GRAYSON COLLEGE

Course Syllabus

Course Information

BIOL 2301
Human Anatomy & Physiology I
Section: A03
Spring 2017

Face-to-Face course, Lab meets 3 hours/week, Testing conducted on campus in the classroom

or

Online course, All major exams and lab practicals must be taken at a proctored testing center.

Professor Contact Information
Professor name: Ryan Myers
Office phone: 903-415-2584
Email: myersr@grayson.edu
Office location: S205C
Office hours: M-Th 7-8a & M-Th 12:15-1:15p; F 9a-12p
Science Department Phone: 903-463-8797

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Although students must register for a separate course number for lab and lecture, the two components are in fact part of the same course and are separated for scheduling and reporting reasons. Final grades are derived from the combination of both lecture and laboratory grades (60%/40% respectively). Together the lecture and laboratory components satisfy the state learning objectives (CS1, CT2, CT3, EQS2, and TW1) and therefore must be taken concurrently.

Prerequisite: College Readiness in reading required. Students must have passed the reading portion of the THEA (score of at least 230)

Concurrent enrollment in BIOL 2101 is required.

Prior completion of General Biology I (BIOL1306/1106), or Survey A&P (BIOL2404) is strongly recommended.

Course Description

BIOL 2301. Anatomy and Physiology I. (3-0-3). Anatomy and Physiology I is the first part of a two-course sequence. It is a study of the structure and function of the human body including cells, tissues and organs of the following systems: integumentary, skeletal, muscular, nervous and special senses. Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis.

Student Learning Outcomes

State Core Objectives Met in this Combined Lecture and Lab Course:

1. Communication Skills, CS1 – Students will develop, interpret, and express ideas through written communication.
2. Critical Thinking Skills, CT2 – Gather and assess information relevant to a question.
3. Critical Thinking Skills, CT3 – Analyze, Evaluate, and Synthesize Information.
4. Empirical and Quantitative Skills, EQS2 – Students will describe, explain, and predict natural phenomena using the scientific method.
5. Teamwork, TW1 – Students will work cooperatively with their pears and leaders to more effectively solve problems by utilizing insights from multiple perspectives.

Student Learning Outcomes Met in this Combined Lecture and Lab Course:

1. Students will be able to locate and identify the various regions of the human body as well as the organs and their associated functions.
2. Students will be able to demonstrate an understanding of the integumentary, skeletal, muscular, and nervous systems and their interrelatedness.
3. Students will be able to identify the structures of the human cell and their related functions, including metabolism and cellular respiration.
4. Students will be able to demonstrate working knowledge of the chemical process of the human body as well as the physical properties that govern them.

State Learning Outcomes Met in this Combined Lecture and Lab Course:

<u>Lab component</u>

Upon successful completion of this course, students will:

1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general labware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations and predictions.

<u>Lecture component</u>

Upon successful completion of this course, students will:

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.

Course Competencies:
A student completing this course can expect lectures covering the following topics in detail, and will be tested over each section as announced by the instructor. Within each section of Anatomy and Physiology I, content may or may not be covered in the sequence presented here. Content topics need not be taught in single blocks, yet may be integrated. Unifying themes, such as homeostasis, are emphasized throughout.

Body Plan and Organization-Students who have completed this section of the course should understand the scope of studies in anatomy and physiology and be able to use and understand descriptive anatomical and directive terminology.

Homeostasis-Upon completion of this section of the course, students should be able to explain the basic concept of homeostasis and how homeostatic mechanisms apply to the body systems.

Chemistry and Cell Biology Overview-Students who have completed this section of the course should be able to identify cellular structures and explain their respective functions.

Histology-Completion of this section of the course should enable the student to be able to describe the basic tissues of the body, indicate their location, and explain their functions.

Integumentary System-Students who have completed this section of the course should be able to identify and describe the major gross and microscopic anatomical components of the integumentary system and describe the functions of the system.

Skeletal System-Completion of this section of the course should enable a student to be able to identify and describe the major gross and microscopic anatomical components of the skeletal system and describe the functions of the system.

Muscular System-Students who have completed this section of the course should be able to identify and describe the major gross and microscopic anatomical components of the muscular system and explain their functional roles in body movement, maintenance of posture, and heat production.

Nervous System-Students who have completed this section of the course should be able to identify and describe the major gross and microscopic anatomical components of the nervous system and explain their functional roles in communication, control, and integration.

Special Senses-Completion of this section of the course should enable a student to be able to identify and describe the major gross and microscopic anatomical components of the eye and ear, and explain their functional roles in vision, hearing, and equilibrium. Students should also be able to identify and locate the receptors responsible for olfaction and gustation and briefly describe the physiology of smell and taste.

Required Textbooks

Hole's Human Anatomy and Physiology, 14th edition, by David Shier, Jackie Butler, and Ricki Lewis, McGraw-Hill Publishers, ISBN 9781259384998

Required Assignments & Academic Calendar
(Topics, Reading Assignments, Due Dates, Exam Dates and where/how exams will be administered)

In case of inclement weather, emergency closings, or other unforeseen disruptions to scheduled classes, student must log onto their Canvas accounts for directions on where or how to continue their coursework.

Important Dates:

Martin Luther King Holiday (no class)	January 16th, 2017
First day of classes:	January 17th, 2017
Last day to add/change courses:	January 20th, 2017
Spring Break	March 13th – March 17th, 2017
Professional Development (no class)	March 24th, 2017
Last day to drop/withdraw from course:	April 18th, 2017
Lab Final Exams:	May 8th – May 11th, 2017

LECTURE COMPONENT – SEQUENCE OF INSTRUCTION

Chapter 1. Introduction to Human Anatomy and Physiology
Chapter 2. Chemical Basis of Life
Chapter 3. Cells
Exam I

Chapter 4.Cellular Metabolism
Chapter 5. Tissues
Chapter 6. Integumentary System
Exam II

Chapter 7. Skeletal System
Chapter 8. Joints of the Skeletal System
Chapter 9. Muscular System
Exam III

Chapter 10. Nervous System I
Chapter 11. Nervous System II
Chapter 12. Nervous System III
Exam IV

Optional Comprehensive exams

Note: The sequence of instruction may be modified during the semester. Students will receive notification from the instructor of any changes.

LABORATORY COMPONENT

The following list of exercises will be done during the course. Specific objectives are enumerated in each exercise.

Laboratory Safety Handouts
Exercise 2 Body Organization, Membranes and Terminology
Exercise 4 Care and Use of the Microscope
Exercise 5 Cell Structure and Function
Exercise 6 Movements Through Membranes
Exercise 7 Cell Cycle
Exercise B Enzymes (CS1, CT2, CT3, EQS2, TW1)
Exercise 8 Epithelial Tissues
Exercise 9 Connective Tissues
Exercise 10 Muscle and Nervous Tissues
Lab Practical #1

Exercise 11 Integumentary System
Exercise 12 Bone Structure and Classification
Exercise 13 Organization of the Skeleton
Exercise 14 Skull
Exercise 15 Vertebral Column and Thoracic Cage
Exercise 16 Pectoral Girdle and Upper Limb
Exercise 17 Pelvic Girdle and Lower Limb
Exercise 19 Joint Structure & Movements
Exercise 20 Skeletal Muscle Structure
Exercise 22 Muscles of the Head and Neck
Exercise 23 Muscles of the Chest, Shoulder, and Upper Limb
Exercise 24 Muscles of the Vertebral Column, Abdominal Wall, and Pelvic Floor
Exercise 25 Muscles of the Hip and Lower Limb
Lab Practical #2

Exercise 27 Nervous Tissue and Nerves
Exercise 28 Meninges, Spinal Cord, and Spinal Nerves

Exercise 29 Reflex Arc and Reflexes
Exercise 30 Brain and Cranial Nerves
Exercise 32 Dissection of the Sheep Brain
Exercise 33 General Senses
Exercise 34 Smell and Taste
Exercise 35 Eye Structure
Exercise 36 Visual Tests and Demonstrations
Exercise 37 Ear and Hearing
Exercise 38 Ear and Equilibrium
Lab Practical #3

Comprehensive Lab Practical

SEQUENCE OF INSTRUCTION:

Week 1 Lab Safety, Exercise 2
Week 2 Fetal Pig Dissection, 4
Week 3 Exercises 5, 6
Week 4 Exercises 7, B (CS1, CT2, CT3, EQS2, TW1)
Week 5 Exercises 8, 9, 10
Week 6 Catch up and review for practical 1
Week 6 Lab Practical #1,
Week 7 Exercises 11, 12, 13
Week 8 Exercises 14, 15, 16, 17
Week 9 Exercises 19, 20, 22
Week 10 Exercises 23, 24, 25
Week 11 Catch up & review for practical 2
Week 11 Lab Practical #2
Week 12 Exercises 27, 28, 29
Week 13 Exercises 30, 32
Week 14 Exercises 33 - 38
Week 15 Catch up & review for practical 3
Week 15 Lab Practical #3
Week 16 Optional Comprehensive Lab Practical

Note: The sequence of instruction may be modified during the semester. Students will receive notification from the instructor of any changes

---

Methods of Evaluation

Lecture performance will be determined as follows:

Daily work, which may consist of chapter quizzes, study questions, post tests, or on-line activities, will be required of students. **Daily work will constitute 20% of the lecture grade.**

Four major examinations will be given at scheduled times throughout the semester. Dates of the examinations will be announced in class. **There will be no makeups on the daily work or on exams after it has been returned to the students. Two lowest lecture quizzes will be dropped.** There will be no make-ups taken after an exam has been returned to the students. Students not taking the exam will receive a "0". Exams may be taken early as scheduled with the instructor for special circumstances. Exams may consist of multiple choice, matching, short answer, fill-in-the-blank, true and false and/or discussion questions. Graded exams will be returned to the students. After the student examines the test, it will be returned to the instructor. **Each exam will constitute 20% of the lecture grade.**

A student may have the ability to earn up to 10 extra credit points during the semester. The extra credit points will be added to the total number of points before dividing by five to derive the lecture average.

An optional comprehensive final will be given at the time scheduled by the college. Students who have not taken all four exams must take the final. Students who have taken all four exams have the option of taking the final to replace the lowest exam grade. **The final cannot be used to replace the daily work average.**

Lecture performance will be calculated in the following manner:
Add the daily grade average, four highest test grades, and the extra credit, then divide by five to get the lecture average.

Daily work and exam grades to be posted on Canvas

Grading

Anatomy and Physiology I is a composite course, composed of a Biology 2301 lecture section and a Biology 2101 laboratory section. 60% of the composite course grade will come from the student's performance in the lecture section. The remaining 40% of the composite course grade will come from the student's performance in the laboratory section. The student's final composite course grade will be calculated by their lecture professor at the end of the semester. **The resulting letter grade will be reported to the registrar as the final grade for both the laboratory and lecture sections.**

Composite grades will be rounded up or down. For example, an average of 89.5 will be rounded up to a 90 and 89.4 will be rounded down to an 89.

Letter grades will be assigned as follows:

100 - 89.5	= A
89.4 - 79.5	= B
79.4 - 69.5	= C
69.4 - 59.5	= D
Below 59.4	= F

Methods of Instruction

Lectures by the instructor will be the main method of instruction. Group work, class discussions, Power Point presentations, overhead transparencies, skits, models, etc., may also be incorporated to enhance the learning process.

Student Conduct & Discipline

Classroom Behavior
Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance and an attitude that seeks to take full advantage of the educational opportunity.

Defacing College Property
Anyone caught defacing property in the lab will be responsible for cleaning, repairing or replacing the defaced property. The individual will also receive a zero (0) for the current lab assignment. Defacing property includes, but is not limited to, writing, marking or scratching on the tables, tabletops, chairs, cabinets, counter tops, shelving or walls.

Cell Phone Policy
All cell phones and other electronic devices must be turned off before entering the classroom. Text messaging is not permitted during class. If you have an emergency and need to take a call during class, you must inform the instructor before the beginning of class. Turn your ringer to vibrate, and when your call comes in, pick up all of your belongings and leave the classroom. You may return to class the next time the class meets.

Academic Integrity
The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the college's policy on plagiarism (see GC Student Handbook for details). Grayson College subscribes to turnitin.com, which allows faculty to search the web and identify plagiarized material. Students are prohibited, too, from engaging in self-plagiarism. Self-plagiarism is the act of using work created for another course and submitting that work for credit in this course. This includes work submitted previously for one of this instructor's courses. There are limited circumstances under which the instructor will permit self-plagiarism, and special permission must be received in order to do so. Those who

engage in acts of self-plagiarism (without the necessary permission) will be subject to the penalties listed in this syllabus for all other acts of plagiarism.

The policy of the Science Department: Any instance of a) plagiarism, b) collusion, c) cheating, or d) falsifying records, will result in a "0" for the assignment. The "0" assigned for cheating cannot be dropped or replaced by another grade when calculating the lecture average.

Grayson College is not responsible for illness/injury that occurs during the normal course of classroom/lab/clinical experiences.

These descriptions and timelines are subject to change at the discretion of the Professor.

Grayson College campus-wide student policies may be found in each Canvas course shell under the menu item "Student Services".

Student Responsibility
You have already made the decision to go to college; now the follow-up decisions on whether to commit to doing the work could very well determine whether you end up working at a good paying job in a field you enjoy or working at minimum wage for the rest of your life. Education involves a partnership that requires both students and instructors to do their parts. By entering into this partnership, you have a responsibility to show up for class, do the assignments and reading, be engaged and pay attention in class, follow directions, and put your best effort into it. You will get out of your experience here exactly what you put into it – nothing more and nothing less.

TITLE IX

GC policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status. Furthermore, Title IX prohibits sex discrimination to include sexual misconduct: sexual violence (sexual assault, rape), sexual harassment and retaliation.
For more information on Title IX, please contact:

- Dr. Regina Organ, Title IX Coordinator (903-463-8714)
- Dr. Dava Washburn, Title IX Coordinator (903-463-8634)
- Dr. Kim Williams, Title IX Deputy Coordinator- South Campus (903) 415-2506
- Mr. Mike McBrayer, Title IX Deputy Coordinator (903) 463-8753
- Website: http://www.grayson.edu/campus-life/campus-police/title-ix-policies.html
- GC Police Department: (903) 463-8777- Main Campus) (903) 415-2501 - South Campus)
- GC Counseling Center: (903) 463-8730
- For Any On-campus Emergencies: 911

Grayson College is not responsible for illness/injury that occurs during the normal course of classroom/lab/clinical experiences.

These descriptions and timelines are subject to change at the discretion of the Professor.

Grayson College campus-wide student policies may be found on our Current Student Page on our website:
http://grayson.edu/current-students/index.html

Faculty members must place a pdf formatted copy of each course syllabus in the "Personal Info' section of their portal no later than Friday of the first week of classes each semester. Place it in a Category labeled with the semester date. Faculty will maintain these syllabi in the "Personal Info" section of their portal for five years.