Bio& 241 – Human Anatomy and Physiology I

Class Time: Lecture – Two 1 and 1/2-hour lectures per week
Laboratory – Two 2-hour laboratories per week

Credits: 5 quarter-hours

Subject Matter: An integrated study of the human body's structure and function. This class will cover the following systems: Integumentary, Skeletal, Muscular, Nervous, and Sense Organs

Course Regulation, Requirements and Procedures:

Attendance and Participation:
As the instructors for this class, we respect the fact that college students are adult learners. With this respect comes the obligation that students demonstrate the attributes that make for a successful college student. Successful students attend class, make a point to be on time to class, come prepared for class, and are active participants in the educational process.

Each week there will be activities that require active participation in class such as laboratory exercises and in lectures. Our expectations are that you will attend class and be an active learner. Failure to do so will have negative consequences for your grade. Missed information from class and missed opportunity to participate in classroom activities will result in your becoming hopelessly behind, which usually results in low performance on lecture tests and lab tests.

No unexcused absences allowed during testing days!! Please see the instructor preferably before any absence, if it's possible not before the absence, then immediately after returning to class. Missed Lecture exams (excused absences only) must be made up within one week after returning to class. **Lab Exams cannot be made up for any reason. If you can't make your normal time, you must arrangement to take the lab exam during another class time when the exam is being given.**

Classroom Decorum:
Some general classroom rules: Please be **on time** to class and **do not** leave early. It is disruptive to the rest of the students and in fact rude to arrive after class has begun or to leave before the session has ended. Please do not visit during instructor lectures or viewing of videos during class time; it is rude and disruptive to other students. Reserve your visitation to planned activities that require group discussion, such in the laboratory. If you want to visit with your friends, go to the student union for a cup of coffee; **do not** come to class.

Student Responsibilities in this class:
- Behave toward others in a professional manner
- Avoid personal attacks, harsh criticism, and objectionable language while communicating with others
- Pay attention to the course calendar; keep up with the course work
- Actively participate in all course activities.
- Seek assistance from instructors when needed.
- Take control of your attitude, time, and performance

In order for learning to take place, students must feel safe; this safety is due **all** students, not only those who share your values and beliefs. For this reason, courtesy, thoughtfulness, and acceptance are essential in our discussions in and out of the classroom. Acceptance should not be confused with agreement; one need not agree with a person to listen, and one must listen well in order to disagree respectfully. Every student in this course has a voice and so deserves the courtesy of attentive listening and the freedom to express diverse ideas.

If anyone has a health condition or disability, which may require accommodations in order to effectively participate in this class, please contact me after class or contact Disability Support Services in **Building 17-201, Phone 533-4166**. Information about disability will be regarded as confidential

You are expected to take the responsibility to form the **good study habits** that are the hallmark of a good student. **Be organized!** Read the text information **before** the subject is considered in class. Regularly **study** and **review** your text, lecture and laboratory notes. **Good lecture notes are a MUST!** Plan to study and then **do it every day!** Regular organized study is much more important than the total number of hours that you study right

before an exam. Remember that you begin the course with a perfect score. You are responsible for maintaining that score during the quarter by mastering the material presented in the lecture, laboratory and text. As a guide the expected study time outside of class for any college course is **two hours for every hour in class per week** – or about 14 hours of study outside of class per week. **DO NOT CRAM!** The formation of study groups is highly recommended.

Attitude and focus are very important to your being a successful student. In the daily grind of the high-speed word we live in, it can become difficult to stay focused on why you're taking an Anatomy and Physiology class, why you are going to college, or what your long-range goals are? As a student, it's important that you keep a positive attitude and keep focused on your goals. A quote from, *A Summer Day,* a poem by Mary Oliver, may help you to stay focused and help reinforce a positive attitude, maybe it'll help you as well. **"….and what will you do with your one precious life."**

Instructor Responsibilities in this class:

- Act in a professional manner.
- Facilitate a positive learning environment.
- Help guide students in their quest to gain knowledge
- Establish well-defined student goals.
- Maintain an environment that facilitates open communication
- Share knowledge.
- Offer constructive guidance
- Provide a course calendar of events and due dates for exams and other assignments.
- Inform students of their performance and grades in a timely manner.

Labs:

Labs are critically important to the learning process. A Chinese proverb observes "***I hear, and I forget. I see, and I remember. I do, and I understand***." Lectures and PowerPoints provide "*I hear and I see*." The Laboratory portion provides students with the opportunity to "***do and understand****."* During the laboratory portion of the class, students will be divided into teams of two. Each team will be assigned a laboratory station, microscope and equipment kit. You will be responsible for the items assigned to your team. Do not use other equipment without the permission of the instructor. Please keep the laboratory clean. Neatness and cleanliness are part of good laboratory technique. You will be downgraded 5% of the points for a particular test if you fail to maintain a clean work area or fail to care for materials properly. Wash all glassware, dry it, and return all materials and equipment to the proper place. Organize work time so there is time to clean up properly at the end of each lab. Do not leave all the dirty work for your partner. Always bring both your textbook and laboratory manual to laboratory classes.

Early Alert Program: This class is part of the Early Alert Program. If we observe that you are struggling academically (for example, poor attendance, low scores, missing assignments, lack of participation),wel will submit an Early Alert for you, and a member of the Early Alert team will contact you and connect you with appropriate campus resources to support you in meeting your academic goals. This alert is a heads-up for you and indicates that I am concerned about your progress. The noted issues need to be addressed immediately so that you can be successful. If you are contacted about an Early Alert, please respond as soon as possible so that you can get the resources, support, and strategies you need to be successful in this and other classes. You may also refer yourself or a friend who might be struggling. Just click the green EA button on the SFCC homepage and complete the form.

Use of the Cadaver Lab at SFCC:

One of the most important books in the history of medicine is an anatomical treatise published in 1543, ***De Humani Corporis Fabrica***, based on dissections of the human body. Prior to Vesalius work, anatomical texts were based largely on dissections of nonhuman animals. Although cadaver dissection was not new in the time of Vesalius, having the physician-teacher actually perform the dissection in the theatre surrounded by students was.

Because of a new building and cadaver lab, you have the opportunity to participate in a rich tradition and experience a privilege shared by few. Cadavers are referred to as "human anatomical specimens", a description that seems inadequate for such a valuable gift to your education. Working with human material requires respect and sensitivity.

Our cadavers are obtained from the Willed Body Programs either at the University of Washington School of Medicine or Washington State University/WWAMI Medical Education Program. Persons donating their body receive no financial compensation; this is truly their ultimate gift to your education. Hence it is imperative that

proper respect be paid to the cadaver at all times. The cadavers are returned to the Universities for cremation once SFCC has finished with them.

General Rules for Use of the Cadavers:

Care of Cadavers:
The cadaver has to be kept moist at all times. The cadaver is covered with sheets moistened with embalming fluid. Only uncover the area you are studying. Occasionally mist the area you are working on using the spray bottle containing water. When you are through, replace the sheets and cover the entire body with the plastic sheet and make sure the body bag is zipped up. Close covers to dissection tables.

Laboratory Access:
The lab is locked when not in use. Only students enrolled in the course are allowed in the lab. **DO NOT BRING IN FRIENDS OR VISITORS!**

Professional behavior:
No body parts, tissue, etc. will be removed from the lab. Disrespect for the cadaver will not be tolerated. You will observe professional conduct while in this lab and outside of the lab particularly if you discuss anything related to the cadaver in a public place. **Photographs may not be taken in the lab**. ***Failure to follow these rules and/or unprofessional behavior will result in your dismissal from A&P class.***

Laboratory Safety:
a. Attire: Cadavers are embalmed with a fluid containing glycerin, ethyl alcohol and phenol. Physical contact of your skin and clothing with the cadaver should be avoided. You are required to wear disposable gloves at all times while working in the lab and a disposable long-sleeved lab coat while working with the cadaver. Contact lenses should not be worn in the lab. Lenses can absorb chemical vapors; if you must wear contacts, you are required to purchase and wear vapor proof goggles.

b. Personal Items: Only your textbook and lab manual are allowed in the lab. Leave all backpacks or other personal items in the outer lab where there are hooks provided.

c. Food: Food and drinks are not allowed in the lab at any time.

d. Tissues: All tissues removed from the cadaver must be collected and placed in the designated containers near the tables. These containers are sent back with the cadaver for cremation. Do not place any human tissue in a garbage can. Do not discard paper towels, gloves, etc. in these containers; use the garbage cans. When you are through for the day, drain the excess liquid that has accumulated on the dissection table into the bucket located under the table. Wipe up any fluid on the floor.

If unsure of anything, ask first before you make a mistake. Always remember that working with human material requires respect and sensitivity.

COURSE LEARNING OUTCOMES

By the end of this course students should be able to do the following:

1. Demonstrate skill in using laboratory equipment.
2. Recognize and use vocabulary specific to the human body and human health.
3. Recognize the characteristics of the major tissue groups found in the human body and understand their functions.
4. Recognize all the major bones and their processes.
5. Understand the basic physiology of bone tissue and control mechanisms.
6. Recognize the major skeletal muscles, their actions, origins and insertions.
7. Understand basic physiology of muscle tissue.
8. Recognize the organs and various components of the nervous system.
9. Understand the basic physiology of nervous tissue.
10. Recognize the various components of general and special sensory apparatus and their

basic functions.

11. Perform laboratory exercises related to the above course learning objectives, record observations, gather and analyze data.

Exams and Course Grades:

Four written examinations covering lecture and text material will be given during the quarter. Four laboratory exams will test your knowledge of laboratory techniques, principles, and understanding of the experiments performed, as well as anatomical knowledge gained through dissection and use of other study aids related to the human body. Each Lab will have a Short quiz that you will take at ***WileyPLUS.*** These quizzes will become available at the completion of the particular lab and will be open for use for about 48 hours. Please make sure to do these quizzes in time. You can still take a missed quiz but quiz points will be reduced by 50% if you take it late. These quizzes will vary between 16 and 37 questions depending on the lab. All quizzes will be weighted at (.5 pts) per question for calculation of your total points for the quarter.

Your course grades will be basis on your total points derived from lecture and laboratory exams points and the WileyPLUS quizzes. After each set of exams your grade at that point in the quarter will be posted on an excel spreadsheet on my webpage. To view grade you will be given a "grade code name", which you can find on my webpage.

Personal honesty and integrity:

Personal honesty and integrity are the most important attributes of any professional. If you're taking this class, you're most likely planning on entering a professional program that expects those attributes. We **should not** need to address cheating, however, so we know everyone is on the same page: **Cheating** in any form will not be tolerated. Students caught cheating will receive a **zero for the test**. If caught a second time the student will receive a **zero for the class** and will be subject to disciplinary action as detailed by the **Student Code of Conduct**.

Lecture Schedule: Bio& 241: Human Anatomy and Physiology — Gary Blevins
***Winter Quarter* 2017** — Office 28/209
***Lecture:* M/W (11:30 Rm 28-144, 1:30 Rm 28-141)** — 533-3661
e-mail: **Gary.Blevins@Sfcc.spokane.edu**

Date:		***Lecture Topic***	***Reading in Text****
01/	4	**Unit 1/Lecture 1:** Introduction to Anatomical and Physiological Overview, body cavities, and body membranes	1-26
	9	**Unit 1/Lectures 2, 3**Atoms, Molecules; Cellular Structure, Function**	27-98
		Introduction to Tissues and Epithelial Tissue	106-134
	11	**Unit 1/Lecture 4:** Epithelial and Connective Tissue	
	16	***Holiday (No class)***	
	18	**Unit 1/Lecture 5:** The Integumentary System	142-161
	23	***Lecture Exam #1***	
	25	**Unit 2/Lecture 1:** Introduction to the Skeletal System	192-253
	30	**Unit 2/Lecture 2:** Bone Tissue	169-186
02/	1	**Unit 2/Lecture 2:** Bone Tissue:	
	6	**Unit 2/Lecture 3:** Articulations	258-285
	8	***Lecture Exam #2***	
	13	**Unit 3/Lecture 1:** Intro to Muscles	328-333
	15	**Unit 3/Lecture 2:** Muscle Tissue:	291-322
	20	***Holiday (No Class)***	
	22	**Unit 3/Lecture 2, 3:** Muscle Tissue:	
	27	**Unit 3/Lecture 3:** Skeletal Muscle types and Lever Systems	943-952
		Muscle Tissue: Energy	
03/	***1***	***Lecture Exam #3***	
	6	**Unit 4/Lecture 1:** Nervous Tissue: Structural Components	399-436
		Physiology of Nervous Tissue	
	8	**Unit 4/Lecture 2**: CNS: Brain and Spinal Cord Structure	442-460, 473-517
	13	**Unit 4/Lecture 3, 4:** CNS: Brain and Spinal Cord Functions	
	15	**Unit 4/Lecture 5:** Eye Structure and Physiology	579-592
		Unit 4/Lecture 6A, 6B: Auditory Sensations and Equilibrium	595-606
		Unit 4/Lecture 7 ANS Autonomic Nervous System	523-541
	20	***Lecture Exam #4 (11:30)***	
	22	***Lecture Exam #4 (1:30)***	

Textbooks:

*Text: **Principles of Anatomy and Physiology,WILEYPLUS STUD. PKG.** 14th Edition, by Tortora & Derrickson, 2014.
ISBN: 9781118267400
**Ch 2, Pages 28-59, are a review of Gen Biology. See study guide and review as needed.
Atlas: ***A Photographic Atlas for the Anatomy and Physiology Laboratory*****,** 7th ed., 2003, Van De Graff and Crawley, Morton Publishing.

Lab Schedule: Bio& 241: Human Anatomy and Physiology 1
***Winter Quarter*: 2017**
***Labs*: M/W (3:00), T/TH (10:30, 1:00, and 3:00) Room 28/136**

Date:		Topic of Investigation	Reference pages: Altas//textbook
01/	3	No Lab	
	4/5	**Unit 1//Lab 1:** Orientation to A & P Lab Anatomical Terminology; Organ Systems	1-10//1-8, 12-25, 132
	9/10	**Unit 1//Lab 2:** Basic Microscopy Cell Anatomy and Division Epithelial Tissue	11-19// 9-18//60-98 20-22//110-118
	11/12	**Unit 1/ Lab 3:** Connective Tissue & Body Membranes	22-24//121-123
	16	***Holiday***	
	17/18	**Unit 1/ Lab 4:** Integumentary System	29-32//142-161
	19	Open Lab	
	23/24	***Lab Exam #1***	
	25/26	**Unit 2//Lab 1:** Skull	33-49//192-213
	30/31	**Unit 2//Lab 2:** Bones of the Axial Skeleton	47-49//213-216
02/	1/2	**Unit 2//Lab 3:** Appendicular Skeleton	50-57//231-253
	6/7	**Unit 2//Lab 4:** Bone tissue, Articulations and x-rays	24-25, 58-67// 169-182, 259-269
	8/9	***Lab Exam #2***	
	13/14	**Unit 3//Lab 1:** Muscle of the Axial Skeleton	69-83//337-359
	15/16	**Unit 3//Lab 2:** Muscle of the Appendicular Skeleton	75-101//360-391
	20	***Holiday***	
	21/22	**Unit 3//Lab 3:** Muscle Physiology	//302-314
	23/27	**Unit 3//Lab 4:** Muscle Histology	26, 68//292-299
	28	Open lab day	
03/	***1/2***	***Lab Exam #3***	
	6/7	**Unit 4//Lab 1:** Histology of the Nervous System;	27-28, 102//402-409
	8/9	**Unit 4//Lab 2:** Gross Anatomy of the Brain **Unit 4//Lab 3:** Cranial Nerves and Sheep Brain Spinal Cord Anatomy and Spinal Nerves	103-112//474-498 105, 110//502-517 108//442-460
	13/14	**Unit 4//Lab 4:** Anatomy of Eye and Eye Physiology	116-120//579-592
	15/16	**Unit 4//Lab 5:** Ear Anatomy and Physiology	116-120//595-606
	20	***Lab Exam #4 (3:00 M/W lab)***	
	21	***Lab Exam #4 (1:00 T/TH lab)*** ***Lab Exam #4 (3:00 T/TH lab)***	
	22	***Lab Exam #4 (10:30 T/TH lab)***	

***Lab Guide:** **You will be given labs handout for each unit.**