

ANATOMY AND PHYSIOLOGY I – BIOL 2301
FALL 2020

Instructor: Dr Crystal Kelehear Graham, Assistant Professor
Office: WSB 220, *Phone:* 432-837-8820, *E-mail:* crystal.graham@sulross.edu
Office Hours: Tuesday: 12:30-14:00 | Wednesday: 10:30-12:30 | Thursday: 12:30-14:00 |
& by appointment

Lecture: 09:30-10:45 Tu, Th | WSB 201

Required Text: Krieger 2017. Visual Analogy Guide to Human Anatomy & Physiology, 3rd Edition. Morton Publishing. *Note:* This text is required for A&PI, A&PII, and the accompanying labs so you will get a lot of use out of it and it is an excellent study aid.

Additional Recommended Text: Saladin 2018. Anatomy & Physiology: The Unity of Form and Function, 8th Edition. Mc-Graw-Hill Education.

Course description: The purpose of this course is to introduce students to the importance of the human body and its organ systems. This course is designed as the first semester of a two-semester course, and will cover basic internal life processes and the skeletal, muscular, and nervous systems. Students should come away with an understanding of the above systems, how they are anatomically structured, and how that structure aids in each system's functionality.

Marketable Skills (MS):

The biology student graduating with a BS in Biology should have the following MS's:

- 1) *Ability to organize, analyze, and interpret data.
- 2) Proficiency in using presentation software.
- 3) *Experience in managing time and meeting deadlines.
- 4) *Ability to speak effectively and write concisely about scientific topics.
- 5) *Experience in the development of professional email correspondence.

*MS's specifically addressed by this course

Student Learning Outcomes (SLO):

The biology student graduating with a BS in Biology should be able to:

SLO1 * demonstrate an understanding of basic biological concepts, including but not limited to evolution via natural selection, cell theory, and the role and function of DNA.

SLO2 demonstrate utilization of various field techniques toward addressing scientific questions in the specific discipline. These field techniques can include, but are not limited to, plant collection and processing, various animal collection techniques, ecological surveying and sampling, and biodiversity indexing.

SLO3 use biological instrumentation to solve biological problems using standard observational strategies.

*SLO4** develop writing skills by summarizing and critiquing recent relevant biological literature.

*SLO specifically addressed by this course

Student Learning Objectives for this Course:

- 1) Students will demonstrate an understanding of human evolution and the associated changes to human anatomy
- 2) Students will identify parts of the cell and explain their function
- 3) Students will explain the location, use and function of muscles, bones and joints within the human body
- 4) Students will demonstrate an understanding of the physiology of muscle movement and nervous system function
- 5) Students will identify key regions of the brain and explain their function
- 6) Students will demonstrate an understanding of the anatomy and physiology of the sense organs

Lecture attendance:

Lecture attendance is mandatory. Lectures will not be posted on Blackboard so students must attend lectures to receive the material. This being said, due to COVID19, **anyone feeling ill should not come to class**. In the event that you miss class due to illness or other university-approved absences (SRSU athletic events, death in the family, illness, etc; see <https://www.sulross.edu/sites/default/files//sites/default/files/users/docs/stulife/academic.pdf> for further details) do contact your instructor via email to request missed material. **Students cannot miss exams** unless they have a documented, university-approved excuse; in these cases, the instructor needs to be informed **more than 24 hours in advance** of the exam. Any missed exams must be taken within one week of the original exam.

Lecture behavior:

Please:

- * *do* wear a mask in class
- * *do* keep 6ft of distance between you and your classmates and instructor
- * *do* be on time to class
- * *do* turn off your phone and put it away; phone use is distracting to your peers and the instructor
- * *do* feel free to take notes on a laptop but don't use your laptop for anything else while in class, it's distracting to others
- * *do* ask relevant questions and discuss topics in a civil and respectful manner
- * *do not* talk to your class mates while your instructor is lecturing unless asked to discuss a topic with your peers
- * *do not* sleep in class
- * *do not* pack up early when the instructor is still lecturing, it is noisy and disruptive

If you are not abiding by these classroom rules I will call you out on it and repeated or severe infractions will result in you being asked to leave the classroom for the day.

Academic dishonesty and late or missed work:

All assessments should be your own work, unless it is a pair/group assignment. Any evidence that the work is copied from a peer or the internet or any other source will result in a zero for the assessment and you will be reported to the university for Academic Dishonesty. I do not accept late work. **Students cannot miss exams** unless they have a documented, university-approved excuse; in these cases, the instructor needs to be informed in writing **>24 hours in advance** of the exam to allow time for the instructor to prepare a make-up exam. The make-up exam must be taken within 6 days of the original exam.

Studying:

As a general rule, students should spend 2-3 hours studying for every 1 hour of lecture material. So, for this class, you need to **spend 5-7.5 hours per week studying the lecture material**. I recommend reading your notes in conjunction with reading the relevant textbook chapters and watching instructional videos online (Crash Course videos on YouTube provide good summaries). Studying is best done shortly after the lecture, not all at once the night before the exam. Look up anything that you do not understand or visit with your instructor during office hours.

Grading:

There will be three lecture exams, each of equal contribution to the student grade, amounting to 75% of the grade for the course. Exams will cover the lecture material immediately preceding the exams *i.e.*, there will be no comprehensive final exam. The remaining 25% of the grade comes from assignments and quizzes.

	Weighting
Exam I (in person)	25%
Exam II (in person)	25%
Exam III (online)	25%
Assignments & Quizzes	25%
TOTAL	100%

Grades: A 90 – 100% B 80 – 89% C 70 – 79% D 60 – 69% F 0 – 59%

Class schedule (subject to change):

	Date	Topic	Textbook Chapter (Saladin)
<i>Week 1</i>			
Lecture 1	Tuesday, August 25	Course Introduction + History of Medicine	1
Lecture 2	Thursday, August 27	Human Origins & Adaptations	1
<i>Week 2</i>			
Lecture 3	Tuesday, September 1	Human Structure & Homeostasis	2
Lecture 4	Thursday, September 3	Chemistry of Life	2

<i>Week 3</i>			
Lecture 5	Tuesday, September 8	Chemistry of Life	2
Lecture 6	Thursday, September 10	Cellular Form & Function	3
<i>Week 4</i>			
Lecture 7	Tuesday, September 15	Cellular Form Cellular Function & Genetics	3, 4
Lecture 8	Thursday, September 17	Genetics & Histology	4, 5
<i>Week 5</i>			
Lecture 9	Tuesday, September 22	Histology	5
EXAM	Thursday, September 24	Exam I	
<i>Week 6</i>			
Lecture 10	Tuesday, September 29	Integumentary System	6
Lecture 11	Thursday, October 1	Integumentary System	7
<i>Week 7</i>			
Lecture 12	Tuesday, October 6	Bone Tissue	7
Lecture 13	Thursday, October 8	Bone Tissue & Joints	7, 9
<i>Week 8</i>			
Lecture 14	Tuesday, October 13	Muscular System	10
Lecture 15	Thursday, October 15	Muscular Tissue	11
<i>Week 9</i>			
Lecture 16	Tuesday, October 20	Muscular Tissue	11
Lecture 17	Thursday, October 22	Muscular Tissue	11
<i>Week 10</i>			
EXAM	Tuesday, October 27	Exam II	
Lecture 18	Thursday, October 29	Nervous Tissue	12
<i>Week 11</i>			
Lecture 19	Tuesday, November 3	Nervous Tissue	12
Lecture 20	Thursday, November 5	Nervous Tissue	12
<i>Week 12</i>			
Lecture 21	Tuesday, November 10	Spinal Cord, Spinal Reflexes & Somatic Reflexes; Brain and Cranial Nerves	13, 14
Lecture 22	Thursday, November 12	Brain and Cranial Nerves	14
<i>Week 13</i>			
Lecture 23	Tuesday, November 17	Brain and Cranial Nerves	14
Lecture 24	Thursday, November 19	Brain and Cranial Nerves	14
<i>Week 14</i>			
Lecture 25	Tuesday, November 24	Sense Organs – Online	16
NO CLASS	Thursday, November 26	Thanksgiving Break	
<i>Week 15</i>			
Lecture 26	Tuesday, December 1	Sense Organs – Online	16
NO CLASS	Thursday, December 3	No classes – Dead Day	
<i>Week 16</i>			
EXAM	Monday, December 7	(08:00am-10:00am) Exam III (online)	

Note – Lecture topics are subject to change according to course interest, organization, and timing constraints, however the exam dates will remain the same.

Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class.

Students seeking accessibility/accommodations services must contact Rebecca Greathouse Wren, Suite 112, Ferguson Hall, Ph: 432-837-8203, email rebecca.wren@sulross.edu

Core Objectives Addressed in 2020:

- Team Work
- Communication

Assessment of Core Objectives:

1. Communication

1.1. Written communication will be assessed through written assignments. Specifically, students will critically analyze scientific papers and then write up reaction pieces. The written responses will be assessed for quality of composition, accuracy of content, analysis, interpretation, and synthesis of data, and evaluation of the topic as a whole. Grades will be assigned using a standardized rubric and compared between the beginning vs end of term.

2. Team Work

2.1. Team work will be assessed through take-home group assignments administered at the beginning and the end of the semester. Team members will be randomly assigned to a group by the instructor, and each group will have to turn in a group assignment for a group grade. In addition to the instructor-assigned group grade, there will be a peer grade, assigned to each member of the group by their team members. The peer grade will be assigned according to each team member's perceived contribution to the group assignment. The inclusion of the peer grade will give us greater insight into how each individual performs within a team. The instructor assigned group grade will be added to the peer group grade for the final grade for the task. This task will be repeated late in the semester, and the group and peer grades will be compared between the beginning vs end of term. Both the instructor and the students will use standardized rubrics to assign grades.

3. Critical Thinking

3.1. Critical thinking skills will be assessed through written assignments. Specifically, students will critically analyze scientific papers and then write up reaction pieces. The written responses will be assessed for quality of composition, accuracy of content, analysis, interpretation, and synthesis of data, and evaluation of the topic as a whole. Grades will be assigned using a standardized rubric and compared between the beginning vs end of term.

4. Empirical and Quantitative Skills

4.1. Exams will contain data-based questions to assess the understanding of key concepts such as Mendelian patterns of inheritance, the mechanics of muscle and nervous cell stimulation, and sensory responses. Questions of this nature will be included on the first and last exam of the semester and grades will be compared between the two time periods. In addition, students will critically analyze scientific papers and write up reaction pieces. This will involve analysis, interpretation and synthesis of data. Grades will be assigned using a standardized rubric and compared between the beginning vs end of term. These skills will be further developed and assessed with practical experiments conducted in the sister lab BIOL2101 where students will collect data, analyze it, and draw conclusions on their results.