

**202310.BIOL2302.921**  
**Anatomy & Physiology II (Lec)**  
**Spring 2023**



**INSTRUCTOR CONTACT INFORMATION**

Instructor: Dr. Connie J. Grass, DC, BSHB, BSN  
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Office Location: MPC 217  
Office Hours: Monday-Friday 10:00 AM– 12:00 PM (by appointment)

**Credit:** 3 semester credit hours (3 hours lecture)

**Prerequisite/Co-requisite:** Pre-requisite BIOL 2301. And have passed the Reading/Writing Sections of THEA or any other accepted test. **Co-requisite;** BIOL 2102

**Course Description**

Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. This course is time-bound, structured, and completed totally online.

**Learning Outcomes**

Upon successful completion of this course, students will:

1. Use anatomical terminology to identify and describe locations of major organs of each system.
2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostasis imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

**Course Objectives**

Upon completion of this course, the student will be able to:

1. Use anatomical terminology to identify and describe locations of major organs of each system covered.

2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostatic imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

### **Core Objectives**

1. Critical Thinking Skills: To include creative thinking, innovation, inquiry, and analysis, evaluation, and synthesis of information
2. Communication Skills: To include effective development, interpretation and expression of ideas through written, oral, and visual communication
3. Empirical & Quantitative Skills: To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusion

### **TEXTBOOK AND MATERIALS:**

REQUIRED = Textbook - Opex Stax Anatomy & Physiology Levels I and II -

<https://openstax.org/details/books/anatomy-and-physiology?Book%20details>

Your textbook for this class is available for free online. If you prefer, you can also get a print version at a very low cost. Your book is available in web view and PDF for free. You can also choose to purchase on iBooks or get a print version via the campus bookstore or from OpenStax on Amazon.com.

You can use whichever formats you want. Web view is recommended -- the responsive design works seamlessly on any device. If you buy on Amazon, make sure you use the link on your book page on openstax.org so you get the official OpenStax print version. (Simple printouts sold by third parties on Amazon are not verifiable and not as high-quality.)

Anatomy and Physiology from OpenStax, Print ISBN 1938168135, Digital ISBN 1947172042, [www.openstax.org/details/anatomy-and-physiology](http://www.openstax.org/details/anatomy-and-physiology)

Supplemental = Textbook - Wiki Books – Human Physiology

[https://en.wikibooks.org/wiki/Human\\_Physiology](https://en.wikibooks.org/wiki/Human_Physiology)

### **Attendance Policies**

1. You must log into Blackboard and access this course a minimum of **3 times per week**.
2. Cheating of any type will not be tolerated. *This includes copying and pasting information.*
3. **If you wish to drop this course, you must drop it administratively. If you stop logging-in to the course and do not complete the course drop process, then you will receive an “F” grade for the course.**

4. Internet usage- students are to use proper netiquette when participating in course email, assignment submissions and online discussions.
5. Teamwork: To include the ability to connect choices, actions, and consequences to ethical decision-making
6. Personal Responsibility: To include ability to connect choices, actions and consequences to ethical decision-making.

## Course Outline

- A. Endocrine System
  1. Organs of the endocrine system
  2. Functions of the endocrine organs
  3. Hormones and target tissues
  4. Endocrine disorders
- B. Blood
  1. Red Blood Cells
  2. White Blood Cells
  - Platelets and blood clotting
  3. Blood Groups and compatibility
  4. Diseases
- C. Heart
  1. Structure and function
  2. Blood flow through the heart
  3. Electrical conduction system and ECG interpretation
- D. Circulatory System
  1. 3 main types of blood vessels and characteristics of each
  2. Learning the anatomy of the major arteries (anterior and posterior)
  3. Learning the anatomy of the major veins (anterior and posterior)
- E. Lymphatic and Immune Systems
  1. Organs of the lymphatic system
  2. Functions of those organs
  3. Immunity and disease
- F. Respiratory System
  1. Structural anatomy
  2. Physiology
  3. Diseases
- G. Digestive System
  1. Organs and structures
  2. Functions of organs
  3. Enzymes and the digestive process
  4. Diseases
- H. Nutrition
  1. Proper nutrition (problems with N. American diet)
  2. Metabolism and Krebs's cycle
- I. Urinary System
  1. Structural anatomy
- J. Electrolytes and Fluid Balance
  1. Fluid
  2. Electrolyte balance
- K. Reproductive System
  1. Structural anatomy of both male and female
  2. Functions
  3. Meiosis

## Weekly Checklist BIOL 2302 (Lecture) - Spring 2023

| Week   | Assignments  | Due Dates   |
|--|--|---|
| <b>Week 1</b><br><br>Jan 17 <sup>th</sup> – 20 <sup>th</sup><br><br><b>Module 4:</b><br>~Introduction<br>~Endocrine System | <input type="checkbox"/> Discussion Board 1: Introduction<br><input type="checkbox"/> Netiquette Discussion Board<br><input type="checkbox"/> Syllabus Quiz<br><input type="checkbox"/> Video Quiz: Endocrine (Chapter 17)<br><input type="checkbox"/> Read over Individual Project instructions – Organ Poster due 03.08.23<br><input type="checkbox"/> Join a group: Group Project – Body Systems & Disease due 04.14.23 | <input type="checkbox"/> 01.20.23<br><br><input type="checkbox"/> 01.22.23<br><input type="checkbox"/> 01.22.23 |
| <b>Week 2</b><br><br>Jan 23 <sup>rd</sup> – 27 <sup>th</sup><br><br><b>Module 4:</b><br>~Endocrine System                  | <input type="checkbox"/> Discussion Board 2: Endocrine<br><input type="checkbox"/> Video Quiz: Fight or Flight (or Freeze) Response (Chapter 17)<br><input type="checkbox"/> Start working on Individual Project – Organ Poster due 03.08.23<br><input type="checkbox"/> Start working with group members on Group Project – Body Systems & Disease due 04.14.23   | <input type="checkbox"/> 01.29.23<br><input type="checkbox"/> 01.29.23  |
| <b>Week 3</b><br><br>Jan 30 <sup>th</sup> – Feb 3 <sup>rd</sup><br><br><b>Module 4:</b><br>~Cardiovascular (Blood)         | <input type="checkbox"/> Discussion Board 3: Blood Type<br><input type="checkbox"/> Video Quiz: Blood (Chapter 18)<br><input type="checkbox"/> Work on Individual Project – Organ Poster due 03.08.23<br><input type="checkbox"/> Work with group members on Group Project – Body Systems & Disease due 04.14.23   | <input type="checkbox"/> 02.05.23<br><input type="checkbox"/> 02.05.23  |
| <b>Week 4</b><br><br>Feb. 6 <sup>th</sup> - 10 <sup>th</sup><br><br><b>Module 4:</b><br>~Cardiovascular (Heart)            | <input type="checkbox"/> Discussion Board 4: Heart<br><input type="checkbox"/> Video Quiz: Heart (Chapter 19)<br><input type="checkbox"/> Work on Individual Project – Organ Poster due 03.08.23<br><input type="checkbox"/> Work with group members on Group Project – Body Systems & Disease due 04.14.23  | <input type="checkbox"/> 02.12.23<br><input type="checkbox"/> 02.12.23  |
| <b>Week 5</b><br><br>Feb 13 <sup>th</sup> – 17 <sup>th</sup><br><br><b>Module 4:</b><br>~Cardiovascular (Blood Vessels)    | <input type="checkbox"/> Video Quiz: Blood Vessels (Chapter 20)<br><input type="checkbox"/> QUIZ 1: Chapters 17 – 20 (Endocrine & Cardiovascular) Opens 02.17.23 and Closes 02.19.23<br><input type="checkbox"/> Work on Individual Project – Organ Poster due 03.08.23<br><input type="checkbox"/> Work with group members on Group Project – Body Systems & Disease due 04.14.23   | <input type="checkbox"/> 02.17.23<br><input type="checkbox"/> 02.19.23  |
| <b>Week 6</b><br><br>Feb 20 <sup>th</sup> – 24 <sup>th</sup>   | <input type="checkbox"/> Discussion Board 5: Immune/Lymphatic<br><input type="checkbox"/> Video Quiz: Immune System (Chapter 21)<br><input type="checkbox"/> Video Quiz: Immune System (Chapter 21)<br><input type="checkbox"/> Work on Individual Project – Organ Poster due 03.08.23   | <input type="checkbox"/> 02.26.23<br><input type="checkbox"/> 02.26.23  |

|   |  |   |
|---|--|---|
| <p><b>Module 5:</b><br/>~Immune System</p>  | <input type="checkbox"/> Work with group members on Group Project – Body Systems & Disease due 04.14.23  |   |
| <p><b>Week 7</b><br/><br/>Feb 27<sup>th</sup> – Mar 3<sup>rd</sup></p> <p><b>Module 5:</b><br/>~Respiratory System</p>                  | <input type="checkbox"/> Discussion Board 6: Respiratory<br><input type="checkbox"/> Video Quiz: How the Respiratory System Works (Chapter 22)<br><input type="checkbox"/> Video Quiz: How Oxygen Travels through your Body (Chapter 22)<br><input type="checkbox"/> QUIZ 2: Chapter 21 (Immune) & Chapter 22 (Respiratory) Opens 03.03.23 and Closes 03.05.23<br><input type="checkbox"/> Work on Individual Project – Organ Poster due 03.08.23<br><input type="checkbox"/> Work with group members on Group Project – Body Systems & Disease due 04.14.23 | <input type="checkbox"/> 03.03.23<br><input type="checkbox"/> 03.03.23<br><br><input type="checkbox"/> 03.05.23 |
| <p><b>Week 8</b><br/><br/>Mar 6<sup>th</sup> – 10<sup>th</sup></p> <p>~Midterm Exam</p>   | <input type="checkbox"/> MIDTERM EXAM Opens 03.08.23 and Closes 03.10.23 (Chapters 17 – 22)<br><input type="checkbox"/> DUE: Individual Project – Organ Poster<br><input type="checkbox"/> Work with group members on Group Project – Body Systems & Disease due 04.14.23  | <input type="checkbox"/> 03.10.23   |
| <p><b>Week 9</b><br/><br/>Mar 13<sup>th</sup> – 17<sup>th</sup></p> <p>Spring Break</p>   | <input type="checkbox"/> Sleep, rest, relax<br><input type="checkbox"/> Enjoy time with family and friends<br><input type="checkbox"/> Netflix, etc.<br><input type="checkbox"/> Exercise<br><input type="checkbox"/> Read a good book<br><input type="checkbox"/> Do something nice for someone   |   |
| <p><b>Week 10</b><br/><br/>Mar 20<sup>th</sup> – 24<sup>th</sup></p> <p><b>Module 5:</b><br/>~Digestive System</p>                      | <input type="checkbox"/> Discussion Board 7: Digestive<br><input type="checkbox"/> Video Quiz: Digestive (Chapter 23)<br><input type="checkbox"/> Work with group members on Group Project – Body Systems & Disease due 04.14.23   | <input type="checkbox"/> 03.26.23<br><input type="checkbox"/> 03.26.23  |
| <p><b>Week 11</b><br/><br/>Mar 28<sup>th</sup> – April 1<sup>st</sup></p> <p><b>Module 5:</b><br/>~Digestive System<br/>~Metabolism</p> | <input type="checkbox"/> Video Quiz: Metabolism & Nutrition (Chapter 24)<br><input type="checkbox"/> QUIZ 3: Chapter 23 (Digestive) & Chapter 24 (Metabolism & Nutrition) Opens 03.31.23 and Closes 04.02.23<br><input type="checkbox"/> Work with group members on Group Project – Body Systems & Disease due 04.14.23  | <input type="checkbox"/> 03.31.23<br><input type="checkbox"/> 04.02.23  |
| <p><b>Week 12</b><br/><br/>April 3<sup>rd</sup> – 6<sup>th</sup></p> <p><b>Module 5:</b><br/>~Urinary System</p>                        | <input type="checkbox"/> Discussion 8: Post your poster and comment on two other posters<br><input type="checkbox"/> Discussion 9: Urinary<br><input type="checkbox"/> Video Quiz: Urinary System (Chapter 25)<br><input type="checkbox"/> Work with group members on Group Project – Body Systems & Disease due 04.14.23  | <input type="checkbox"/> 04.06.23<br><input type="checkbox"/> 04.06.23<br><input type="checkbox"/> 04.06.23     |

|   |   |  |
|---|---|--|
| <p><b>Week 13</b></p> <p>April 11<sup>th</sup> – 14<sup>th</sup></p> <p><b>Module 5:</b><br/>~Urinary System</p>                                      | <ul style="list-style-type: none"> <li><input type="checkbox"/> Video Quiz: Fluids &amp; Electrolytes (Chapter 26)</li> <li><input type="checkbox"/> QUIZ 4: Chapter 25 (Urinary) &amp; Chapter 26 (Fluids &amp; Electrolytes) Opens 04.14.23 and Closes 04.16.23</li> <li><input type="checkbox"/> <b>DUE:</b> Group Project – Body Systems &amp; Diseases due 04.14.23</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> 04.14.23</li> <li><input type="checkbox"/> 04.16.23</li> </ul> |
| <p><b>Week 14</b></p> <p>April 17<sup>th</sup> – 21<sup>st</sup></p> <p><b>Module 6:</b><br/>~Reproductive System</p>                                 | <ul style="list-style-type: none"> <li><input type="checkbox"/> Discussion 10: Reproductive</li> <li><input type="checkbox"/> Video Quiz: Reproductive (Chapter 27)</li> </ul>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> 04.23.23</li> <li><input type="checkbox"/> 04.23.23</li> </ul> |
| <p><b>Week 15</b></p> <p>April 24<sup>th</sup> – 28<sup>th</sup></p> <p><b>Module 6:</b><br/>~Reproductive System (Development &amp; Inheritance)</p> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Video Quiz: Development &amp; Inheritance (Chapter 28)</li> <li><input type="checkbox"/> QUIZ 5: Chapter 27 (Reproductive) &amp; Chapter 28 (Development &amp; Inheritance) Opens 04.28.23 and Closes 04.30.23</li> </ul>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> 04.28.23</li> <li><input type="checkbox"/> 04.30.23</li> </ul> |
| <p><b>Week 16</b></p> <p>May 1<sup>st</sup> – 5<sup>th</sup></p> <p><b>Final Exam Review</b></p>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> Review for Final Exam</li> <li><input type="checkbox"/> Make up missing assignments</li> </ul>  |  |
| <p><b>Week 17</b></p> <p>May 8<sup>th</sup> – 10<sup>th</sup></p> <p><b>~Final Exam</b></p>   | <p>FINAL EXAM Opens 05.08.23 and Closes 05.10.23 (Chapters 23 – 28)</p> <p>You made it!! Celebrate ☺</p>  | <ul style="list-style-type: none"> <li><input type="checkbox"/> 05.10.23</li> </ul>  |



### Grade Scale

|          |     |
|----------|-----|
| 90 – 100 | = A |
| 80 – 89  | = B |
| 70 – 79  | = C |
| 60 – 69  | = D |
| 0 – 59   | = F |

## Course Evaluation

Final grades will be calculated according to the following criteria:

|   |             |
|---|-------------|
| 1. Mandatory Course Syllabus Exam             | 5%          |
| 2. Discussion Participation [10]              | 10%         |
| 3. Video Quizzes                              | 10%         |
| 4. Chapter Quizzes (5)                        | 20%         |
| 5. Exams Ch (17 – 21) Final Exam (Ch 22 – 28) | 30%         |
| 6. Mandatory Group Project                    | 20%         |
| 7. <u>Individual Project</u>                  | 5%          |
|   | <b>100%</b> |

## Technical Requirements (for courses using Blackboard)

The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at:

[https://help.blackboard.com/en-us/Learn/9.1\\_2014\\_04/Student/015\\_Browser\\_Support/015\\_Browser\\_Support\\_Policy](https://help.blackboard.com/en-us/Learn/9.1_2014_04/Student/015_Browser_Support/015_Browser_Support_Policy)

A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of the online technology and resources.

## Disabilities Statement

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

<https://lit.edu/student-success/starfish>

## Student Code of Conduct Statement

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at [www.lit.edu](http://www.lit.edu) or obtained in print upon request at the Student Services Office.

## Starfish

The Americans with Disability Act of 1990 and Section 504, Rehabilitation Act of 1973 are federal anti-discrimination statues that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the American with Disability Act of 1990, to students with a diagnosed disability. The Special Populations Office is in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)839-2018. You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](https://lit.edu/special-populations)

### **ADDITIONAL COURSE POLICIES/INFORMATION**

1. Cheating of any type will not be tolerated.
2. **Late assignments will not be accepted.** Students will receive a zero for assignments not completed.
3. Internet usage- students are to use proper netiquette when participating in course email, assignment submissions and online discussions.

Arizona State University = <https://asuonline.asu.edu/newsroom/online-learning-tips/netiquette-online-students/>

Seth Ross = <http://www.albion.com/netiquette/corerules.html>



