checked at the beginning of class, any student completing the assignment during class will not receive credit for the assignment. If you are going to miss class, you should email the completed work to the instructor before class. If classed is missed for a school sponsored event or a quarantine these assignments can be made up, otherwise any absence will result in the inability to make this work up.

In addition to readiness assignment, you will be given a quiz for each unit. The quiz will cover material from the previous chapters and is designed to inform you as to what you know and what you do not know. The quiz will be taken in two parts, first individually and second with your assigned group.

It is to your advantage to keep all of your graded work so as to check your records against my records which you will find in the Moodle course website – go to [nwc.edu](http://nwc.edu) and MyNWC to access.

#### **Grading Scale**

A: 90% or above

B: 80% - 89%

C: 70% - 79%

D: 60% - 69%

F: > 60%

A grade of “incomplete” or “I” may be awarded when a student is unable to complete all required course work for reasons beyond the student’s control. To be considered for a grade of “I” the student must be passing the course at the time preceding the extenuating circumstances.

## Tentative schedule for the semester

### September

Week	Mon	Tues	Wed	Thurs	Fri	Lecture Work	Lab Work
<b>W: 1</b> <b>Sept. 1<sup>st</sup></b>	No School	No School	<b>Sept. 1<sup>st</sup></b>			Complete the "Pre-Knowledge Exam"  Begin Chapter 1 (introduction) homework and readings	No Lab this week
<b>W: 2</b> <b>Sept. 6<sup>th</sup></b>	<b>Sept 6<sup>th</sup></b> <b>Labor Day: No School</b>					Complete Chapter 1 and Begin Chapter 2 (chemistry)	Fetal Pig Dissection and Questions
<b>W: 3</b> <b>Sept. 13<sup>th</sup></b>			Complete Formative Quiz #1 before class tonight			Complete Chapter 2 this week  Exam this Sunday	pH Laboratory and Questions
<b>W: 4</b> <b>Sept. 20<sup>th</sup></b>						Begin Chapter 3 (cells) homework and readings	Cell Laboratory: Osmosis, Mitosis, and genetic code and questions ( <b>big lab start now</b> )
<b>W: 5</b> <b>Sept. 27<sup>th</sup></b>						Complete Chapter 3 and begin Chapter 4 (histology)	Histology Lab and questions

Chapter 1 (Introduction) Homework Quiz due **Friday September 10<sup>th</sup>** at midnight

**Formative Quiz #1:** due **Wednesday September 15<sup>th</sup>** at midnight

Chapter 2 (Chemistry) Homework Quiz due **Friday September 17<sup>th</sup>** at midnight

Fetal pig dissection questions and pH lab questions due **Saturday September 18<sup>th</sup>** at midnight

**Exam #1:** Chapters 1 & 2 due **Sunday September 19<sup>th</sup>** at midnight

## October

Week	Mon	Tues	Wed	Thurs	Fri	Lecture Work	Lab Work
<b>W: 6</b> <b>Oct. 4<sup>th</sup></b>			Complete Formative Quiz #2 before class tonight			Complete Chapter 4  Exam Sunday	Finish any lab you have not completed
<b>W: 7</b> <b>Oct. 11<sup>th</sup></b>						Begin and Complete Chapter 5 (integument) this week	Visible Body Integumentary Lab with Questions
<b>W: 8</b> <b>Oct. 18<sup>th</sup></b>					No School	Begin Chapter 6 (bone tissue) & 7 (bone anatomy) Homework and Readings	Visible Body Bone lab with Questions
<b>W: 9</b> <b>Oct. 25<sup>th</sup></b>			Complete Formative Quiz #3 before class tonight			Complete Chapter 6 & 7  Exam 3 on Sunday	Complete any Visible Body labs yet to be completed

Chapter 3 (Cells) Homework Quiz due **Friday October 1<sup>st</sup>** at midnight

**Formative Quiz #2:** due **Wednesday October 6<sup>th</sup>** at midnight

Chapter 4 (Histology) Homework Quiz due **Friday October 8<sup>th</sup>** at midnight

Cell and Histology Labs due **Saturday October 9<sup>th</sup>** at midnight

**Exam #2:** Chapters 3 & 4 due **Sunday October 10<sup>th</sup>** at midnight

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### Module 3

Chapter 5 (Integument) Homework Quiz due **Friday October 22<sup>nd</sup>** at midnight

**Formative Quiz #3:** due **Wednesday October 27<sup>th</sup>** at midnight

Chapter 6 (Bone physiology) & 7 (Bone anatomy) Homework Quiz due **Friday October 29<sup>th</sup>** at midnight

Visible Body Integument and Bone Labs due **Saturday October 30<sup>th</sup>** at midnight

**Exam #3:** Chapters 5, 6, & 7 due **Sunday October 31<sup>st</sup>** at midnight

## November

Week	Mon	Tues	Wed	Thurs	Fri	Lecture Work	Lab Work
<b>W: 10</b> <b>Nov. 1<sup>st</sup></b>						Begin and Complete Chapter 8 (articulations) this week	Visible Body Muscle and Articulation Labs and Questions
<b>W: 11</b> <b>Nov. 8<sup>th</sup></b>		<b>No School Advising Day</b>				Begin Chapter 10 (muscular tissue and physiology)	Visible Body Muscle and Articulation Labs and Questions
<b>W: 12</b> <b>Nov. 15<sup>th</sup></b>			<b>Complete Formative Quiz #4 before class tonight</b>			Complete Chapter 10  <b>Exam 4 on Sunday</b>	Complete muscle and articulation Visible Body labs and questions
<b>W: 13</b> <b>Nov. 22<sup>nd</sup></b>			<b>No School</b>	<b>No School</b>	<b>No School</b>	<b>Break</b>	<b>Break</b>
<b>W: 14</b> <b>Nov. 29<sup>th</sup></b>						Begin and complete Chapter 11 (nervous tissue) Homework and readings	Visible Body Nervous system lab and questions

Chapter 8 (Articulations) Homework Quiz due **Friday November 12<sup>th</sup>** at midnight

**Formative Quiz #4:** due **Wednesday November 17<sup>th</sup>** at midnight

Chapter 9 (Muscle anatomy) & 10 (Muscle physiology) Homework Quiz due **Friday November 19<sup>th</sup>** at midnight

Visible Body Muscle and Articulation Labs due **Saturday November 20<sup>th</sup>** at midnight

**Exam #4:** Chapters 8, 9, & 10 due **Sunday November 21<sup>st</sup>** at midnight

## December

Week	Mon	Tues	Wed	Thurs	Fri	Lecture Work	Lab Work
<b>W: 15</b> <b>Dec. 6<sup>th</sup></b>			<b>Complete Formative Quiz #5 before class tonight</b>			Begin and compete Chapter 12 (CNS)  <b>Exam 5 on Sunday</b>	Brain & eye Dissection  Cranial Nerve review
<b>W: 16</b> <b>Dec. 13<sup>th</sup></b>			<b>Final Exams 5:30-7:30 pm</b>	<b>Final Exams</b>	<b>Final Exams</b>		

Chapter 11 (Nervous physiology) Homework Quiz due **Friday December 3<sup>rd</sup>** at midnight

**Formative Quiz #5:** due **Wednesday December 8<sup>th</sup>** at midnight

Chapter 12 (Central Nervous System) Homework Quiz due **Friday December 10<sup>th</sup>** at midnight

Visible Body Nervous System Labs due **Saturday December 11<sup>th</sup>** at midnight

**Exam #5:** Chapters 11 & 12 due **Sunday December 12<sup>th</sup>** at midnight

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**The Final Exam will be in person during our regularly schedules class time on week 16.**