

BIO 5307 – Understanding the Human Body

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Office Hours: Monday – Thursday 10:00am – 12:00noon (Del Rio)
Friday by appointment

Required Text: VanPutte, Cinnamon, J. Regan and A. Russo. 2016. Seeley's Essentials of Anatomy and Physiology, 9th edition. McGraw Hill.

We will also read and discuss papers that I will draw from the literature.

Course Description:

The goal of the course is to develop learners' interest and enthusiasm for human biology in a range of contexts. This course will provide a broad-based, integrated study of a range of biological topics which develop the concepts of human biology. Additionally, this course will provide the opportunity for learners to acquire a deeper understanding of cellular processes, and physiological mechanisms, as they apply to the human species. By setting the acquisition of knowledge and skills in the context of Understanding the Human Body, a stimulating, relevant and enjoyable curriculum prepares learners for further education, training or employment, in areas associated with life sciences. The course format may consist of lecture, discussion, and/or computer-based activities.

Student learning Outcomes:

By the end of the course the students should be able to:

1. apply knowledge and understanding of human biology
2. apply an understanding of human biology's role in scientific issues and relevant applications of human biology, including the impact these could make on society and the environment
3. apply scientific analytical thinking skills, including scientific evaluation, in a human biology context
4. apply problem solving skills in a human biology context
5. use and understand scientific literacy to communicate ideas and issues and to make scientifically informed choices
6. apply the knowledge and skills for more advanced learning in biology

My goal is to facilitate your learning of human anatomy and physiology. To do so I may combine lecture, computer-based activities, and discussions to expose you to the diverse questions and techniques that define anatomy and physiology. Learning is not a passive process. You are expected to:

- (1) Attend all class sessions
- (2) Actively participate by asking questions in class/office hours
- (3) Come prepared - read assignments prior to class
- (4) Communicate and work cooperatively and respectfully with your peers.

Slides from class lectures will be posted to the course blackboard. Slides often have a limited amount of text and I do not post my lecture notes. I therefore suggest you take notes during class and review your notes and the lecture slides after class.

Discussion & Exercises

Our discussions and any computer-based exercises will reinforce and expand on key concepts introduced during lecture. These sessions are intended to provide you with the opportunity to think critically, to formulate questions and explanations, and to communicate these effectively to your peers.

Communication

I encourage you to attend my office hours or e-mail me if you have any questions or have problems with the course. I cannot guarantee that I will be able to answer e-mails the night before an exam. I will post readings, updates, and other important documents to the course website. If you are unable to access these documents, please let me know. You are responsible for accessing and reading the assigned documents.

Grading

Your final course grade will be calculated based on a midterm exam (20%), final exam (25%), 1 research report - 25% and 3 critique papers with subsequent discussion (10% each). The midterm and final will be a combination of short answer/essay questions and will test your knowledge on a variety of topics as well as critical thinking.

Exam questions will be based on lectures, readings, and the concepts covered in the computer-based activities. Exams will primarily include short-answer questions and when appropriate will assess your ability to interpret graphs. The final exam will not be explicitly comprehensive; however, given that course material is strongly interrelated, you may make use of the knowledge acquired throughout the course to adequately answer questions for the final. The best study guide for the exams will be your own class notes. It is my general policy to not offer make-up exams. If an emergency (serious illness of family member) arises and you miss an exam, it is your responsibility to contact me regarding the possibility of a make-up; these will be addressed on a case-by-case basis.

Research Report

Give a 15 minute oral report and an 8 page written paper on a pertinent and recent medical issue in the news. The idea of the report is to encourage each student to become an expert in a topical medical issue and to teach the rest of us what they have learned. If multiple students want to work on the same topic, we will need to find a way to deal with that. Peer-reviewed articles do not include newspaper, internet, popular magazine articles or government publications. Sources for peer-reviewed articles can be found at SRSU's Bryan Wildenthal Memorial Library, on the Web of Science or Google Scholar. Late projects will not be accepted.

Critiques

There will be 3 critiques of journal articles throughout the semester which will add to class discussions and may appear on the exams. Critiques should summarize the context, methods, primary results, and ecological importance of the paper, and include your critical evaluation of the study. Length should not exceed 3 pages, double-spaced. All Critiques are due at the beginning of class on the due date. Late critiques will not be accepted.

Critique Guidelines:

1. Include the paper's citation at the top of the page
2. You should outline the importance of the study (presented in the introduction), but focus most of your attention on the methods and results. What was the experimental design? Statistical methods? What is the overall importance of their findings? Why do we care?
3. Be skeptical. Do you think their methods were sound? Or are their conclusions acceptable? BUT, no study is perfect, so be fair with your assessment.
4. Take your time. Reading scientific papers is difficult, so slow down and enjoy learning something new!

Assignments

There may be a few short assignments based on in-class activities. All assignments are due at the end of class unless otherwise indicated and late assignments will not be accepted.

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Tentative Lecture Schedule

(note: exact date are subject to change, be sure to keep abreast of changes).

Week	Topic	Reading(s)
1 – Jan. 17-20	Human Organism Chemical Basis of Life	Chapter 1 Chapter 2
2 – Jan. 23-27	Cell Structures & Their Functions Tissues	Chapter 3 Chapter 4
3 – Jan. 30 – Feb. 3	Integument System Critique 1 due	Chapter 5
4 – Feb. 6-10	Skeletal System: Bones & Joints	Chapter 6
5 – Feb. 13-17	Muscular System	Chapter 7
6 – Feb. 20-24	Nervous System Critique 2 due	Chapter 8
7- Feb. 27-Mar. 3	Senses	Chapter 9
8 – Mar. 6-10	Midterm Exam	
9 – Mar. 13-17	<i>Spring Break – No Classes</i>	
10 – Mar. 20-24	Endocrine System	Chapter 10

11 – Mar. 27-31	Blood Heart	Chapter 11 Chapter 12
12 – April 3-7	Blood Vessels & Circulation Lymphatic System & Immunity	Chapter 13 Chapter 14
13 – April 10-14	Respiratory System Critique 3 due	Chapter 15
14 – April 17-21	Digestive System	Chapter 16
15 – April 24-28	Urinary System & Fluid Balance Research Report due	Chapter 18
16 – May 1-5	Reproductive System	Chapter 19
17 – May 8-12	Final Exam	

Standard SRSU Policy Statements

Sul Ross State University is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is the student's responsibility to initiate a request for accessibility services. Students seeking accessibility services must contact Mary Schwartz, M. Ed., L.P.C., in Counseling and Accessibility Services, Ferguson Hall, Room 112. The mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas 79832. Telephone: 432-837-8691. E-mail: mschwartz@sulross.edu.

Students enrolled in distance education courses have equal access to the university's academic support services, such as Smarthinking, library resources, such as online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires secure login information to verify students' identities and to protect students' information. The procedures for filing a student complaint are included in the student handbook. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website.