BIOL 2402 Anatomy and Physiology II  
Fall 2022

Instructor: Daniel O. Macaulay, MD.  
Section # and CRN: P05 (20130)/P86 (20131)  
Office Location: E.E. Obanion Science Building, Suite 430V  
Office Phone:  
Email Address: domacaulay@pvamu.edu  
Office Hours: MTWTH 4:00-5:00 pm, By appointment  
Mode of Instruction: Face to Face  
Course Location: P05: Room 104, P86: Room 313  
Class Days & Times: P05: TTH, 5:00-5:50 pm; P86, TTR, 6:00-7:50 pm  
Catalog Description: BIOL 2402 Anatomy and Physiology II: 4 semester hours. An introductory course examining the organization of a human body and the mechanisms for maintaining homeostasis. Topics include metabolism, the cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Designed for students who will pursue a career in nursing.

Prerequisites:  
Co-requisites:  
Required Texts:  
Bundle (Bookstore)

Recommended Texts: Openstax

Student Learning Outcomes:

<table>
<thead>
<tr>
<th>#</th>
<th>Upon successful completion of this course, students will be able to:</th>
<th>Program Learning Outcome # Alignment</th>
<th>Core Curriculum Outcome Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identify the important anatomical structures in each of the state organ systems.</td>
<td>#1</td>
<td>Critical Thinking, Communication</td>
</tr>
<tr>
<td>2</td>
<td>Demonstrate a critical understanding of all-important physiological processes of the stated systems as well as fluid and electrolyte balance, nutrition, metabolism, pregnancy, human embryology, fetal development and human genetics.</td>
<td>#1</td>
<td></td>
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<tr>
<td>3</td>
<td>Explain basic cellular functions such as protein synthesis, cellular respiration, DNA replication, and cell division.</td>
<td>#2, #3</td>
<td>Communication</td>
</tr>
<tr>
<td>4</td>
<td>Recognize the anatomical structures, explain physiological functions, and recognize and explain the principle of homeostasis applied to the cardiovascular, lymphatic, respiratory, urinary, digestive, and reproductive.</td>
<td>#4</td>
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</tr>
</tbody>
</table>
Perform Oral and Written communication of biomedical terms relative to the human body

Collaboratively work through physiological case studies

Demonstrate a critical understanding of biological physiological processes

Analyze quantitative and empirical biomedical datasets and graphs

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

**Exams** – Each lecture and laboratory exam will focus on measuring the students understanding of the physiological processes and anatomical structures of the human anatomy.

**Lecture:** Minimum of four lecture exams will be given during the semester. Exams will consist of multiple-choice and short answer questions. The exams will measure the student's ability to process anatomy and physiology lexicon, identify the structural similarities and differences, process physiological processes. In addition relate concepts to clinical application and communicate their thoughts in written format. **The lecture exams count for 30% of your grade.**

**Laboratory:** Minimum of four practical laboratory exams will be given during the semester. One laboratory practical will be oral format. The practical examinations consist of identification of anatomical parts and physiological functions. Models and animal specimen will be utilized to test your knowledge of these systems. **The laboratory exams accounts for 30% of your grade.**

**Smartbook**

Smartbook helps students succeed by providing a personalized learning path that’s based on responses to questions (right or wrong), as well as how confident they feel about the answers they provide. The program also encourages the retention of the material by identifying concepts that students are likely to forget, and directing them back to portions of the e-book to help them solidify concepts. **The Smartbook will be due each week and count 10% of your grade.**

**Exercises** – written assignments designed to supplement and reinforce course material

**On-line Assignments:** will be answering a collection of questions discussing scientific concepts on the chapter by using composition, labeling, classification, sequencing, true and false, matching and essay question.

**Biopac Laboratory Assignments:** Students are engaged in scientific inquiry by performing in group data collection, analysis and write-ups. The students will perform exercises targeting respiration, cardiovascular and muscular function. **This will count 10% of your grade.**

Case studies/Biological Topic:
Students will collaboratively engage an assigned scientific topic discussed in the course. The group is expected to written and oral presentation of their case study to the class on the assigned day. **This will count 10% of your grade.**

Comprehensive Final Exam is given at the end of each semester. The final exam accounts for 10% of your grade. The final exam schedule is set by the University. See attached final exam schedule for exact date.

*Do not schedule any activity during the final exam period (*see above dates).*

**Critical Thinking, Empirical and Quantitative Core Assessment**

Respiration (Lesson 12) assignment: Students observe physiologic modifications of the respiratory cycle associated with voluntarily increasing and decreasing blood carbon dioxide content by holding breath and hyperventilating. Students will qualitatively determine changes in respiratory minute volume by recording and analyzing EMGs from respiratory muscles of the thorax. This assignment will be referenced against the Association of American College and Universities Empirical and Quantitative rubric.

**Teamwork, Oral and Written Communication**

Case Study/Scientific Topic Core Assessment will measure the student’s ability to research, analyze and communicate information for a given case study/scientific topic. Each student will be assigned to a group to discuss the requirements of the case study. Each member of the group will be responsible for a written portion of the case study and providing a part for the oral presentation. The topics will require students to research information and compare data. After which, they will collaboratively assemble an oral presentation using Prezi to be assessed by their peers and professor. This assignment will be referenced against the Association of American College and Universities Written and Oral communication rubric, Teamwork rubric and Peer Evaluation Rubric (Herreid, C.F., 2007).

Example of Scientific Topic is a comparison of cardiovascular system disorders the students will be responsible for knowing and communicating the history, effected population, discovery and treatment of the disorder.

**Grading Matrix**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Value (points or percentages)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Exams</td>
<td>4 Lecture exams at 100 points ea.</td>
<td>30%</td>
</tr>
<tr>
<td>Laboratory Practical Exams</td>
<td>4 Practical exams at 100 pts each</td>
<td>30%</td>
</tr>
<tr>
<td>Smartbook</td>
<td>16 Smartbook</td>
<td>10%</td>
</tr>
<tr>
<td>Assignment (Online, Laboratory Assignments, Biopacs)</td>
<td>10 Assignments</td>
<td>10%</td>
</tr>
<tr>
<td>CASE-STUDY PRESENTATION GROUP</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>CASE-STUDY Individual</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Comprehensive Final Exam</td>
<td>100 points</td>
<td>10%</td>
</tr>
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</table>
Grade Determination:
A = 100 – 90pts;
B = 89 – 80pts;
C = 79 – 70pts;
D = 69 – 60pts;
F = 59pts or below
<table>
<thead>
<tr>
<th>Week</th>
<th>Laboratory</th>
<th>Lecture</th>
<th>Online Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pretest</td>
<td>Syllabus</td>
<td>Smartbook Chapter 18</td>
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<tr>
<td></td>
<td>Safety For Syllabus/Register for Connect/ Pretest</td>
<td>Chapter 18 Circulatory System: Blood</td>
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<tr>
<td>2</td>
<td>Exercise 29/30</td>
<td>Chapter 18 Circulatory System: Blood</td>
<td>Assignment 1 Chapter 18</td>
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<td></td>
<td>Exercise 29/30</td>
<td>Chapter 19 Circulatory System: Heart</td>
<td>Smartbook Chapter 19</td>
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<tr>
<td>3</td>
<td>Exercise 31,33, 34</td>
<td>Chapter 19 Circulatory System: Heart</td>
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<td></td>
<td>Exercise 32 , BIOPAC Lesson 5 ECG</td>
<td>Chapter 20 Circulatory System: Vessels and Circulation</td>
<td>Smartbook Chapter 20</td>
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<td>4</td>
<td>Exercise 35,36</td>
<td>Chapter 20 Circulatory System: Vessels and Circulation</td>
<td>Assignment 2 Chapter 19 and 20</td>
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<td></td>
<td>Exercise 38 , BIOPAC Lesson 16 Blood Pressure</td>
<td>Chapter 21 Lymphatic System</td>
<td>Smartbook Chapter 21</td>
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<tr>
<td>5</td>
<td>Lab Exam I</td>
<td>Lecture Exam I (18,19,20)</td>
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<tr>
<td></td>
<td>Exercise 37</td>
<td>Chapter 22 Respiratory System</td>
<td>Smartbook Chapter 22</td>
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<tr>
<td>6</td>
<td>Exercise 39</td>
<td>Chapter 22 Respiratory System</td>
<td></td>
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<tr>
<td></td>
<td>Exercise 40, BIOPAC Lesson 12 Pulmonary Function I</td>
<td>Chapter 23 Urinary systems Chapter 24 Water, Electrolyte and Acid-Base Balance</td>
<td>Smartbook Chapter 23/22</td>
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<td>7</td>
<td>Lab Exam II</td>
<td>Lecture Exam II (21,22)</td>
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<td></td>
<td>Exercise 44</td>
<td>Chapter 23/24</td>
<td>Assignment 3 Chapter 21 and 22</td>
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<td>Exercise 10</td>
<td>Chapter 23/24</td>
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<td>Dissection</td>
<td>Midterm Lecture Exam (23/24)</td>
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<td>9</td>
<td>Spring Break</td>
<td>Spring Break</td>
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<tr>
<td>10</td>
<td>Exercise 42</td>
<td>Chapter 25 Digestive System Chapter 26 Nutrition and Metabolism</td>
<td>Smartbook Chapter 25/26</td>
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<tr>
<td></td>
<td>Exercise 16,17</td>
<td>Chapter 25/26</td>
<td>Assignment 4 Chapter 25 and 26</td>
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<td>11</td>
<td>Lab Exam III</td>
<td>Lecture Exam IV (25/26)</td>
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<td></td>
<td>Honors Convocation</td>
<td>Chapter 27 Male Reproduction</td>
<td>Smartbook Chapter 27</td>
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<tr>
<td>12</td>
<td>Male reproduction</td>
<td>Chapter 27</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Female Reproduction</td>
<td>Chapter 28 Female Reproduction</td>
<td>Assignment 5 Chapter 27 and 28</td>
</tr>
<tr>
<td>14</td>
<td>Embryo Development</td>
<td>Chapter 29 Human development and Aging</td>
<td>Assignment 6 Chapter 29</td>
</tr>
<tr>
<td>15</td>
<td>Lab Exam IV</td>
<td>Exam V (27, 28, 29)</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Final Exams</td>
<td>Final Exams:</td>
<td></td>
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</tbody>
</table>

• Items in italics will be used for assess for compliance in foundational core areas

**Student Support and Success**

**John B. Coleman Library**
The library and its partners have as their mission "to provide resources and instructional material in support of the evolving curriculum, as a partner in Prairie View A&M University's mission of teaching, research, and service" and to support the University's core values of "access and quality, diversity, leadership, relevance, and social responsibility" through emphasis on ten key areas of service. It maintains library collections and access both on campus, online, and through local agreements to further the educational goals of students and faculty.

**Center for Academic Support**
The Center for Academic Support (CAS) offers Tutoring via peer tutoring. The services include workshops (i.e., Save My Semester, Recalculate Your Route), seminars (i.e., Tools You Can Use: TI-84), group review sessions (i.e., College Algebra Topic Reviews, GRE Preparation), group study opportunities (i.e., TSIA, HESI, Study Break, Exam Cram), and test-taking strategies (How to take Notes, Study Buddy, 5 Day Study Guide). The Tutoring Center is a nationally certified tutoring program through the National Tutoring Association. The peer tutors are trained and certified by the coordinator each semester. Location: J.B. Coleman Library

**COMPASS**
The Center for the Oversight and Management of Personalized Academic Student Success (COMPASS) is designed to help Prairie View students in their second year and beyond navigate towards graduation by providing the following services: Academic Advisement, Targeted Tutorials for Personalized Learning, Campus-Wide Referrals, and Academic & Social Workshops. Location: J.B. Coleman Library

**Writing Center**
The Writing Center provides student consultants on all aspects of the writing process and a variety of writing assignments. Writing Center consultations assist students in such areas as prewriting, brainstorming, audience awareness, organization, research, and citation. Location: Hilliard Hall 121

**University Rules and Procedures**

**Disability statement (See Student Handbook):**
Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate
arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator.

**Academic misconduct (See Student Handbook):**
You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.

**Forms of academic dishonesty:**
1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations.
2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test.
3. Fabrication: use of invented information or falsified research.
4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else's words, ideas, or data as one's own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one's own work also constitutes plagiarism.

**Nonacademic misconduct (See Student Handbook):**
The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.

**Sexual misconduct (See Student Handbook):**
Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating this policy will be subject to disciplinary action.

**Attendance Policy**
Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in assignment of a grade of “F”. Absences are accumulated beginning with the first day of class.

**Student Academic Appeals Process**
Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

**Disability statement (See Student Handbook):**
Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator

**TECHNICAL CONSIDERATIONS**

**Minimum Recommended Hardware and Software:**
- Intel PC or Laptop with Windows 7; Mac with OS X; Smartphone or iPad/Tablet with Wi-Fi
High speed Internet access
- 8 GB Memory
- Hard drive with 320 GB storage space
- 15” monitor, 800x600, color or 16 bit
- Sound card w/speakers
- Microphone and recording software
- Keyboard & mouse
- Most current version of Google Chrome, Safari, Internet Explorer or Firefox

Note: Be sure to enable Java & pop-ups

Participants should have a basic proficiency of the following computer skills:
- Sending and receiving email
- A working knowledge of the Internet
- Proficiency in Microsoft Word (or a program convertible to Word)
- Proficiency in the Acrobat PDF Reader
- Basic knowledge of Windows or Mac O.S.

Netiquette (online etiquette):
Students are expected to participate in all discussions and virtual classroom chats as directed. Students are to be respectful and courteous to others on discussions boards. Foul or abusive language will not be tolerated.

Technical Support:
Students should go to https://mypassword.pvamu.edu/ if they have password issues. The page will provide instructions for resetting passwords and contact information if login issues persist. For other technical questions regarding eCourses, call the Office of Distance Learning at 936-261-3283

Communication Expectations and Standards:
Emails or discussion postings will receive a response from the instructor, usually in less than 48 hours. Urgent emails should be marked as such. Check regularly for responses.

Discussion Requirement:
Online courses often require minimal to no face-to-face meetings. However, conversations about the readings, lectures, materials, and other aspects of the course can take place in a seminar fashion. This will be accomplish by the use of the discussion board. The exact use of discussion will be determined by the instructor.

It is strongly suggested that students type their discussion postings in a word processing application and save it to their PC or a removable drive before posting to the discussion board. This is important for two reasons: 1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2) Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications. Once the post(s) have been typed and corrected in the word processing application, it should be copied and pasted to the discussion board.

COVID-19 Campus Safety Measures

To promote public safety and protect students, faculty, and staff during the COVID-19 pandemic, Prairie View A&M University has adopted policies and practices for the Fall 2020 academic term to limit virus transmission. Students must observe the following practices while participating in face-to-face courses and course-related activities (office hours, help sessions, transitioning to and between classes, study spaces, academic services, etc.):

- Self-monitoring - Students should follow CDC recommendations for self-monitoring. Students who have a fever or exhibit symptoms of COVID-19 should participate in class remotely and should not participate in face-to-face instruction.
- Face Coverings - Face coverings (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain.
- **Physical Distancing** - Physical distancing must be maintained between students, instructors, and others in course and course-related activities.

- **Classroom Ingress/Egress** - Students must follow marked pathways for entering and exiting classrooms and other teaching spaces. Students should leave classrooms promptly after course activities have concluded, should not congregate in hallways and should maintain 6-foot physical distancing when waiting to enter classrooms and other instructional spaces.

- **Face-to-face Class** - To attend a face-to-face class, students must wear a face covering (or a face shield if they have an exemption letter). If a student refuses to wear a face covering, the instructor should ask the student to leave and join the class remotely. If the student does not leave the class, the faculty member should report that student to the Office for Student Conduct for adjudication. Additionally, the faculty member may choose to teach that day’s class remotely for all students.

- **COVID-19 Guidelines for Student Conduct Adjudication** - The mandatory COVID-19 Training/Certification taken by all students serves as the 1st Warning for violation of COVID-19 Guidelines.
  - 1st incident: upon review of Incident Report and finding of responsibility — Conduct Probation
  - 2nd incident: upon review of Incident Report and finding of responsibility — Suspension
  - Consult the Code of Student Conduct in the Student Planner or Student Conduct website for additional information on Conduct Probation and Suspension.

**Personal Illness and Quarantine** - Students required to quarantine must participate in courses and course-related activities remotely and must not attend face-to-face course activities. Students should notify their instructors of the quarantine requirement. Students under quarantine are expected to participate in courses and complete graded work unless they have symptoms that are too severe to participate in course activities. Students experiencing personal injury or illness that is too severe for the student to attend class qualify for an excused absence. To receive an excused absence, students must provide appropriate documentation to the Office for Student Conduct, studentconduct@pvamu.edu