BIOL 2020, Anatomy & Physiology II (On-Line)

Catalog Course Description:
A continuation of BIOL 2010 with emphasis on endocrine, cardiovascular (including hemodynamics), lymphatic, respiratory, digestive, urinary (including water and electrolyte balance), and reproductive systems, growth and development, and genetics. Three hours lecture and three hours of laboratory.

Prerequisites:
Biology 2010 Anatomy & Physiology I

Co-requisites:
None

Instructor and contact information:
Jennifer Reaves; phone: 731-925-5722; v/m: 731-424-3520 ext. 50773; jreaves3@jscc.edu

Office location and hours:
SAV 131, posted by office door and on eLearn

Textbook/Materials:

Required Student Learning Outcomes:
Institutional Learning Objectives (ISLO)
1. Communicate orally and in written form with a vocabulary conducive to the natural and physical sciences as related to the specific course objectives.
2. Perform appropriate mathematical operations as they relate to the natural and physical sciences.
3. Demonstrate an understanding of the principles and concept of the sciences specifically related to the program.
4. Demonstrate knowledge of the scientific method, its strengths, limits, and interrelationship with society.
5. Gather, analyze, organize and interpret data in mathematical, written and/or verbal form.

Course Student Learning Outcomes (CSLO)
Upon successful completion of the course, students should be able to demonstrate knowledge of, but not limited to, the following:
1. Understand hormones, the endocrine system, with emphasis on feedback mechanisms.
2. Comprehend the characteristics, components, and functions of blood.
3. Understand hematopoiesis and hemostasis.
4. Understand the structure and functions of the components of the cardiovascular system.
5. Define and distinguish between the pulmonary and systemic circuits.
6. Trace the flow of blood through major vessels to and from various organs of the body.
7. Comprehend the syncytial behavior of the myocardium.
8. Comprehend the regulation and monitoring of blood pressure.
9. Understand the structures and functions of the lymphatic system.
10. Understand inflammatory response mechanisms.
11. Comprehend specific immunity; contrast cellular and humoral immunity, active and passive immunity, and natural and artificial immunity.
12. Understand the structure and functions of the respiratory system.
13. Trace the flow of air from the nose to the pulmonary alveoli.
14. Explain the roles of muscle contraction and control by the nervous system in breathing.
15. Distinguish between chemical and mechanical digestive processes; describe the various chemical processes and substrate molecules and their degradation.
16. Understand the structural and functional features of the different regions of the digestive tract.
17. Describe the types of movement in the gut.
18. Define nutrient and list the six major categories of nutrients; state the function of each class of macronutrients and the major dietary sources of each.
19. Name the major lipoproteins, vitamins, and minerals required by the body and the general functions of each.
20. Describe and explain the major steps of glucose, lipid, and protein catabolism; contrast anaerobic versus aerobic metabolic processes.
21. Explain the major processes involved in ATP formation in cells.
22. Understand the structure and function of the urinary system.
23. Describe the gross and fine structure of the kidney and explain the various processes underlying the formation of urine via nephrons.
24. Describe the major fluid compartments in the body and discuss water movement between them; list the body’s sources of water and routes of water loss.
25. Understand the body’s homeostatic mechanisms relative to maintenance of water balance.
26. Describe the physiological roles of electrolytes found in the body, and the mechanisms involved in their regulation.
27. Define buffer substances and write out chemical equations for the major buffer systems of the body.
28. Describe the various metabolic and physiological factors that affect the body’s pH balance; discuss the homeostatic regulation of pH and its significance for normal body function.
29. Describe the major components and functions of the reproductive systems of males and females.
30. Describe the role of sex hormones in the development, maintenance, and regulation of the reproductive systems and functions of males and females.
31. Explain meiosis and its role in gamete production and enhancement of genetic variation through recombination of the genetic material (DNA).
32. Explain the major stages in human development.
33. Describe the formation and functions of the placenta.
34. Explain the various kinds of aneuploidies and other genetic anomalies that can affect an individual’s phenotype.
Learning Indicators:
The student’s ability to demonstrate the following will be indicators of their success in achieving the program and course level student learning outcomes.

Required Assessment:
Assessment Names and Descriptions:

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Text Chapter and Topics</th>
<th>CSLO</th>
</tr>
</thead>
</table>
| 2 Quizzes PhysioEx Exercise Exam 1 | Chapter 16. Endocrine System  
| 3 Quizzes PhysioEx Exercise Exam 2 | Chapter 17. Cardiovascular System  
Chapter 18. Vessels  
Chapter 20. Lymphatic System & Immunity | CSLO 4-11    |
| Lab Practical 1      | Chapter 21. Respiratory System                              | CSLO 12-14   |
| 1 Quiz PhysioEx Exercise Exam 3 | Chapter 22. Digestive System  
Chapter 23. Metabolism | CSLO 15-21   |
| 2 Quizzes PhysioEx Exercise Exam 4 | Chapter 24. Urinary System  
Chapter 25. Fluid Balance | CSLO 22-28   |
| Lab Practical 2      | Chapter 26. Male and Female Reproductive Systems  
Chapter 27. Pregnancy, Growth and Development | CSLO 29-33   |

Grade Distribution
eLearn Exams 40%, eLearn Discussions 10%, Mastering A&P Quizzes 20%, Mastering Lab Practicals 20%, PhysioEx Lab Exercises 10%

JSCC POLICY: YOU MUST PASS LAB TO PASS THE COURSE.

Grading Scale or Policy
A=90 and above, B=80-89, C=70-79, D=60-69, F=<60
All assignment instructions for modules will be posted in eLearn. Weekly discussions will be posted in eLearn. Biweekly lecture exams will be posted in eLearn. All other assignments will be completed in Mastering A&P. Late assignments will not be accepted.

Instructor Policies
I expect that you will complete all weekly assignments on time. Assignments are due by 11:59 PM Sunday for each week according to the course schedule. Lecture exams, when scheduled, will be available from 12:01am Wednesday to 11:59pm the following Wednesday. If you have a question concerning one of the assignments, you must contact me well ahead of time in order to avoid getting behind schedule.

Please see the class schedule which contains important dates in this course and mark them on your calendar!!! You will also need to complete a weekly discussion question assignment and post a
response to a classmate’s discussion assignment as well. See the course schedule for an exact listing of assignments and labs activities.

Especially since this is an online course, you will need to read the textbook and do all of your assignments according to the directions. Each homework assignment is designed to help you review the material. All weekly quizzes, lab exercises, lab practicals, etc. will be taken and submitted in Mastering A&P. Exams and discussions will be held in eLearn.

**Mastering A&P:** All of your weekly assignments and quizzes will be done in Mastering A&P. Your results for graded quizzes and practicals will be found on Mastering A&P also. The Mastering A&P dynamic study modules are your “homework” assignments. These are short activities that will help you become more familiar with the concepts presented in the Amerman textbook. These activities are untimed and not graded. They are always available and for practice only.

**Weekly Quizzes:** These are short quizzes which will prepare you for the exam questions you have on each chapter. These quizzes range from 15-30 questions over concepts covered each week in the homework assignments. Depending on your familiarity with the concepts, some quizzes may take longer than others. Make sure to allow yourself enough time to complete them. The idea of these assignments is that the quizzes will help you identify your strengths and weaknesses to expedite your studies for the lecture exams. These are untimed, but try to test your knowledge by giving yourself a time limit and not using your textbook during the quizzes. View them as mini-exams. These account for 20% of the total grade.

**Mastering A&P Lab:** Your anatomy labs will be administered through Mastering A&P. These labs will take you through the lab manual and allow you to learn anatomy concepts using a variety of methods: multiple choice, matching, fill-in-the-blank and labelling. These are untimed and not graded.

**PhysioEx Lab Exercises:** Over the course of the semester, there will be 3 virtual lab exercises that help to reinforce lab concepts. They will account for 1/3 of the lab grade (10% of the total grade).

**Lab Practicals:** Over the course of the semester, there will be 3 lab practicals which test your retention of lab material using questions similar to the Lab Exercises. They will account for 2/3 of the lab grade (20% of the total grade).

**Note:** The current policy at JSCC is that in order to pass A&P, you MUST pass the lab portion of the class. Therefore, your Lab Exercises and Practicals must average 60%.

**Biweekly Lecture Exams:** Exams will be given in eLearn biweekly and generally cover 2 chapters at a time. These exams will be 50 multiple choice questions. You will have 65 minutes to complete the exams. You cannot leave the exam and come back to it. If you leave without finishing, the timer will continue to run. Make sure you have 65 minutes of uninterrupted time when you begin. After you submit the exams, you will be able to go back and review questions answered incorrectly. Note that 2 of the lecture exams will be proctored at an approved testing site to verify identification of the tester. Test dates will need to be scheduled in advance. Lecture exams account for 40% of the total grade.
Discussions: Your weekly discussions will be completed in eLearn. In order to earn full-credit for the discussion, you must use college level English and thoroughly answer the question posed with a post between 100-150 words. You must also reply to another student’s post. Your reply needs to be substantive (~50 words). These account for 10% of the total grade.

Do not plagiarize! In any written work that you complete as part of this course, you must properly cite your source. If you simply cut and paste text or fail to cite a source correctly, that is grounds for being dismissed from the course and/or receiving a failing grade in the course. You may also receive further disciplinary action at the University-level, including a permanent mark on your record. DO NOT CHEAT!!!

College Policy Statements:
This class is governed by the policies and procedures stated in the current JSCC Catalog & Student Handbook.

Academic dishonesty is unfair to all students as well as the instructor and WILL NOT BE TOLERATED.

Academic dishonesty includes, but is not limited to the following:
1. Cheating on an examination or quiz, taking information or allowing information to be taken from your test or assignments.
2. Receiving help from others in work to be submitted; if contrary to the rules of the course.
3. Plagiarizing the ideas, writings, or work of another (including but not limited to your textbook and the Internet) without citing the source.
4. Stealing or illegally using examinations or course material from current or past semesters or classes. Giving or selling answers to test questions and informing another student of specific questions that appears or has appeared on course examinations.
5. Misrepresentation is an act of omission with intent to deceive the instructor or University employee. It includes but is not limited to, lying about family circumstances, employment conflicts, or other personal problems in order to gain academic advantage for oneself or others; changing answers on graded materials; having another person complete an assignment or take an examination in one's place.
6. DO NOT GIVE ANYONE YOUR WORK in WRITTEN OR ELECTRONIC FORM – Assistance with writing and biological concepts are available from the instructor and from professional tutors through Academic Services located on the first floor of the Parker Building or online through Academic Services.
7. Assisting anyone to do any of the above.

Academic honesty is required and expected. In the event that you are suspected of classroom cheating, plagiarism, or otherwise misrepresenting your work, you will be subject to University-level disciplinary action, and you may fail the course.

Disabilities:
Students with diagnosed disabilities will be provided reasonable and necessary academic accommodations if they are determined eligible by the college’s Disability Resource Center (DRC) staff. The instructor must receive a “Special Accommodations Agreement Form” signed by the DRC staff before granting disability related accommodations in this course.
It is the student’s responsibility to initiate contact with the DRC and follow established procedures to be allowed accommodations by the instructor. All information about a student’s actual disability(ies) is kept confidential by the DRC.

The DRC is located in the Counseling and Career Services Office in the Student Union Building. Please contact the Dean of Students, Linda Nickell, at 731-424-3520 x50354 or at lnickell@jscc.edu. Information also is available on the JSCC website at: http://www.jscc.edu/about-jackson-state/student-services/disabled-student-services.html.

Suicide Prevention Statement:
Jackson State Community College is committed to and cares about all students. Support services are available for any person at Jackson State who is experiencing feelings of being overwhelmed, hopelessness, depression, thinking about dying by suicide, or is otherwise in need of assistance. For immediate help, contact the National Suicide Lifeline Number 1-800-273-TALK (8255) or Text “TN” to 741741 or the Trevor Lifeline at 1-866-488-7386. Veterans may also wish to contact the Veterans Crisis Line at 1-800-273-8255 (press 1) or Text 838255.

NOTE: The instructor reserves the right to change in writing, any part of the syllabus as necessary.