# BIOL 366: Human Anatomy & Physiology II
## Spring 2022; MWF 1:30–2:20pm, Newton 203

**Course Objectives:**
This course is designed to provide an introduction to the anatomy and physiology of the human body. It is specifically focused on preparing students for future study of these topics in health-related professional schools. As such, it is a challenging course, but if you successfully complete it you will have a definite advantage in your future training.

This course is two semesters long. The second semester encompasses the organ systems, immunology, and endocrinology. This course contains a lecture and a required laboratory, which will feature dissections as well as physiological experiments.

**Learning Outcomes:**
- Identify structural components of the human body
- Understand physiological processes and functions
- Integrate anatomical and physiological knowledge of organs and organ systems
- Use critical thinking to solve clinical cases using basic concepts of anatomy and physiology

**Prerequisites:**
BIOL 365: Anatomy & Physiology I

**Instructors:**
Dr. Sara H. Burch, ISC 358, burch@geneseo.edu
Dr. Jacob McCartney, ISC 119C, mccartneyj@geneseo.edu
Mr. Joshua Baecker, ISC 351, baecker@geneseo.edu

**Office Hours:**
Burch & McCartney: Monday 9:30–11:30 AM and Wednesday 2:30–4:30 PM

**Required Textbooks:**
- Anatomy & Physiology: An Integrative Approach, 3rd Edition by McKinley, O'Loughlin, & Bidle (2018), **McGraw-Hill Connect Edition.** (see note below)
- A Photographic Atlas for Anatomy & Physiology by Hebert, Heisler, Krabbenhoft, Malakhova, & Chinn (2015), Pearson. ISBN 9780321869258

Connect site for courses: https://connect.mheducation.com/class/s-burch-spring-2022
**Additional Supplies:** Some tool for drawing and coloring lab worksheets will be required. Colored pencils are recommended.

NOTE: You do not need to purchase an additional code for Connect for this semester if you purchased the code last semester. Simply navigate to the course page listed above and register for the spring semester course.

**Lecture Notes and Lab Handouts:**
Powerpoint slides from the lectures will be placed on the course website 24 hours prior to class time. Handouts for labs will be placed on the course website at least 24 hours prior to the first lab day. You are responsible for printing out these handouts and bringing them to your lab section.

**Assignments:**
READINGS: The readings relating to each lecture are given in the schedule below. You should attempt to read through the sections given and study the figures and tables before each lecture. Optional, but highly-recommended, reading assignments will be given through the Connect module and due the same day as the given lecture. They will not be graded for points, but if you complete all of these reading assignments, you will earn 2 extra credit points on the relevant exam.

HOMEWORK: There will be 10 weekly homeworks assigned through the Connect system worth 4 points each. These are designed to give you a chance to review the material and practice with questions similar to ones you would get on the test. They will be due before class as noted on the lecture schedule below. Homeworks will be scored as follows: 100–76%=4 pts; 75–51%=3 pts; 50–24%=2 pts; 25–5%=1 pt

QUESTION OF THE DAY: At various points during every class period you will be given a question to do in a small group or to answer via TopHat. If you participate in these questions (5 missing days permitted) you will receive an additional 5 extra credit points on your final number of points for the course. Attendance will primarily be marked via TopHat responses, but you will also turn in an answer sheet for the main QOD. Everyone from your group who is present for the question must sign the answer sheet in order to receive credit for the question. Any group that submits a group-member's name that is not present at the time the question was done will lose all credit for that question. Additionally, any student who is found to be answering TopHat questions remotely (not in class) will not receive credit for attendance.

**Lecture Exams:**
The first 3 exams are non-comprehensive and only cover material from lectures, readings and assignments since the previous exam. The final exam will be comprehensive and will cover material from the entire semester. If you do better on the final exam than you do on one of the previous exams, the final exam score will be “double counted” and replace one of your previous exam scores. This is not a straight “drop” of an exam score, and you must still take all of the exams and the final exam. Quizzes are designed to provide self-evaluation throughout the topic “block”, so that you can make sure your studying is on-track. There will be 10 quizzes given during the semester. Only 8 of these quizzes will count toward your grade, and 2 will be dropped.

**Lab Assignments & Exams:**

The lab is considered to be part of your entire grade for this course and makes up about 35% of your total points. Lab grades are determined by 2 non-comprehensive practical exams, 2 lab reports based on physiology experiments in lab, and 8 lab worksheets. These lab worksheets include contain figures to label in class as well as questions to answer and submit on Canvas by the beginning of the next lab. Instructors will check lab worksheets for completion of drawing- and labeling-based activities.

Physiology-based labs will result in a lab report to be written up and turned in at the date given during the lab session. Details on how to write lab reports will be provided on Canvas. You may work with your group on the content of the lab report, but each student must submit a typed report written in their own words. Lab reports will be due TWO WEEKS after experiments are performed, at the beginning of your assigned lab section. Late lab reports will be penalized by 5 points (one letter grade) for each day they are late.

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| **Lecture:** | | |
| Exams (3) | 100 pts each | 300 pts |
| Final Exam | 100 pts | 100 pts |
| Quizzes (8) | 10 pts each | 80 pts |
| Homeworks (10) | 4 pts each | 40 pts |
| **Lab:** | | |
| Practical Exams (2) | 50 pts each | 100 pts |
| Lab Reports (2) | 50 pts | 100 pts |
| Lab Worksheets (8) | 5 pts | 40 pts |
| Total Points | | 760 pts |

The grading scale for this course is the following:

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|---|---|---|---|
| A: 93%–100% | A–: 90%–92% | B+: 87%–89% | B: 83%–86% |
| B–: 80%–82% | C+: 77%–79% | C: 73%–76% | C–: 70%–72% |
| D: 60%–69% | E: <59% | | |

## Course Policies and Resources

**Exam Excuse Policies**

Make-up exams and quizzes will only be given in cases of extenuating circumstances (a direct and unavoidable conflict of an academic or professional nature). Vacations, weddings, and leaving early for holidays are not acceptable excuses for taking an exam early or late. If you can't make the scheduled exam date you must contact Dr. Burch and Dr. McCartney at least **ONE WEEK PRIOR** to the exam time. In cases of severe illness, family affairs, or quarantine restrictions, please contact Dr. Burch or Dr. McCartney as soon as you are able to schedule accommodations. Exam dates are final and will not be changed.

**Attendance**

Attendance is not a required part of your lecture grade. However, missing significant numbers of class days will impact your ability to gain the QOD extra credit. Attendance is required for lab worksheet grades. In general, the excuse policy for exams above also applies to absences for the purposes of QODs and lab. If in doubt, contact the relevant instructor.

**Academic Dishonesty**

Academic dishonesty includes cheating, knowingly providing false information, plagiarizing, and any other form of academic misrepresentation. In this course, consequences of a first offense are a zero (0) on the relevant assignment or exam. Consequences of a second offense are a failing grade (E) overall in the course. For the college's fully policy, see: https://www.geneseo.edu/handbook/academic-dishonesty-policy

**Academic & Personal Support Resources**

Many students find A&P to be a very demanding class. In order to prepare you for your future professional schools, we will cover a lot of material in a short amount of time, and if you fall behind it can be difficult to catch up. This, combined with the stresses we are all still under related to the pandemic can mean you may find yourself overwhelmed at various points in the semester. We want you all to have the best chance of succeeding in this course and in your future anatomy courses, so if you feel like you are struggling, we urge you to seek assistance. Please see the Canvas page titled "Academic & Personal Support Resources" (linked on the front page) for a complete list of on and off-campus resources to help.

**Accommodations:**

SUNY Geneseo is dedicated to providing an equitable and inclusive educational experience for all students. The Office of Accessibility will coordinate reasonable accommodations for persons with physical, emotional, or cognitive disabilities to ensure equal access to academic programs, activities, and services at Geneseo. Students with letters of accommodation should submit a letter to each faculty member and discuss their needs at the beginning of each semester. Please contact the Office of Accessibility Services for questions related to access and accommodations. Office of Accessibility Services in Erwin Hall 22 or access@geneseo.edu or 585-245-5112.

**Land Acknowledgment**

Land acknowledgements are expressions of sorrow and remembrance to those whose historic territory one resides on. Geneseo resides on the homeland of the Seneca Nation of Indians and Tonawanda Seneca Nation. We encourage you to learn more about these original occupants and those indigenous to other places you have lived. You may consider using the Native Land app and/or websites such as sni.org to learn more about the community of more than 7,000 enrolled Indigenous Peoples.

## Lecture Schedule

| DATE | | | TOPIC | READING |
|---|---|---|---|---|
| Jan | 26 | W | 1. Course Intro & CV: Blood Intro | Sections 18.1–18.3 |
| | 28 | F | 2. CV: Hemostasis | Section 18.4 |
| | 31 | M | 3. Autonomics | Chapter 15 (review) |
| Feb | 2 | W | 4. CV: Heart Anatomy **[Quiz 1] [HW 1]** | Sections 19.1–19.4 |
| | 4 | F | 5. CV: Cardiac Stimulation | Sections 19.5–19.7 |
| | 7 | M | 6. CV: Cardiac Output | Sections 19.8–19.9 |
| | 9 | W | 7. CV: Circulatory Histology & Capillary Flow **[Quiz 2] [HW 2]** | Sections 20.1–20.3 |
| | 11 | F | 8. CV: Circulatory Physiology | Sections 20.4–20.6 |
| | 14 | M | 9. CV: Cardiopulmonary & Craniocervical Circulation | Sections 20.8–20.9, 20.10a |
| | 16 | W | 10. CV: Circulation in the Body Wall | Sections 20.10b, 20.11 |
| | 18 | F | NO CLASS – DIVERSITY SUMMIT | |
| | 21 | M | 11. CV: Heart & Circulatory Development **[Quiz 3] [HW 3]** | Sections 19.10, 20.12 |
| | 23 | W | Review | |
| | 25 | F | **EXAM #1: Cardiovascular** | |
| | 28 | M | 12. Resp: Respiratory Anatomy I | Sections 23.1–23.3 |
| Mar | 2 | W | 13. Resp: Respiratory Anatomy II | Sections 23.3–23.4 |
| | 4 | F | 14. Resp: Respiratory Physiology I | Sections 23.5–23.6 |
| | 7 | M | 15. Resp: Respiratory Physiology II **[Quiz 4] [HW 4]** | Sections 23.7–23.8 |
| | 9 | W | 16. Resp: Lung Development | Lung development handout |
| | 11 | F | 17. Endocrine System: Gland Structure & | Sections 17.1–17.6 |
| | 14 | M | NO CLASS – SPRING BREAK | |
| | 16 | W | NO CLASS – SPRING BREAK | |
| | 18 | F | NO CLASS – SPRING BREAK | |
| | 21 | M | 18. Endocrine System: Major Glands & Control | Sections 17.7–17.10 |

| DATE | | | TOPIC | READING |
|---|---|---|---|---|
| | 23 | W | 19. GI: Intro and Upper GI **[Quiz 5] [HW 5]** | Sections 26.1–26.2 |
| | 25 | F | 20. GI: Lower GI & Accessory Organs | Section 26.3 |
| | 28 | M | 21. GI: Gastrointenstinal Embryology | GI development handout |
| | 30 | W | 22. GI: Digestive Physiology | Sections 26.1–26.3 |
| Apr | 1 | F | 23. GI: Digestion of Nutrients & Metabolism **[Quiz 6] [HW 6]** | Section 26.4, 27.5, 27.6, 27.8 |
| | 4 | M | Review | |
| | 6 | W | **EXAM #2: Respiratory, Endocrine, & GI** | |
| | 8 | F | 24. Fluid Balance | Chapter 25 |
| | 11 | M | 25. UG: Intro and Kidney Anatomy | Sections 24.1–24.3 |
| | 13 | W | 26. UG: Blood Flow & Filtration | Sections 24.4–24.6 |
| | 15 | F | 27. UG: Urination **[Quiz 7] [HW 7]** | Sections 24.7–24.8 |
| | 18 | M | 28. UG: Pelvis and Perineum | Sections 11.7, 28.1 |
| | 20 | W | 29. UG: Female Reproductive System | Section 28.3 |
| | 22 | F | 30. UG: Male Reproductive System **[Quiz 8] [HW 8]** | Section 28.4 |
| | 25 | M | 31. UG: Development & UG Dev | Sections 29.1–29.4, 28.5 |
| | 27 | W | 32. UG: Pregnancy | Sections 29.5–29.8 |
| | 29 | F | 33. Lymphatics **[Quiz 9] [HW 9]** | Chapter 21 |
| May | 2 | M | 34. Immunology I | Sections 22.1–22.4 |
| | 4 | W | 35. Immunology II | Sections 22.5–22.9 |
| | 6 | F | Review **[Quiz 10] [HW 10]** | |
| | 9 | M | **EXAM #3: UG & Immune** | |
| | 11 | W | Final Review | |
| | 18 | W | **FINAL EXAM (12:00–2:30pm)** | |

## Lab Schedule

| DATES | LAB | TOPIC |
|---|---|---|
| Feb 1–3 | | Hematology Lab |
| Feb 8–10 | | Heart Anatomy |
| Feb 15–17 | | NO LAB – BREAK |
| Feb 22–24 | | Cardiac Physiology |
| Mar 1–3 | | Circulatory Anatomy |
| Mar 8–10 | | Respiratory Anatomy & Physiology |
| Mar 16–18 | | NO LAB – BREAK |
| Mar 22–24 | | GI Anatomy |
| Mar 29–31 | | **LAB PRACTICAL #1** |
| April 5–7 | | Digestion & Urinalysis |
| April 12–14 | | Urinary Anatomy |
| April 19–21 | | NO LAB – BREAK |
| April 26–28 | | Reproductive Anatomy |
| May 3–5 | | **LAB PRACTICAL #2** |