BIOL 3014 Anatomy and Physiology I
Summer 2017

Instructor: Cleveland O. Lane, Jr., PhD.
Alphonso Keaton, PhD.

Section # and CRN: P02 (31487)/P82 (31488)
Office Location: E.E. Obanion Science Building, Suite 430V
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Office Hours: Monday and Wednesday 9:00-11:00, Friday, By appointment
Mode of Instruction: Face to Face

Course Location: P02: Room 311, P82: Room 313
Class Days & Times: P02: 1-2:20 pm; P82: MTWR 2:30-5:50 pm
Catalog Description: An introductory course examining the organization of a human body and the mechanisms for maintaining homeostasis. Topics include chemistry of life, cell and tissue structure, metabolism, skeleton, muscular, and integumentary system. Designed for students who are biology majors.

Prerequisites: BIOL 1015, BIOL 1025, BIOL 1034, BIOL
Co-requisites: BIOL 3014 P82

Benson’s laboratory manual: Anatomy and Physiology, 5th, 6th, or 7th edition

Recommended Texts: Anatomy & Physiology (Saladin, 7th ed.)
Human Physiology (From Cells to Systems), Sherwood
Textbook of Medical Physiology, Guyton
Human Physiology, Silverthorn

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 #</th>
<th>Core Curriculum Outcome Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identify and summarize the steps of the scientific method and recognize their role in the context of a laboratory experiment</td>
<td>#1</td>
<td>Critical Thinking, Communication</td>
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<tr>
<td>2</td>
<td>Demonstrate an understanding of the two major types of membrane transport (Active vs Passive Transport)</td>
<td>#1</td>
<td>Communication</td>
</tr>
<tr>
<td>3</td>
<td>Demonstrate an understanding of the principles of homeostasis and how organ systems work together via negative feedback mechanisms to maintain a relatively constant internal environment.</td>
<td># 1Y6</td>
<td>Critical Thinking</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 integumentary, muscular and skeletal systems</td>
<td>#4</td>
<td>Critical Thinking</td>
</tr>
<tr>
<td>5</td>
<td>Perform Oral and Written communication of biomedical terms relative to the human body</td>
<td>#5</td>
<td>Communication</td>
</tr>
<tr>
<td>6</td>
<td>Collaboratively work through physiological case studies</td>
<td>#5</td>
<td>Teamwork</td>
</tr>
<tr>
<td>7</td>
<td>Demonstrate/describe an understanding of the electrical activities of a muscle cell.</td>
<td>#5</td>
<td>Critical Thinking</td>
</tr>
<tr>
<td>8</td>
<td>Analyze quantitative and empirical biomedical datasets and graphs</td>
<td>#5</td>
<td>Empirical and Quantitative</td>
</tr>
</tbody>
</table>

**C Course Evaluation Methods**

This course will utilize the following instruments to determine student grades and proficiency in the learning outcomes for the course.
Exams – Each lecture and laboratory exam will focus on measuring the students understanding of physiological processes and anatomical structures of the human anatomy.

Lecture: Minimum of four lecture exams will be given during the semester. Exams will contain multiple-choice and short answer questions. The exams will measure the student’s ability to apply anatomy and physiology lexicon, identify the structural similarities and differences, process physiological processes. In addition relate concepts to clinical application and communicate thoughts in written format. The lecture exams count for 35% of your grade.

Laboratory: Minimum of four practical laboratory exams will be given during the semester. Each 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 demonstrate knowledge of these systems. The laboratory exams accounts for 30% of your grade.

Biopac Laboratory Assignments: Students are engaged in scientific inquiry by performing data collection, analysis and write-ups. The students will perform exercises targeting muscular function, brain function, ANS, exercise physiology and neurophysiology. This will count 5% of your grade.

Lecture Quizzes: This will count 5% of your grade.

Final Research Projects – Students will take the skills developed in the BIOPAC exercises and develop a research project. The project will measure the students ability to research, analyze and communicate information for a given acidification topic. The project will be presented in a poster format to the class the last day before finals. This will count 10% of your grade.

Case studies/Biological Topic: Students will collaboratively engage an assigned scientific topic discussed in the course. The students will be expected to written and oral presentation of their case study to the class on the assigned date. This will count 5% of your grade.

Comprehensive Final Exam is given at the end of each semester. There will be a final exam for both lecture and laboratory. Each exam is 5% of the total final exam score. The final exam accounts for 10% of your grade.

The final exam schedule is set by the University. See attached final exam schedule for due date.
*Do not schedule any activity during the final exam period (*see above dates), process on reaction times. It will also measure their ability to compare reaction times.

Semester Calendar (Tentative Schedule)
Week 1:
Readings: Chapter 1
Quiz Preparation

Lecture Topic(s)
M - Course Syllabus/Orientation of the Human Body
T - Homeostasis
W – Cells: Plasma Membrane
R – Membrane Transport

Week 2:
Reading: Chapters 3-4
Examination Preparation

M – Secondary Active Transport
T - Osmosis and Tonicity
W – Cells (Structure/Function) – Equilibrium Potential Nernst Equation/ Goldman Katz Equation
R - Tissues (Epithelial/Connective)

Week 3:
Reading: Chapters 5-6
Examination preparation

M – Integumentary System
T - Bones and Skeletal Tissues
W - Cells: Osteoblast, Osteocytes and Osteoclast
R - Endochondral Ossification/Calcium Homeostasis
Bone Tissue Disorders

Week 4:
Reading: Chapters 6 – 7
Exam Preparation

M – Axial Skeleton (22 Bones of the Skull)
T – Vertebral Column/Rig Cage
W – Appendicular Skeleton
R - Muscles /Muscle Tissues

Week 5:
Reading: Chapters 9
Examination Preparation

M – Muscles and Muscle Tissues
T – Gross and Microscopic Anatomy (Skeletal Muscle)
W – Physiology of Skeletal Muscle
R - Sliding Filament Model/Excitation Contraction Coupling

Week 6:
Readings: Chapter 9
Finals Period

M – Energy Requirements for Skeletal Muscle
T - Length Tension Curve
W - Finals

FINALS PERIOD
ALL FINALS WILL BE TAKEN AS INDICATED BY THE FINAL SCHEDULE

The instructor respectfully reserves the right to make changes to the syllabus if necessary to meet the overall needs of the class, time constraints or other unforeseen events. If changes are necessary, students will be notified as soon as possible in class.
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.

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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.