GRAYSON COLLEGE

Course Syllabus

Please Note: Due to extenuating circumstances, including public health issues, course and testing delivery methods, instructional schedules, housing contracts, campus procedures and/or operating hours may be altered, interrupted and/or ceased for a limited or extended period of time. Such changes will be posted on the College website.

Course Information

BIOL 2302 & 2102
Human Anatomy & Physiology II
Section:
Fall 2020

Hybrid /Face-to-Face course, Lecture meets is online & Lab meets 4 hours/week, testing conducted on campus in the lab

Professor Contact Information
Professor name: McLaughlin, B.
,
Science Department Program Assistant: 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 "courses" are in fact the same course and are separated for scheduling and reporting reasons. Your final grade is derived from the combination of your lecture and laboratory grades (60/40 respectively). Together the lecture and laboratory satisfy the state learning objectives (CS1, CT2, CT3, EQS2, and TW1) and therefore must be taken concurrently.

Prerequisite: Successful completion with a grade of C or better in BIOL 2301/2101 required.
Concurrent enrollment in BIOL 2102 is mandatory.
Students must have passed the reading portion of the THEA (score of at least 230).

Course Description

BIOL 2302. Anatomy and Physiology II. (3-0-3). 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. Concurrent enrollment in BIOL 2102 is mandatory. Prerequisite: Successful completion with a grade of C or better in BIOL 2301/2101 required. College readiness in reading required. (R)

BIOL 2102. Anatomy and Physiology Laboratory II. (3-0-1). Study of the structure and function of human

anatomy, including neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems. Content may be either integrated or specialized. In this course, students will participate in experiments, view slides and models, and dissect specimens. Topics include genetics, blood, urine, and organs of the reproductive, respiratory, urinary, cardiovascular, lymphatic, endocrine, and digestive organ systems. Prerequisite: Successful completion with a grade of C or better in BIOL 2301/2101 required. College readiness in reading required. (R)

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:

Student learning outcomes which will be addressed in laboratory and/or lecture.

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 II, 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.

- Endocrine 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 endocrine system and explain the functional roles of their respective hormones in communication, control, and integration.
- Blood and Cardiovascular 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 blood and cardiovascular system and explain their functional roles in transport and hemodynamics.
- Lymphatic 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 lymphatic system and explain their functional roles in fluid dynamics and immunity.
- Digestion and Nutrition-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 digestive system and explain their functional roles in digestion, absorption, nutrition, metabolism, excretion, and elimination.
- Respiratory 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 respiratory system and

explain their functional roles in breathing, ventilation and in the processes of external and internal respiration.

- Urinary 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 urinary system and explain their functional roles.
- Fluid/Electrolyte and Acid/Base Balance-Students who have completed this section of the course should be able to identify and describe the physiology of the homeostatic mechanisms that control fluid/electrolyte and acid/base balance.
- Reproductive 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 reproductive system and explain their functional roles in reproduction and inheritance.
- Growth and Development-Students who have completed this section of the course should be able to describe and explain the anatomical and physiological changes from conception to senescence.
- Genetics-Students who have completed this section of the course should be able to explain Mendelian inheritance in the human organism along with gene therapies currently in use.

Required LECTURE Textbooks

Anatomy and Physiology, 1st edition, OpenStax College, 1st edition (January 1, 2013, updated 2017).
ISBN-13:978-1938168130
This is a FREE download with options to order print copies. Go to: https://openstax.org/details/anatomy-and-physiology , select how you want to access the book. I provide pdfs of the chapters in your Canvas modules.

This Book is an acceptable reference material, **BUT is definitely NOT REQUIRED**
Hole's Human Anatomy and Physiology, 14th edition, by David Shier, Jackie Butler, and Ricki Lewis, McGraw-Hill Publishers, ISBN 9780078024290 (hard copy) or 9781259384998 (loose leaf).

Required LAB Textbooks:

Exploring Anatomy & Physiology in the Laboratory, 3rd Edition by Erin C. Amerman, Morton Publishing Company, ISBN 9781617316203. This is CHEAPER and better than the McGraw-Hill manual

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Required Assignments & Academic Calendar

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:
First day of classes:
Schedule changes to courses:
Census Date

Last day to drop/withdraw from course:
Lecture Final Exams:

Week	Date	Topics, Readings, Assignments, Deadlines
1		**Chapter 17 – The Endocrine System**
1		**Chapter 18 – The Cardiovascular System, Blood**
2		**Chapter 19 – The Cardiovascular System, the Heart**
2		**LECTURE TEST 1: CHAPTERS 17 , 18 and 19**
3		**Chapter 20 – The Cardiovascular System, Blood Vessels and Circulation**
3		**Chapter 21 The Lymphatic and Immune System**
4		**Chapter 22 The Respiratory System**
4		**LECTURE TEST 2: Chapters 20, 21, and 22**
5		**Chapter 23 –The Digestive System**
5		**Chapter 24 Metabolism and Nutrition**
5		**Chapter 25 The Urinary System**
6		**Chapter 26 Fluid, Electrolyte and Acid-Base Balance**
6		**LECTURE TEST 3: Chapters 23, ,24, 25 and 26**
7		**Chapter 27 The Reproductive System**
7		**Thanksgiving** **No classes**
8		**Chapter 28 Development and Inheritance**
8		**LECTURE TEST 4 Chapters 27 & 28**
8		

LAB:

Week 1	Laboratory Safety Handouts
Week 1	**Lab 16 Endocrine System** Exercises 16.1 Endocrine system anatomy, 16.2 Endocrine system histology and 16.3 Time to Trace! Negative feedback loops, either in class or submitted next class.
Week 1	**Lab 20 Blood**

Exercise 20.1 Formed elements (cells) of blood, 20.2 ABO and Rh blood groups, some of 20.4 Blood donation

Week 2 **Lab 17 Cardiovascular System-Part I: The Heart**
Exercises 17.1 Anatomy of the heart, DEMONSTRATE labeling And the dissection of the pig heart **Lab 18 Cardiovascular System-Part II:**

Lab Practical 1 Ex:16, 17, 20

Week 3 **Blood Vessel Anatomy**
Exercises 18.1 Major arteries of the body, 18.2 Major veins of the body and 18.4 Histology of the blood vessel wall, dissection of the fetal pig this week or next

Week 3 **Lab 19 Cardiovascular System-Part III: Cardiovascular Physiology**
Exercise 19.1 Heart Auscultation, 19.2 Vascular examination, 19.3 Blood pressure, 19.5 The electrocardiogram

Week 3 **Lab 21 Lymphatic and Immunity**
Exercises 21.1 Lymphatic system anatomy, 21.2 Lymphatic organ histology

Week 4 **Lab 22 Respiratory System**
Exercises 22.1 Respiratory system anatomy, 22.2 Histology of the respiratory tract

Week 4 **Lab 23 Respiratory System Physiology**
Exercises 23.1 Pressure volume relationships, 23.2 Measuring pulmonary volumes and capacities (NOT SMOKERS) 23.3 pH and ventilation

Week 4 Fetal pig dissection will be done this week to cover lymphatic and respiratory

Lab Practical 2 Ex:18, 19, 21, 22, 23

Week 5 **Lab 24 Digestive System**
Exercises 24.1 Digestive system anatomy, 24.2 Digestive system histology, 24.4 Time to Trace!

Week 5 **TAKE HOME NUTRITION RECALL RECORD**
There is no lab in your manual for the nutrition, but this is part of the Core report to college

Week 5 **Lab 25 Urinary System Anatomy**
Exercise 25.1 Urinary system anatomy, 25.2 Urinary organ histology

Week 6 **Lab 26 Urinary System Physiology**
Exercise 26.1 The model kidney set up a demonstration kidney but ALL will check filtrate. 26.2 Urinalysis, 26.3 Time to Trace!

Lab Practical 3 Ex:24, 25, 26

Week 7	**Lab 27 Reproductive System** Exercise 27.1 Male reproductive system and part of 27.4 Histology of reproductive system
Week 7	**Lab 27 The Reproductive System, continued** Exercise 27.2 Female reproductive anatomy, rest of 27.4 Histology of reproductive system Fetal pig dissection and contraception
Week 8	**Lab 28 Human Development and Heredity** Exercises 28.1 Fertilization and implantation, 28.2 Embryogenesis, fetal development and fetal cardiovascular anatomy, 28.3 Heredity

Lab Practical 4 Ex:27, 28

(optional) Comprehensive Lab Practical

Methods of Evaluation

The lecture average will constitute 60% of the final grade and the laboratory average will constitute 40% of the final grade.

Lecture Component

All lectures will be recorded and uploaded to a YouTube link provided. Students must email the professor at least once every week, for attendance purposes. Four major examinations will be given at scheduled times throughout the semester. Dates of the examinations will be announced in class. The test are to be opened during a period of time. Once started the test will be limited by time. There will be no make-ups taken after an exam has been closed 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.

Each exam will constitute 25% of the lecture grade.

There will be no lecture final offered.

Lecture Grading

Grades will be calculated in the following manner:
Add the four exams then divide by four to get the lecture average.

Lab Component

Lab work:

There will be four lab practicals given at scheduled times throughout the semester. Each practical will consist of 50 questions (each worth 2 points) with an additional bonus of 4 points. The students will be timed at each station of the lab practical (2 questions per station). Partial credit for answers will be awarded due to deductions such as ¼ point for incorrect spelling and ½ point for failure to designate right or left when identifying structures. The grade for each practical will constitute 25% of the laboratory grade in the course. **NO make-up practicals will be given throughout the semester.** Anyone missing a lab practical must take the Comprehensive Final Lab Practical at the scheduled time at the end of the semester. **For those who have taken all four practicals, the Comprehensive Final Lab Practical is optional.** It may be taken and substituted for a lower grade on one of the other four practicals. This will allow those who have taken all four practicals and the Comprehensive Final Practical to drop their lowest practical grade. Those who are satisfied with their grades do not have to take the Comprehensive Final Practical.

Lab Grading

Grades will be calculated in the following manner:
Each lab practical constitutes 25% of the lab grade.
Nutritional report will be added as extra credit to lab and averaged in.

Course Grading

Anatomy and Physiology II is a composite course, composed of a Biology 2302 lecture section and a Biology 2102 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.**

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

Grades to be posted on Canvas.

Computer Hardware and Software Requirements

Microsoft office and good internet browser, PC lap top or desk top preferred. Mobil phones are discouraged for testing

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Methods of Instruction

Video recorded lectures by the instructor will be the main method of instruction. Class discussions, Power point presentations, overhead transparencies, skits, models, etc., may also be incorporated to enhance the learning process.

Class Attendance

Academic success is closely associated with regular classroom attendance and course participation.
All successful students, whether on campus or online, are expected to be highly self-motivated.
All students are required to participate in courses regularly and are obliged to participate in class activities and complete and submit assignments following their professors' instructions. Students taking courses during compressed semester time frames such as mini-mester, summer sessions, and mid-semester should plan to spend significantly more time per week on the course.
In order for students to be counted as having attended a class before the census date, the following guidelines are to be used: • Physical attendance in class with an opportunity for instructor and student interaction • Submission of an academic assignment • Completion of an exam, interactive tutorial, or computer-assisted instruction • Attendance at a study group assigned by the faculty • Participation in an online discussion in the class • Contact with a faculty member to ask a question

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Responsibility for work missed because of illness or school business is placed upon the student. More than two (2) absences are considered to be excessive. **In accordance with the College's Developmental Education Plan, students withdrawn from their only developmental course may be withdrawn from all academic courses.** In addition, students' eligibility to receive financial aid or live in a College dormitory can be affected by withdrawal from courses. When withdrawal occurs, any tuition refund would be made in accordance with state regulations.

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 can not be dropped or replaced by another grade when calculating the course average.

(1) The instructor will **communicate** with the students via email and the students are encouraged to communicate with each other during lab and in the class discussions.
(2) The online participation will be **assessed and graded via canvas**;
(3) The instructor will **monitor the online discussion chats**;

(4) The professor and College expects a high **standards of appropriate online behavior** and that it will be will be maintained in all communications between the instructor and class mates. Rude behavior will not be tolerated.
(5) If you can log into canvas and get onto YouTube One should be fine, technologically
(6) The minimum **computer hardware and software requirements** are for the class should be Microsoft office, a web browser if you need any help, contact the IT department found on the college homepage
(7) If needed, due to technical issues, test can be taken on campus after/before lab by appointment
(8) Lab is every day and attendance is required
(9) Please see the above **Academic Integrity.** 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.

You will be asked to sign the following during class:

Waiver of Liability
As a Science student in a Grayson College laboratory course, I hereby confirm that I have been advised of laboratory safety measures and rules and agree to comply with these rules at all times during my enrollment in this laboratory course. In addition, I agree to hold harmless GC in any event resulting from the laboratory environment.

Printed Name:_____

Signed Name: _____ Date:_____

Contact Lenses
I am aware of the added health risks associated with wearing contact lenses in the lab, but have elected to do so against the advice of my instructor. (If unsigned, I have agreed not to wear contact lenses at any time during this course.)

Printed Name:_____

Signed Name: _____ Date:_____

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

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. Molly M. Harris, Title IX Coordinator (903)463-8714
Ms. Logan Maxwell, Title IX Deputy Coordinator - South Campus (903) 415-2646
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 campus-wide student policies may be found on our Current Student Page on our College website: https://www.grayson.edu/currentstudents/Academic%20Resources/index.html

COVID-19 Syllabus Information

Grayson College continues to monitor the evolving COVID-19 situation and align our college planning with guidance from the local and state health officials. Our primary goal is to protect the health and safety of our students, faculty, staff, and the Grayson community, while delivering quality education. We will continue to communicate as more information becomes available.

Safety requirements for students, faculty, staff, and the general public will be posted and kept current,

so please stay tuned to your Viking email and the COVID 19 page on the Grayson College website for additional information or other changes that may be announced.

Grayson College COVID-19 Safety Protocol

The best way to prevent illness is to avoid being exposed to this virus. However, as a reminder, the

Centers for Disease Control and Prevention (CDC) always recommends everyday preventive actions to help prevent the spread of respiratory diseases, including:

- Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing. If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol.
- Always wash hands with soap and water if your hands are visibly dirty. For information about handwashing, see CDC's Handwashing website.
- Avoid touching your eyes, nose, and mouth.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Avoid close contact with people who are sick.
- Stay home when you are sick.

Grayson College COVID-19 Instructional Guidelines

Grayson College continues to monitor information relating to the COVID-19 Pandemic. The

College has taken steps to ensure that as many of our programs/courses can continue in the event that the College must re-institute partial and/or full campus closure to the public.

Quality education will be moved to a remote delivery format, when feasible, which includes one or more of the following methods:

- Live Streaming instruction (synchronous)
- Recorded instruction (asynchronous)
- Online or web activities using the Canvas platform
- Video capture, both live and recorded sessions
- Use of open educational resources (OER) in place of traditional textbooks

Grayson College COVID-19 Lab Safety Protocol

In accordance with the Texas Department of Health and Human Services, Grayson College will follow these guidelines:

Groups of 9 of less may be scheduled for small group labs, where hands-on skills are necessary to be practiced or demonstrated

DMW 5.5.20

Social distancing will be practiced to reduce the risk of transferring germs

Faculty and students will be screened prior to entering a lab or classroom, which will include:

Taking each person's temperature

Asking CDC-standard questions

All persons will wash hands with soap and water upon admittance

Students and faculty will participate in sanitation and cleaning of equipment and workspace at the conclusion of each session

Students are encouraged to:

- Log in to Canvas and communicate with your faculty as needed.
- Study and complete assignments in a timely manner
- Ask questions along the way

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.