

**California State University, San Marcos General Education Program
GENERAL EDUCATION NEW COURSE CERTIFICATION REQUEST**

• AREA B2/B3: Life Science with a Lab Component
See GE Handbook for information on each section of this form

ABSTRACT

Course Abbreviation and Number: BIOL 175	Course Title: Introduction to Human Anatomy and Physiology for Kinesiology I	
Number of Units: 4 _____		
College or Program: <input type="checkbox"/> CHABSS <input checked="" type="checkbox"/> CSM <input type="checkbox"/> CEHHS <input type="checkbox"/> COBA <input type="checkbox"/> Other _____	Desired term of implementation: <input type="checkbox"/> Fall <input checked="" type="checkbox"/> Spring <input type="checkbox"/> Summer Year: _____	Mode of Delivery: <input checked="" type="checkbox"/> face to face <input checked="" type="checkbox"/> hybrid <input checked="" type="checkbox"/> fully on-line
Course Proposer (please print): Tracey Brown	Email: traceyb@csusm.edu	Submission Date: 12/10/14

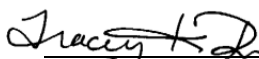
1. Course Catalog Description:

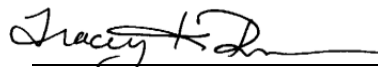
The first in a two-course series designed to introduce the principles of human anatomy and physiology for students in Kinesiology. Taught from a systems perspective students will learn basic physiological principles and mechanisms along with their associated anatomical basis. Includes anatomical terminology, cell and tissue structure and function, basic biochemical and metabolic pathways, nervous system and the senses, and the integumentary, skeletal, muscular, and excretory systems. *Three hours of lecture and three hours of laboratory. Enrollment restricted to Kinesiology majors. Co/pre-req BIOL 104*

2. GE Syllabus Checklist: The syllabi for all courses certified for GE credit must contain the following:

<input checked="" type="checkbox"/>	Course description, course title and course number
<input checked="" type="checkbox"/>	Student learning outcomes for General Education Area and student learning objectives specific to your course, linked to how students will meet these objectives through course activities/experiences
<input checked="" type="checkbox"/>	Topics or subjects covered in the course
<input checked="" type="checkbox"/>	Registration conditions
<input checked="" type="checkbox"/>	Specifics relating to how assignments meet the writing requirement
<input checked="" type="checkbox"/>	Tentative course schedule including readings
<input checked="" type="checkbox"/>	Grading components including relative weight of assignments

SIGNATURES

 12/11/14
Course Proposer Date

 12/11/14
Department Chair date

Please note that the department will be required to report assessment data to the GEC annually. _____
DC Initial

_____ Support Do not support*

Library Faculty Date

_____ Support Do not support*

Impacted Discipline Chair Date

_____ Support Do not Support*

Impacted Discipline Chair Date

_____ Approve Do not Approve

GEC Chair Date

*** If the proposal is not supported, a memo describing the nature of the objection must be provided.**

Course Coordinator: _____ Phone: _____ Email: _____

From: Tracey Brown
Sent: Thursday, December 11, 2014 4:57 PM
To: Julie Jameson; Marshall Whittlesey
Subject: Last ONes
Attachments: BIOL_175_recert_v3.pdf; BIOL_177_recert_v3.pdf;
BIOL_211_recert_Robert.docx

Hi,

Here are the forms for BIOL 175/177 – this is essentially the same course but one is restricted to nursing majors and the other to kine – thus the forms are nearly identical

Also is the updated version of the BIOL 211 with the suggested changes from the librarian. I think Julie already has the signature page from Rob and I (but I have done the changing).

Hopefully this is the last of it!

Thanks,

Tracey

From: Talitha Matlin <tmatlin@csusm.edu>
Date: Monday, December 15, 2014 9:57 AM
To: jjameson <jjameson@csusm.edu>
Subject: Re: Last ONes

Hi Julie,

These all look good to me and have library sign-off.

Talitha

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*Part A: B2/B3 Life Science with Lab General Education Learning Outcomes (GELOs) related to course content.
[Please type responses into the tables.]*

Life Science w/ Lab GELOs this course will address:	Course content that addresses each GELO.	How will these GELOs be assessed?
B2.1: Students will state or identify accepted modern biological principles and/or use knowledge of those principles to solve problems in the biological sciences.	The course establishes the foundation and fundamental principles of human anatomy and physiology. Basic premises such as the levels of organization of the human body beginning with the molecular level through to the organismal level, the complementarity of structure and function, anatomical and physiological terminology, directional terminology, and planes of section. Students must understand and define the universal anatomical position used in all fields of healthcare. These are covered in lecture and lab and through analysis of case studies.	Lecture exam questions will ask student to label a diagram indicating anatomical positions (posterior, anterior) or muscle movement (adduction, abduction). The will also be labeling organs, muscles, bones etc. and categorizing into organizational levels
B2.2: Students will describe and apply the discipline's primary methods to problems through hypothesis development, critical evaluation of evidence, data collection, fieldwork, and/or employment of mathematical and computer analysis.	The course defines and compares the different ways anatomical and physiological sciences are studied from conception through adulthood. Techniques studied and applied include different types of medical imaging, as well their appropriate uses and limitations. Other techniques including auscultation, blood analysis, spirometry, urinalysis, neurological testing, and an understanding the types of information these tests can yield to the examiner.	Laboratory experiments using PowerLabs with various medical attachments. Physical examination and testing such as reflexes and balance, surface and regional anatomy, and dissection. Assessed by student data acquisition and lab reports.
B2.3: Students will describe various theories relevant to the discipline.	Emphasis is placed on maintenance of homeostasis by integrating the roles organs play concept that a change in structure of an organ through a pathological mechanism will alter the organ's ability to function	An example lecture exam question would be asking them to describe the theory of muscle contraction from excitation to tension production
B2.4: Students will identify the limitations of scientific endeavors.	Technical aspects of Experimentation and observations as well as what types of information they yield are presented and compared in lecture and lab	An example would be asking the students to evaluate the research surrounding vitamin supplements. What has been tested and what might just be commercial fallacy
B2.5: Students will identify and consider the value systems and ethics associated with human inquiry.	Complexity and intricacy of human structure and physiology and –apply knowledge of anatomy and physiology to reinforce critical thinking skills and problem solving to human case studies.	Students will be evaluating case studies involving ethical treatment of patients and research animals.
B3.1 Students will demonstrate that they can conduct experiments, make observations, or run simulations using protocols and methods common in the scientific discipline in which the course is offered.	Students apply protocols to conduct laboratory experiments and observation. Observation includes dissection and study of structure at the microscopic level. Computer simulations are used to replace experiments that require advance surgery of laboratory animals.	Lab experiments include physiological responses to stimuli such as cold stress, exercise, changing body position, light levels and others.
B3.2 Students will be able to interpret the results of experiments, observations or simulations,	Conduct experiments. Students collect data; analyze and graph data, make conclusions and interpret meaning and explain application	Submitted lab reports that include written summaries of their results, interpretations and conclusions.

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understanding random and systematic errors associated with those activities, and making appropriate conclusions based on theories or models of the scientific discipline in which the course is offered.		
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Part B: General Education Learning Outcomes required of all GE courses related to course content:

GE Outcomes required of all Courses	Course content that addresses each GE outcome?	How will these GELOs be assessed?
Students will communicate effectively in writing to various audiences. (writing)	Students will be using short and long written communication in both lecture quizzes and lab reports (6 to 8 per semester).	Students are graded on their ability to summarize observations, experiments and data interpretation in their written lab reports.
Students will think critically and analytically about an issue, idea or problem. (critical thinking)	Case studies and interactive computer programs are used to help students think critically, analyze, diagnose and speculate on prognoses.	Students will submit answers to questions about these case studies, including their own perspectives. They will also summarize the results of the comp. simulations
Students will find, evaluate and use information appropriate to the course and discipline. (Faculty are strongly encouraged to collaborate with their library faculty.)	Much of this course involves having students learn to distinguish between research supported theories and medicine vs. more popular science. Specifically they need to do so for their lab reports.	Part of their lab report paper grade is based on their ability to incorporate external references and studies, with proper citation style and usage.

Part C: GE Programmatic Goals: The GE program aligns with CSUSM specific and LEAP Goals. All B2/B3 courses must meet at least one of the LEAP Goals.

GE Programmatic Goals	Course addresses this LEAP Goal:
LEAP 1: Knowledge of Human Culture and the Physical and Natural World.	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
LEAP 2: Intellectual and Practical Skills	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
LEAP 3: Personal and Social Responsibility	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
LEAP 4: Integrative Learning	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
CSUSM Specific Programmatic Goals	Course content that addresses the following CSUSM goals. Please explain, if applicable.
CSUSM 1: Exposure to and critical thinking about issues of diversity.	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (please describe): <i>The principles of Human anatomy and physiology are shared by all people regardless of race, ethnicity. Adaptive variations of people living in certain environments are explained through the sciences of genetics and natural selection</i>
CSUSM 2: Exposure to and critical thinking about the interrelatedness of peoples in local, national, and global contexts.	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (please describe):

Part D: Course requirements to be met by the instructor.

Course Requirements:	How will this requirement be met by the instructor?
Course meets the All-University Writing requirement: A minimum of 2500 words of writing shall be required in 3+ unit courses.	Students submit several lab reports per semester. They are asked to analyze data, explain their results, write conclusions and explain how their experimental results apply to real-life situations.
Courses in the life sciences will take as their primary	Anatomical studies are built upon understanding levels

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<p>focus such concepts found in traditional life science disciplines (e.g., levels of organization of living systems, from molecules to ecosystems, structures and functions of living organisms, principles of genetics, patterns and theories of evolution, interactions of organisms with each other and their environment).</p>	<p>of organization from the molecular to the integrated whole organism. Techniques used to study each level and what information each contributes to an understanding of human anatomy and physiology, are defined, explored and put into practice through microscopic analysis, dissection, and physiological experimentation.</p>
<p>Courses will require students to develop an understanding of the core information sources and the literature of the science disciplines.</p>	<p>The work of early anatomists and physiologists is used to give students a sense of background and continuity to present day knowledge and techniques. Students will also learn to incorporate current scientific literature.</p>
<p>Courses will require students to think critically so that they are able to distinguish scientific arguments from pseudo-scientific myths or opinions.</p>	<p>Analysis of data and application of basic science to reach reasonable conclusions. Myths such as men having one less rib than women, etc. are debunked when students observe with their own eyes and hands human structure and function.</p>

HUMAN ANATOMY & PHYSIOLOGY

Biology 177 – Kinesiology Majors

Dr. Raymond Clark

(760) 295-4070 | raclarkmcs@gmail.com

Office Hours: Monday 8:15-9:00 AM SH2 125; Thursday 8:45-9:30 AM SH2 121

Course Information:

Lecture: Monday/Wednesday 7:00 – 8:15 AM SBSB 1102

Lab: Wednesday 9:00 – 11:45 or 12:15 – 3:00 PM, Science Hall 2, Room 142

Course Description

This course is the first in a series of two courses integrating human anatomy and physiology. In this course we will take a systems approach to understanding basic human structure and function. Material covered in this course includes basic anatomical terminology, tissue histology, tissue/organ structure and function, and some pathobiology (diseases and disorders) to provide perspective. The specific systems we will cover in the first semester include basic biochemical and metabolic pathways, cell and tissue structure and function, and comprehensive examinations of the integumentary, skeletal-muscular systems and the nervous system (we'll pick up the rest of the nervous system in the second semester).

GE LEARNING OUTCOMES

B2.1 Students will state or identify accepted modern biological principles and/or use knowledge of those principles to solve problems in the biological sciences.

B2.2 Students will describe and apply the discipline's primary methods to problems through hypothesis development, critical evaluation of evidence, data collection, fieldwork, and/or employment of mathematical and computer analysis.

B2.3 Students will describe various theories relevant to the discipline.

B2.4 Students will identify the limitations of scientific endeavors.

B2.5: Students will identify and consider the value systems and ethics associated with human inquiry

Course Learning Outcomes – Students will:

1. Develop a vocabulary of appropriate terminology to effectively communicate information related to anatomy and physiology.
2. Recognize the anatomical structures and explain the physiological functions of body systems.
3. Recognize and explain the principle of homeostasis and the use of feedback loops to control physiological systems in the human body.
4. Use anatomical knowledge to predict physiological consequences, and use knowledge of function to predict the features of anatomical structures.
5. Recognize and explain the interrelationships within and between anatomical and physiological systems of the human body.

6. Synthesize ideas to make a connection between knowledge of anatomy and physiology and real-world situations, including healthy lifestyle decisions and homeostatic imbalances.
7. Demonstrate laboratory procedures used to examine anatomical structures and evaluate physiological functions of each organ system.
8. Interpret graphs of anatomical and physiological data.

Required Materials

Required Textbook and Lab Manual

- Visual Anatomy & Physiology, by Martini et al. (2nd edition).
- Laboratory Investigations in Anatomy & Physiology (pig edition), by Stephen Sarikas.

A note on the textbook: I do not assign specific readings from the textbook. The textbook, along with the lab manual and Mastering A&P, is an important resource for you to use to better understand the structures and concepts we cover in class. I will NOT pull test questions from materials in the text unless I have covered them in lecture (lecture notes). However, do not make the mistake of thinking that you won't need the textbook – you MUST have a copy as well as access to Mastering A&P. If you prefer to purchase an older edition of the text and separate access to Mastering A&P that is acceptable.

Online Materials: Your textbook and lab book are packaged together with online access to the Pearson website and a registered link to **Mastering A&P**. We will be using Mastering A&P throughout the semester as a learning tool in both lecture and lab. It includes animations, labeling exercises, flash cards, suggestions for studying A&P, games and other interactive exercises that will help you succeed in the course. **You must register at the beginning of the semester.** See *“How to Use Mastering A&P”* later in *this syllabus*.

Other Materials:

- You may want to purchase/bring a USB (thumb) drive to save data from physiology experiments.
- You may wish to purchase a dissecting kit – we have some older tools, but they are not in great shape.
- A set of colored pencils would be very useful for drawings or diagrams.

Cougar Courses

This course relies heavily on Cougar Courses as a Learning Management System. All materials for the course (lecture notes, PowerPoint Presentations, supplemental images and videos, pictures of models and dissection, and grades) are posted in Learning Modules. You should check Cougar Courses daily for announcements so that you are aware of what is happening in the course. You can access Cougar Courses at <http://cc.csusm.edu>.

Important Dates:

Add/Drop Period:	Aug 25 – Sep 8
Last day to drop with no notation on transcript	Sep 8
Last day to drop with a “W” grade	Sep 22
Final Exam	Dec 8 (7-9AM)

Grading

Grades are based solely on your performance on exams and assignments – there are no extra credit projects or points for attendance. Grades are determined by the percentage of total points accumulated during the semester. Points are earned through exams, quizzes, laboratory practica, lab assignments (including your mannikins) and lab reports. You will receive one combined lecture/laboratory grade for the course.

Lecture Exams

There will be four lecture exams including the final exam. Each exam is worth 100 points. The material being tested will include everything covered in lecture since the previous exam (consult your calendar for specifics). Exams will be a mixture of testing questions, including multiple-choice, short answer, true/false, calculations, fill-in-the blanks, short essays, etc. **The final exam will NOT be comprehensive.**

Please bring a calculator to all quizzes and exams – just in case. Cell phones are NOT acceptable as calculators, and you may not share calculators. You can get a basic four-function calculator for less than \$5.

Exam Policies

1. If you are uncertain about what is being asked, please ask. Questions during the exam are permissible, and I may share my answer with the rest of the class.
2. There is no leaving the room for any reason during the first 30 minutes of an exam. If you have a medical reason that makes this difficult or impossible, please let me know ahead of time. After that time I will allow restroom trips for one person at a time. You must surrender your smart phone to me before you leave.
3. Please have everything you need ready before the exam (erasers, calculator, pencils, tissues, etc.). Digging through your bags during the exam is disruptive.
4. Sometimes the space provided for the answer may prove insufficient. If that is the case, make it clear where you have continued to write your answer – don't make me hunt and guess – because I won't.). I will provide additional blank pages upon request.
5. Please try to use good penmanship.

6. If you miss an exam, I offer a single **comprehensive** makeup exam at the end of the semester. Makeup exams are offered only under extreme circumstances and verification of the reason for your absence may be required (doctor's note, hospital admission paperwork, etc). I reserve the right to modify this makeup policy. **There are NO makeups of lab practical exams.**

Quizzes

There will be a short lecture quiz at the beginning of each lab session that covers lecture material from the previous week. Each quiz will be worth 10 points (a total of 12 quizzes), and you can drop your lowest quiz score. (110 points)

Laboratory

Evaluation of the laboratory portion of the course will be based on lab practicums (2 @ 100 pts each), Lab Review Exercises (14 @ 10 points each), Manikin exercises (6 @ 20 points each), and physiology lab reports (2 @ 25 points each).

What is a lab practical? Practical exams consist of a number of stations set up on the benches in the room. Each station has an object and a set of questions that you will need to answer related to the object. The exam will begin with each student having 2.5 minutes per station (one student per station), moving to the next station in order until each student has visited all stations. At that point you will have the remaining lab time to circulate freely among the stations to answer questions you couldn't finish before. There are **NO** makeups for the lab practicals.

Late Assignments:

Late lab exercises, physiology lab reports (**meets University Writing Requirement**) or manikin exercises will lose 10% of possible points/day. If they are not turned in by the following Monday (during lecture) they will not be accepted (zero points).

Extra Credit:

I reserve the right to offer extra credit questions on exams or practicals. I may offer a one-time practice practical with a few extra credit points available. There are no other extra credit assignments, nor do I offer extra credit for trying hard (although I certainly appreciate the effort).

	Approximate Points Possible
Exams	= 400 pts
Laboratory Practical Exams	= 200 pts
Quizzes	= 110 pts
Sarikas Lab Review Exercises (12)	= 120 pts
Physiology Lab Reports (2)	= 50 pts
Manikin Exercises (6)	= 120 pts
Total Points	= 1000 pts

Letter grades are not given for individual assignments – I only provide numerical scores. I will provide a breakdown of scores following each exam so that each of you will know how you did relative to the class. Final Grade Scale: A = 90-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = under 60%. Percentages will be calculated based on the total points possible.

Attendance:

Attendance is **expected** for both lecture and laboratory class meetings. Plan to be on time for class and be prepared to stay the entire time unless released by your instructor.

- ***If you do not attend regularly you will be dropped from this class.***
- ***If you leave lab early without permission from the instructor you will lose credit for that lab assignment.***
- ***If you skip lab without getting advance permission from the lab instructor you will not receive credit for any graded assignment that was part of that lab session.***
- ***If you miss 3 or more labs, you will receive a failing grade for the course.***

The policy of the Kinesiology Department is that you will get only chance to take this course. If you do not pass the first time, you will have to take the course over elsewhere, or you will have to get in the back of the line behind new students who have not yet had the opportunity to take this course. Therefore, be sure you are ready and have the time necessary to take this course. If you find yourself falling behind or not doing well on quizzes, then seek help of consider dropping the course.

Enrollment and Dropping:

It is your responsibility to ensure you are properly enrolled. If you decide not to continue in this course you must drop it officially. If you stop attending class without dropping it officially, I will have no choice but to assign you an "F" grade.

Tardy Policy:

If you come to class after it begins, please enter quietly and take a seat with a minimum of disruption. As with absences, if you have a good reason why you expect to be late to class on a given occasion, please inform me ahead of time. You are responsible for making sure that you have any materials or information which you have missed.

Cell Phones and other Communication Devices:

All communications devices such as cell phones, pagers, wireless-enabled PDAs, and such should be turned off while in the lecture room or laboratory. Anyone using a phone, instant messaging, or any such activity during class time will be asked to leave the class, and will be considered to have been absent without excuse during that class session. If you believe that your circumstances warrant an exception to this policy, talk to me before class.

Academic Honesty:

Any form of cheating/plagiarism will not be tolerated. This includes on homework, lab report and other graded assignments and exams. You must not copy word-for-word from any source, including classmates. All of your work must be in your own words. Cheating also includes using unauthorized materials during the exam, leaving the classroom (for any reason) with testing material, or showing, giving, and/or receiving answers during the exam. Any cheating (as per the definition above) will at the MINIMUM receive zero points on that assignment. You may also receive an F for the course, be dropped from the course, or even be expelled from the University, depending on the severity of the infraction. ALL incidents of cheating will be reported to the Dean. It is also considered cheating to plagiarize or present someone else's data as your own and to copy someone else's reports except when permission for group work has been given by the instructor. If you have a question about whether something would constitute dishonest behavior, consult with me beforehand. You can also consult the college catalog for more information on this issue.

How to be an A&P Survivor

Anatomy & Physiology is a **very intensive class** designed for CSUSM students in the Kinesiology program. It is assumed that students will enter the course with a working knowledge of basic human biology and foundational chemistry. This is a **difficult and time-consuming** course, and it will move rapidly through the structure, functions, mechanisms, and interrelationships of the human organ systems. To do well in this course you will need to keep up with material on a daily basis. Attend all lectures, take copious notes (on top of the lecture handouts that I provide), and go over your notes (copying them into your own words is even better!) while the lecture is fresh in your mind. Use the textbook and Mastering A&P resources to fill in gaps, correct uncertainty, and test your knowledge. Make sure you **understand the material**; memorizing facts without being able to integrate facts and concepts will not help you pass the course. **One of the best ways to study for this class is to teach what you have learned to a fellow classmate or friend; this often helps you to see areas that you thought you understood but really haven't mastered.**

How to use Mastering A&P

First, login to the program. There is an activity that takes you through how to get the most out of the program. **DO THIS!** In the upper right hand corner of the home page you will see a tab "My Study Area". Clicking on this tab will take you to a page with materials for each chapter in the book. Here are some of the resources available to you:

- E-book version of your textbook. Now you don't have to carry it everywhere!
- Review Exercises and Practice Quizzes/Tests. I don't grade these, so don't feel embarrassed if you don't do well at first. Practice more!
- MP3 Lab Tutor. A very helpful resource that explains difficult topics
- Art Labeling Activities. Very useful for visual learners.
- A&P Flix. Movies with quizzes to help you understand more
- Practice Anatomy Lab 3.0. A remarkable resource with histology, models, cadavers, pigs, cats, pronunciations of terminology and more. Check it out! It even has self-test questions similar to our lab practicals.
- A glossary and Flashcard maker.

Students with Disabilities

Students with disabilities who might need academic accommodations must present me with the appropriate documentation from the Office of Disabled Student Services (DSS, Craven Hall 4200; 750-4905) at the beginning of the semester. Please see me during my office hours (or contact me separately) so we can discuss how best to accommodate your needs and to sign the necessary paperwork.

**ANATOMY & PHYSIOLOGY (BIO 177)
FALL 2014 COURSE CALENDAR**

Week	Date	Lecture Topic	Mastering A&P Suggested Activities	Chapter	Laboratory Topic	Lab Assignments
Week 1	8/25	Introduction; Cougar Courses and Mastering A&P; How to succeed in A&P	Go to My Study Area <ul style="list-style-type: none"> Do Mastering A&P tutorials Take the "Get Ready for A&P" Diagnostic test. Explore! 		<ul style="list-style-type: none"> Safety and Code of Conduct Microscope Lab (Sarikas Exercise 2) 	<ul style="list-style-type: none"> Sarikas Exercise 2 Review Sheet (due 9/13) Turn in safety forms Use of lab laptops
	8/27	Lecture 1: Principles of Anatomy & Physiology; Levels of Organization	My Study Area (Ch 1) <ul style="list-style-type: none"> Make flashcards Labeling activities 1.5, 1.7 	1.1-1.16		
Week 2	9/1	Labor Day Holiday – No Classes			Quiz 1 Manikins <ul style="list-style-type: none"> Video on how to build muscles Begin building muscles 	<ul style="list-style-type: none"> Turn in Sarikas Exercise 2 Sign-up sheet for manikins
	9/3	Lecture 2: Body Cavities; Homeostasis	<ul style="list-style-type: none"> MP3 Tutor Session: homeostasis Labeling activities (1.12, 1.15, 1.16) 	1.12-1.13 & 1.17		
Week 3	9/8	Lecture 3: Energetics, Cell Anatomy and Physiology; Cell membrane structure/function	<ul style="list-style-type: none"> Labeling activity 3.1 	2.6 3.2-3.12	Quiz 2 Body Regions & Terminology <ul style="list-style-type: none"> Anatomical terminology, body regions, planes & sections, and directional terms (Sarikas Exercise 1) Textbook 1.15-1.16 	<ul style="list-style-type: none"> Sarikas Exercise 1 (due 9/17)
	9/10	Lecture 4: Diffusion, Osmosis and Tonicity	<ul style="list-style-type: none"> View osmolarity video (link in Cougar Courses - CC) 	3.13-15		
Week 4	9/15	Lecture 5: Membrane Transport Mechanisms	<ul style="list-style-type: none"> MP3 Tutor Session on Membrane Transport View A&P Flix on Membrane Transport 	3.16-3.17	Quiz 3 Membrane Transport <ul style="list-style-type: none"> Read Sarikas Exercise 4 Do Sarikas Exercise 4.1 Download and do Membrane Transport Experiment (CC) 	<ul style="list-style-type: none"> Turn in Sarikas Exercise 1 Sarikas Exercise 4 Review Sheet (due 9/24) Membrane Transport Lab (due 9/24)
	9/17	Lecture 6: Epithelia and Connective Tissue Proper	<ul style="list-style-type: none"> Labeling activities 4.3, 4.5, 4.5 MP3 Tutor Session on Epithelial Tissue Try out PAL Histology 	4.1-4.11		
Week 5	9/22	Lecture 7: Integumentary System	<ul style="list-style-type: none"> PAL 3.0 histology module on integumentary system MP3 Tutor Session on Integument Labeling activities 5.2, 5.4, 5.7, 5.8, 5.5.2 	4.14 5.1-5.10	Quiz 4 Epithelia, Connective Tissues and Integumentary System <ul style="list-style-type: none"> Sarikas Exercise 5 and 6 (not cartilage, bone or blood) Histology slides Box 1 (1, 3, 4, 7, 9-14, 16, 17, 22, 23) Histology Handout (CC) Study Integumentary Model (images in CC) 	<ul style="list-style-type: none"> Turn in Sarikas Exercise 4 and Lab Report Do histology handout for epithelia and CT proper (due 10/1) Do Sarikas Exercises 5 and 6 (due 10/1)
	9/24	Lecture 8: Skeletal System overview; Cartilage and Bone Histology (on Exam II)	<ul style="list-style-type: none"> PAL 3.0 histology module on bone, cartilage Labeling activity 4.12 	4.12-4.13 6.1-6.5		

Week 6	9/29	Exam I	Only lecture material through 9/22		Quiz 5 Histology of Cartilage and Bone	<ul style="list-style-type: none"> • Finish Sarikas Ex. 5 (cartilage and bone) • Turn in Sarikas Exercise 5 and 6 • Turn in histology handout • Do Sarikas Exercise 7 Review Sheet (due 10/22)
	10/1	Lecture 9: Bone growth and bone physiology; bone pathologies	<ul style="list-style-type: none"> • PAL 3.0 to study bones (models and cadaver) • All axial skeleton labeling activities 	6.6-6.10, 6.12	<ul style="list-style-type: none"> • Sarikas Ex. 5 (p 61-64), Ex. 7 (activity 7.3) • Examine fresh cartilage • Examine cartilage and bone (Box 1: 14, 17; Box 2: 1, 2) 	
Week 7	10/6	Lecture 10: axial skeleton (skull)	<ul style="list-style-type: none"> • Same as above 	7.1-7.12	Quiz 6 Axial Skeleton (Sarikas Ex. 7)	<ul style="list-style-type: none"> • Continue working on Sarikas Exercise 7 (due 10/22)
	10/8	Lecture 11: Axial skeleton continued Lecture 11: Axial and Appendicular Skeleton	<ul style="list-style-type: none"> • Same as above • Labeling activity 7.14 	7.13-7.17	<ul style="list-style-type: none"> • Vertebral Column (activities 7.9-7.10) • Thoracic cage (activities 7.12-7.13) 	
Week 8	10/13	Lecture 12: Appendicular Skeleton	<ul style="list-style-type: none"> • PAL 3.0 • Labeling activity 7.14, 7.16, 7.17, 7.20 • 	7.18-7.21	Quiz 7 Appendicular Skeleton and Articulations	<ul style="list-style-type: none"> • Do Sarikas Exercise 8 and 9 Review Sheets (due 10/29) • Turn in Manikin exercises 1 & 2
	10/15	Lecture 13: Appendicular skeleton and articulations	<ul style="list-style-type: none"> • Same as above • All Chapter 8 labeling activities • Animations (Ch. 8) • MP3 Tutor Session on Types of Joints and their Movements • Check out the A&P Flix on Group Muscle Actions and Joints 	8.1-8.7		
Week 9	10/20	Lecture 13: Appendicular skeleton and articulations	<ul style="list-style-type: none"> • Same as above 	8.8-8.9	Practical I	<ul style="list-style-type: none"> • Turn in Sarikas Exercise 7 Review Sheet

	10/22	Lecture 14: Skeletal Muscle Anatomy and Physiology (on Exam III)	<ul style="list-style-type: none"> • MP3 Tutor Sessions • Interactive Physiology activities are useful • Check out the A&P Flix <ul style="list-style-type: none"> ○ Events at the neuro-muscular junction ○ E-C Coupling ○ Cross Bridge Cycling 	9.1-9.5		
Week 10	10/27	Exam II	Lecture material from 9/24 through 10/20		Quiz 8 Skeletal Muscle	<ul style="list-style-type: none"> • Turn in Sarikas 8 & 9 Review Sheets • Turn in Manikin Exercises 3 & 4 • Begin working on Sarikas 10, 11
	10/29	Lecture 15: Functional Properties of Skeletal Muscle	<ul style="list-style-type: none"> • Same as on 10/22 	9.6-9.15	<ul style="list-style-type: none"> • Sarikas Ex. 10, 11 (start) • Model of microscopic anatomy of muscle • Histology Slides (Box 1:18-20) • Read Sarikas Ex. 12 • Lab Tutor Demonstration (muscle dynamics) • Study human models (arm, leg, muscled torso, her-man) • See Cougar Courses for list of muscles to know on models 	
Week 11	11/3	Lecture 16: Axial Muscles	<ul style="list-style-type: none"> • PAL 3.0 models, histology • Labeling activities 10.4, 10.6 • A&P Flix on Origins, Insertions, Actions and Innervations • A&P Flix on Group Muscle Actions and Joints 	10.1-10.8	Quiz 9 Gross Anatomy of Muscular System	<ul style="list-style-type: none"> • Turn in Sarikas Ex. 10 Review Sheet • Turn in Manikin exercises 5 & 6 • Continue working on Sarikas Ex. 11
	11/5	Lecture 17: Axial and Appendicular Muscles	<ul style="list-style-type: none"> • Same as above • Labeling activities 10.11, 10.19-20 • Make flash cards of muscles 	10.9-10.18		

Week 12	11/10	Lecture 18: Appendicular muscles	<ul style="list-style-type: none"> • Same as above 	10.19-10.22	Quiz 10 Muscle physiology and anatomy <ul style="list-style-type: none"> • Lab Tutor on electromyography • Sarikas 12.1-12.5 • Continue building muscles 	<ul style="list-style-type: none"> • Turn in Sarikas Ex. 11 Review Sheet • Work on Sarikas 12 Review Sheet (due 11/19) • Turn in Manikin Ex. 7
	11/12	Lecture 19: Nervous System and Nervous Tissue (on final exam)	<ul style="list-style-type: none"> • Labeling activities 11.2, 11.3, 11.5, 12.5 • Interactive Physiology <ul style="list-style-type: none"> ○ Orientation ○ Anatomy Review (neurons) ○ Ion channels ○ Resting Membrane Potential ○ Action Potential 	4.16 11.1-11.5		
Week 13	11/17	Exam III	Lecture material from 10/27 through 11/10		Quiz 11 Neurophysiology and Histology <ul style="list-style-type: none"> • PhysioEx Neurophysiology Lab Activity • Sarikas Ex. 13 • Histology slides (box 2: 15-20) • Study models of axon terminal and model of cell body/axon. • Pictures of models and histology are in CC 	<ul style="list-style-type: none"> • Turn in Sarikas Ex. 12 Review Sheet • Work on Neurophysiology Lab Report (due 11/26) • Turn in Manikin exercise 8
	11/19	Lecture 20: Neuroglia and Neurophysiology	<ul style="list-style-type: none"> • MP3 Tutor Session on Generation of an Action Potential • Interactive Physiology <ul style="list-style-type: none"> ○ Nervous System II Anatomy Review ○ Synaptic Transmission ○ Ion Channels 	11.6-11.8		
Week 14	11/24	Lecture 21: Neurophysiology	<ul style="list-style-type: none"> • Same as above 	11.9-11.13	Quiz 12 Brain and Cranial Nerves <ul style="list-style-type: none"> • Sarikas Ex. 14 • Dissect sheep brain • Study human brain models and ventricles • Pictures of models in CC 	<ul style="list-style-type: none"> • Turn in Neurophys. Lab report • Turn in Manikin exercise 9 • Work on Sarikas Ex. 14 Review Sheet (due 12/3)
	11/26	Lecture 22: CNS - Brain	<ul style="list-style-type: none"> • PAL 3.0 brain models • Labeling activity 13.8 • MP3 Tutor Session Sensory and motor pathways 	13.2-13.8		
Week 15	12/1	Lecture 23: CNS - Brain	<ul style="list-style-type: none"> • See above 	13.9-13.12	Lab Practical II	<ul style="list-style-type: none"> • Turn in Sarikas Ex. 14 review sheet
	12/3	Lecture 24: Finish Brain, Review	<ul style="list-style-type: none"> • See above 	13.9-13.12		
Final Exam	12/8	Final Exam 7:00 – 9:00 AM				

I anticipate having Review Exercises from Sarikas Lab Manual scanned and loaded into Cougar Courses so that you won't have to tear them out of your book. It is your choice whether you want to use these.