BIOL 2300 HUMAN ANATOMY AND PHYSIOLOGY II (4 credit hours)

Elmira College

SPRING 2025

**Required Text:**

1. Elaine Marieb(2019). ***Human Anatomy & Physiology***(11th Ed.). Pearson.
2. Kenneth S. Saladin(2021). ***Anatomy & Physiology: The Unity of Form and Function***(9th Ed.). McGraw-Hill Higher Education.

Supplemental readings might be included to illustrate or expand on textbook readings.

**Pre-requisites:** BIOL 2200 Human Anatomy and Physiology I

**Course Description**

Human Anatomy & Physiology II delves into the intricate structures and functions of the human body, building upon the foundational knowledge acquired in its predecessor course. This course provides a comprehensive exploration of various physiological systems, emphasizing the interplay between structure and function within the human organism. Students will gain an in-depth understanding of the endocrine, cardiovascular, respiratory, urinary, digestive, and reproductive systems, as well as the roles of the blood and lymphatic systems in maintaining homeostasis.

**Course Objectives and Goals**

- Understand the structure and function of the endocrine system, including the major glands and their hormone regulation mechanisms;
- Explore the components and functions of the blood and lymphatic systems, including their roles in immunity, transportation, and homeostasis;
- Investigate the structure and function of blood vessels, including arteries, veins, and capillaries, and their roles in maintaining blood pressure and circulation;
- Examine the anatomy and physiology of the digestive system, including the organs involved in digestion, absorption, and nutrient metabolism;
- Explore the anatomy and physiology of the male and female reproductive systems, including gametogenesis, hormonal regulation, and the process of fertilization and embryonic development.

**Evaluation of Performance**

Your grade will be based upon your performance on exams, assignments, and participation.

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| 2 Assignments | 10% |
| 2 Quizzes | 20% |
| 6 Lab and Lab Reports | 30% |
| Midterm Exam | 20% |

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| Final Exam | 20% |
| Total | 100% |

Grades will be assigned as follows:

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| A | 93% and above | B- | 80 - 82% | D+ | 67 - 69% |
| A- | 90 - 92% | C+ | 77 - 79% | D | 63 - 66% |
| B+ | 87 - 89% | C | 73 - 76% | D- | 60 - 62% |
| B | 83 - 86% | C- | 70 - 72% | F | 59% or below |

**Withdrawal Policy:** Please see Elmira College Bulletin for information on this policy.

**Academic Honesty:** Please read the section on Academic Honesty in the **Code of Conduct**. Briefly, academic dishonesty includes: cheating, fabrication, facilitating academic dishonesty, and plagiarism. Ask if you have any questions on whether something constitutes as academic dishonesty. All work must be original and new. Past assignments from current or other courses will not be accepted. Academic dishonesty will not be tolerated. It will result in zero on the assignment, and a report will be filed with the school. Continued practice will result in failure of the class. Institutional penalties may also apply with repeated acts of academic honesty.

**Student Responsibility**:

- It is your responsibility to keep track of assignments and due dates.
- You should ask questions concerning assignments and lectures, if you need any clarifications.
- If you are struggling in class, have concerns, and/or unsure about expectations, please stop by during office hours or make an appointment for another time.

**Tentative Schedule of Topics**

| Topic | Materials | Tasks & Evaluations |
|---|---|---|
| The Endocrine System | Chapter 1 | |
| Endocrine Function throughout Life | Chapter 2 | |
| Three Types of Stimuli Cause Hormone Release<br>*Lab 1: Endocrine System: Hormone Detection* | Chapter 3 | Lab Report 1 |
| Genes and Cellular Function | Chapter 4 | |
| The Lymphatic and Immune Systems<br>*Lab 2: Lymph Node Dissection and Microscopy* | Chapter 5 | Lab Report 2 |
| Lymphatic Capillaries | Chapter 6 | Assignment 1 |
| Larger Lymphatic Vessels | Chapter 7 | |
| The lymphatic system includes lymphatic vessels, lymph, and lymph nodes | Chapter 8 | Quiz 1 |
| Blood Vessels and Nerves<br>*Lab 3: Vasodilation and Vasoconstriction Response* | Chapter 9 | Lab Report 3 |
| The Cardiovascular System: The Heart | Chapter 10 | Midterm Exam |
| Depolarization and Repolarization in the Heart | Chapter 11 | |
| Heart valves make blood flow in one direction | Chapter 12 | Assignment 2 |
| The Respiratory System | Chapter 13 | |

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| Respiratory Zone Structures<br>*Lab 4 : Respiratory System: Lung Capacity* | Chapter 14 | Lab Report 4 |
| The Urinary System | Chapter 15 | |
| Urinary Bladder Anatomy<br>*Lab 5: BladderWorks Lab* | Chapter 16 | Lab Report 5 |
| The Digestive System | Chapter 17 | Quiz 2 |
| Relationship of the Digestive Organs to the Peritoneum | Chapter 18 | |
| The Male and Female Reproductive System<br>*Lab 6: Reproductive Health Research* | Chapter 19 | Lab Report 6 |
| Reproductive Hormone Secretion | Chapter 20 | Final Exam |