

**Suffolk County Community College  
Eastern Campus - Riverhead, New York**

Anatomy and Physiology II – BIO132  
Fall 2009  
CRN # 91272 Section # 300

Instructor: Amy Warena Czura, Ph.D.  
(pronounced: dok ter zhur ra)  
**czuraa@sunysuffolk.edu**  
(\*email is the best way to reach me!!!)  
Shinnecock 219  
548-2628 (Department secretary)  
548-3560 (Dr. Czura's voice mail)  
web site: **<http://www2.sunysuffolk.edu/czuraa>**

Office Hours:  
Tuesday 7:50 – 8:20, 11:50 – 1:00  
Wednesday 9:15 – 11:00  
Thursday 7:50 – 8:20, 11:50 – 1:00  
Or by appointment  
Anytime via email!

Textbooks: Fundamentals of Anatomy and Physiology, Seventh Edition ISBN# 9780805383126 or Eighth Edition ISBN# 9780321505712, by Frederic H. Martini, Benjamin Cummings, 2006 or 2009.

\*\*Note: if you have another current college-level Anatomy and Physiology text such as Marieb or Tortora you do not have to purchase this particular book, assuming you take good notes in class and are capable of self-guided reading. See me if you have questions.

Human Anatomy and Physiology Laboratory Manual Cat Version, Eighth Edition ISBN# 9780805372533 or Ninth Edition ISBN# 9780805372632 by Elaine N. Marieb, Benjamin Cummings, 2005 or 2008.

\*\*Everyone will need his/her own copy of this lab text.

Supplemental study aides (completely optional):

A Visual Analogy Guide to Human Anatomy & Physiology, by Paul A. Krieger, Morton Publishing Company, 2009. ISBN# 9780895828019 (There are also just the Anatomy (ISBN# 9780895826596) or just the Physiology (ISBN# 9780895827074) versions available)

Anatomy and Physiology Revealed 2.0 CD-ROM, McGraw-Hill, 2008.

ISBN#978-0-07-337807-7 or purchase a one-year subscription at <http://www.mhhe.com/biosci2/anatomyrevealed/> (Be careful on Amazon or similar shopping sites: earlier versions do not have all the body systems like 2.0 or the on line access do.)

\*Supplemental study aides are available at the Eastern Campus Library at the reserve desk under Czura. This collection includes a copy of each of the above supplements as well as other coloring books, atlases, teacher's editions with study questions answers, flash cards, and copies of lectures notes and lab materials. A complete listing is available on my website <http://www2.sunysuffolk.edu/czuraa>

Required materials for in class use:

1. Notebook paper or printed notes from the website pertaining to the chapter being discussed
2. Writing implements
3. Instructor provided handout pertaining to the chapter being discussed
4. Lab book for use during lab periods

### Course description:

This course will introduce students to the basic structure and function of the human body. Students will learn general chemical principles and basic cellular biology in order to better understand the principles of human biology. A variety of anatomical terms and physiological functions pertaining to the human body will be explored. When appropriate, active dissection and observational specimens will be utilized to demonstrate anatomical features.

In the second half of the two-semester Anatomy and Physiology course, students will study the circulatory system, lymphatic system, digestive system, respiratory system, urinary system, reproductive system, and endocrine system focusing both on the anatomical features as well as achieving an understanding of their actions and functions. Students will also gain an understanding of metabolism and electrolyte balance, human development, and genetic inheritance. Recall of basic cell biology, chemistry and histology knowledge gained in Anatomy and Physiology I will be necessary to fully understand how the organ systems work together to maintain homeostasis and life.

### Instructional goals/learning objectives:

Students will demonstrate a gain in the intimate knowledge of the molecular, cellular, and histological knowledge of the human body. Instructional goals include, but are not limited to, the following:

Outline the role of blood in the cardiovascular system and characterize the plasma.

- Introduce the blood, heart, and blood vessels.
- Describe the functions and physical characteristics of blood.
- Describe the principal components of plasma, and give their abundance.

Characterize the red blood cells.

- Describe the form and functions of red blood cells.
- Describe the structure of hemoglobin and indicate its functions.
- Describe the recycling system for senescent RBCs.
- Outline the process of erythropoiesis, including regulation.
- Explain the significance and mechanism of ABO and Rh blood typing.

Characterize the white blood cells.

- Present the general properties of white blood.
- Describe each type of WBC, including structure, function, and regulation.

Describe the four phases of hemostasis.

- Characterize the vascular phase, and its relation to the platelet phase.
- Characterize the platelet phase and its relation to the coagulation phase.
- Characterize the extrinsic, intrinsic, and common pathways of coagulation.
- Discuss clot dissolution.

Provide an overview of the cardiovascular system and describe the anatomy of the heart.

- Introduce the components of the pulmonary and systemic flow circuits.
- Describe the location and general features of the heart.
- Describe the structure and functions of the pericardium.
- Trace the flow of blood through the heart; identify the great vessels, the chambers, and valves.
- Identify the layers of the heart wall.
- Describe the coronary circulation.

Present the anatomical and physiological basis of the heartbeat.

- Describe the phases of the cardiac action potential.
- Describe the components and function of the conducting system.
- Identify the waves in the normal electrocardiogram and relate them to electrical events in the heart.
- Explain the events of the cardiac cycle, including atrial and ventricular systole and diastole.

Present an account of cardiac output and the factors that impact it.

- Define cardiac output, and describe the factors that determine it.
- Describe the variables that influence heart rate and stroke volume..
- Explain how adjustments in stroke volume and cardiac output are coordinated at different levels of activity

Present the functional anatomy of blood vessels.

- Distinguish the arteries, capillaries, and veins, and subsidiary vessels.
- Describe the microcirculation and capillary exchange.

Present the basis for the physiology of circulation.

- Explain the hemodynamics of flow through arteries, capillaries, and veins.
- Describe the control and regulation of blood pressure.
- Describe the mechanism of lymph formation.

- Describe how central and peripheral mechanisms interact to regulate tissue blood flow.
- Present examples of circulatory function in special circumstances.
- Explain how the circulatory system responds to the demands of exercise, hemorrhaging, and shock.
  - Identify the differences between fetal and adult circulation.
  - Describe the changes that occur in the patterns of blood flow at birth.
  - Discuss the effects of aging on the cardiovascular system..
- Present an overview of the components of the lymphatic system and body defense.
- Explain the difference between nonspecific and specific defense, and define the role of lymphocytes.
  - Identify the major components of the lymphatic system and explain their functions.
  - Discuss the importance of lymphocytes and describe their distribution.
  - Describe the structure of lymphoid tissues and organs, and explain their functions.
  - List and describe the body's nonspecific defenses and explain the components and mechanisms of each.
- Describe the specific defenses provided by the immune response.
- Define specific resistance and identify the forms and properties of immunity.
  - Distinguish between cell-mediated immunity and antibody-mediated immunity, and identify the cells responsible for each.
  - Discuss the types of T cells and the role played by each in the immune response.
  - Describe the mechanisms of T cell activation and the differentiation of the major classes of T cells.
  - Describe the mechanisms of B cell activation and the differentiation of plasma cells and memory B cells.
  - Describe the structure of an antibody, and discuss the types of antibodies in body fluids and secretions.
  - Explain the functions of antibodies and how they perform those functions.
  - Discuss the primary and secondary responses to antigen exposure.
- Characterize the relation between the immune system and health.
- Describe the origin, development, activation, and regulation of resistance to disease.
  - Explain the origin of autoimmune disorders, immunodeficiency diseases, and allergies; describe their clinical symptoms.
  - Describe the effects of aging on the lymphatic system and the immune response.
- Describe the anatomy and physiology of the digestive system.
- Identify the digestive organs and give their function.
  - Describe the functional histology of the digestive tract.
  - Explain how materials move through the digestive tract.
  - Outline how digestion is regulated.
  - Describe the form and function of the oral cavity, including accessory structures.
  - Describe form and function of the pharynx and esophagus.
  - Describe the stomach's anatomy and physiology, emphasizing secretion and motility.
  - Describe gross and microscopic form of the small intestine.
  - Explain intestinal secretion and its regulation.
  - Describe the liver, gallbladder, and pancreas, and their role in digestion.
  - Discuss the regulation and coordination of gastric and intestinal movements, gastric emptying, and intestinal absorption.
  - Describe the structure of the large intestine, its regional specializations, and its role in nutrient and water uptake.
  - Specify the nutrients required by the body.
  - Describe chemical events responsible for the digestion of organic nutrients.
  - Describe the mechanisms involved in the absorption of organic and inorganic nutrients.
  - Summarize the effects of aging on the digestive system.
- Define metabolism, and describe the metabolism of carbohydrates, lipids, and proteins.
- Define metabolism and explain why cells need to synthesize new organic components.
  - Describe the basic steps in glycolysis, TCA cycle, and the electron transport chain.
  - Summarize the energy yield of glycolysis and cellular respiration.
  - Describe the pathways involved in lipid metabolism and the mechanisms necessary for lipid transport and distribution.
  - Summarize the main features of protein metabolism and the use of proteins as an energy source.
- Characterize metabolic interactions, diet and nutrition, and whole-body energetics.
- Differentiate between the absorptive and postabsorptive metabolic states and summarize the characteristics of each.
  - Explain what constitutes a balanced diet, and why it is important.
  - Define metabolic rate and discuss the factors involved in determining one's BMR.
  - Discuss the homeostatic mechanisms that maintain a constant body temperature.
- Describe the functional anatomy of the respiratory system.
- Describe the primary functions of the respiratory system.
  - Explain how the delicate respiratory exchange surfaces are protected from pathogens, debris, and other hazards.
  - Identify organs of the upper respiratory system and describe their functions.
  - Describe the larynx, and its role in breathing and sound production.
  - Discuss the trachea and primary bronchi (extrapulmonary airways).
  - Describe the external anatomy of the lung, the anatomy of a lobule and of alveoli.
- Describe respiratory system function, including mechanics, gas transport, gas exchange, and respiratory control.
- Define and compare the processes of external respiration and internal respiration.
  - Describe the three steps of external respiration.
  - Summarize the physical principles governing the movement of air into the lungs.
  - Describe the origins and actions of the respiratory muscles responsible for respiratory movements.
  - Summarize the physical principles that govern the diffusion of gases into and out of the blood.
  - Explain the important structural features of the respiratory membrane.
  - Describe the partial pressures of oxygen and carbon dioxide in the alveolar air, blood, and systemic circuit.

- Describe how oxygen is picked up, transported, and released in the blood.
  - Discuss the structure and function of hemoglobin.
  - Describe how carbon dioxide is transported in the blood.
  - Describe the factors that influence the respiratory rate.
  - Identify and discuss reflex respiratory activity and the brain centers involved in the control of respiration.
  - Describe the changes that occur in respiratory function at birth and with aging.
- Present the functional anatomy of the kidney, at the gross and microscopic level.
- Identify the components of the urinary system and describe their functions.
  - Describe the location and structural features of the kidneys.
  - Trace the path of blood flow through the kidney.
- Describe the principles and specifics of renal physiology.
- Discuss the major functions of each portion of the nephron and collecting system.
  - Identify and describe the major factors responsible for the production of urine.
  - List and describe the factors that influence filtration pressure and the rate of filtrate formation.
  - Describe the normal characteristics, composition, and solute concentrations of a representative urine sample.
  - Identify the types of transport mechanisms found along the nephron, and discuss the reabsorptive or secretory functions of each nephron segment and collecting system.
  - Explain the role of countercurrent multiplication in the formation of a concentration gradient in the medulla.
  - Describe how antidiuretic hormone and aldosterone influence the volume and concentration of urine.
- Describe transport, storage, and elimination of urine; outline the impact of aging on the urinary system.
- Describe the structures and functions of the ureters, urinary bladder, and urethra.
  - Discuss the voluntary and involuntary regulation of urination and describe the micturition reflex.
  - Characterize the changes in urinary system function that accompany aging.
- Characterize fluid and electrolyte physiology, including fluid compartments, fluid balance, and hormonal regulation.
- Explain what is meant by the terms “fluid balance,” “electrolyte balance,” and “acid–base balance,” and describe their importance for homeostasis.
  - Compare the composition of intracellular and extracellular fluids.
  - Explain the basic concepts involved in fluid and electrolyte regulation.
  - Identify the hormones that play important roles in regulating fluid and electrolyte balance, and describe their effects.
  - Describe the movement of fluid within the ECF, between the ECF and the ICF, and between the ECF and the environment.
  - Discuss the mechanisms by which sodium, potassium, calcium, and chloride are regulated to maintain electrolyte balance in the body.
- Describe the mechanics of acid–base balance, discuss acidosis and alkalosis, and how the body responds physiologically to these conditions.
- Explain the buffering systems that balance the pH of the intracellular and extracellular fluids.
  - Describe the compensatory mechanisms involved in the maintenance of acid–base balance.
  - Identify the most frequent threats to acid–base balance, and explain how the body responds when the pH of body fluids varies outside normal limits.
- Outline the general properties of chemical communication and the endocrine system.
- Point out the differences and similarities between endocrine and nervous communication.
  - Define the major chemical classes of hormone; give examples of each.
  - Define target cells; describe the mechanisms of action of hormones with either intra- or extra-cellular receptors; show how second messenger systems mediate hormone action.
  - Outline regulatory mechanisms that govern endocrine function.
- Present an account of the form and function of each endocrine gland. Define the location and anatomy, cellular organization, blood supply, secretions, regulation, and actions of these: Adenohypophysis (anterior lobe), Neurohypophysis (posterior lobe), Thyroid, Parathyroid, Adrenal, Pineal, Pancreas (islets)
- Describe the endocrine cells in other organ systems: Gut, Kidneys, Heart, Thymus, Gonads, Adipose tissue
- Characterize the various patterns of hormonal interaction.
- Introduce the reproductive system and detail the form and function of the male reproductive system.
- Specify the principal components of the human reproductive system, and summarize their functions.
  - Describe the components of the male reproductive system.
  - Outline the processes of meiosis and spermatogenesis in the testes.
  - Explain the roles played by the male reproductive tract and accessory glands in the functional maturation, nourishment, storage, and transport of spermatozoa.
  - Specify the normal composition of semen.
  - Summarize the hormonal mechanisms that regulate male reproductive functions.
- Detail the form and function of the female reproductive system.
- Describe the components of the female reproductive system.
  - Outline the processes of meiosis and oogenesis in the ovaries.
  - Identify the phases and events of the ovarian and uterine cycles.
  - Describe the structure, histology, and functions of the vagina.
  - Summarize the anatomical, physiological, and hormonal aspects of the female reproductive cycle.
- Describe the changes in the reproductive system that occur with aging.
- Provide a concise account of prenatal development, emphasizing the continuity of developmental events and the role of the placenta in supporting the developing fetus.
- Explain the relationship between differentiation and development, and specify the various stages of development.
  - Describe the process of fertilization.
  - List the three prenatal periods and describe the major events associated with each period.

- Explain how germ layers participate in the formation of extraembryonic membranes.
- Describe the importance of the placenta as an endocrine organ.
- Describe the interplay between the maternal organ systems and the developing fetus.
- Discuss the structural and functional changes in the uterus during gestation.
- List and discuss the events that occur during labor and delivery.

Describe the processes of postnatal development and relate genetics to individual traits.

- Identify the features and functions associated with the various life stages.
- Relate basic principles of genetics to the inheritance of human traits.

### Policies, Attendance and Student Responsibilities:

#### *Attendance*

Attendance is mandatory, and you are expected to arrive on time. Regardless of excuse YOU are solely responsible for all material covered in class, both lecture and lab. There will be ***NO make-up*** lab exercises, quizzes, or exams. If you must miss a quiz for a VALID REASON you must contact me BEFORE the start of class (email or voicemail) to be excused from receiving the grade of zero. Because the lowest exam grade is dropped, a missed exam, regardless of reason, with a grade of zero, now becomes the grade you drop.

The college defines excessive absence or lateness as more than the equivalent of one week of class meetings during the semester. Excessive absence or tardiness may lead to failure of the course.

#### *Cell phones and recorders*

**TURN OFF YOUR CELL PHONE!!!** If your phone, pager, or other noise producing electronic device disrupts the lecture you will be asked to leave the class. The college does not permit the use of cell phones for any reason, including as a calculator, during exams. Talking on a cell phone, text messaging, web surfing, and other distracting activities are strictly prohibited. If you are caught engaged in activities not pertinent to the lesson, the distracting object may be confiscated or you may be asked to leave the class.

Use of audio recorders is permitted so long as they do not interfere with the learning process of others. You are welcome to place your recorder on the front table for better sound quality.

#### *Required reading and preparation*

You are required to read the chapters pertaining to the lecture and lab in advance to be familiar with the material. The lecture experience is a much more useful when the time can be spent learning the concepts rather than attempting to decipher new and unfamiliar vocabulary. The lecture period is inadequate to complete your learning of this dense material. The majority of your comprehension will depend on your reading and studying outside of class. For college courses, expect to spend a minimum of three hours studying outside of class for every hour in it. For courses as dense as this one, expect to spend even more time getting yourself appropriately invested.

#### *Withdrawal and Failure*

**Do not vanish from the course.** If you decide that you no longer wish to be enrolled in the class, regardless of reason, you *must officially withdraw yourself* at the registrar's office by the mid-semester withdrawal date indicated on the academic calendar. If you fail to attend the assigned meeting times and exams without filing withdrawal paperwork you will be issued a permanent grade of "F" for the course. I will allow withdrawals from the course up to and including last day for anyone who does not achieve a C or higher as the final grade. You will need to acquire and fill out the proper form, have it signed by me, and submit it to the registrar no later than 5pm on the last day of class. Do note that a W will not affect your GPA, but it also does not count as credits toward full-time status.

Regardless of your situation at any point in the semester, come speak to me BEFORE withdrawing so we can assess your standing. Many students panic over one bad grade and it would be a shame for you to throw the course away if you are doing better than you think. Since I do allow you to withdraw at the end, there is no risk in sticking it out.

## How to get the most out of this course (a.k.a. how to get a good grade):

### *The texts*

All quiz and exam questions will be derived from material covered in class, therefore your notes are very important. Your textbook is a required reference tool to aid in your complete understanding of material covered in class. You are not held responsible for material in addition to that being outlined in class however your reading of the pertinent text is essential to your learning. You are responsible for complete comprehension of all of the material outlined in class and that can only be accomplished by extensive reading on your own. We simply do not have time to cover it all in adequate detail to insure your complete understanding in class alone.

### *Your notes*

PDF files or hard copy prints of the Power Point slides/overheads used in class can be found on my web site at [www2.sunysuffolk.edu/czuraa](http://www2.sunysuffolk.edu/czuraa) or in the Eastern campus library at the reserve desk. Students who know that they are slow note-takers often choose to come to class with the Power Point notes and take margin notes as necessary while I lecture. Other students choose to copy notes from the projected slides during the lecture. Either way, you should get in the habit of recopying your notes after each lecture, using your text book as a guide to add clarity where necessary. The recopying will serve three purposes:

1. It will reinforce the material, as repetition is the key to learning
2. It will make you aware of anything you were unclear on so that you could ask for clarification in the next class period or during office hours while the material is still timely
3. It will provide you with a nice clear study aid for exams and quizzes so you can spend your study time learning from your notes instead of trying to decipher them.

It may seem like extra work, but faithful recopying will shorten your study time and lower your frustration level later, as well as allowing you to really learn the material instead of just memorizing facts in the short term. The more you write and read and hear the material, the better you will be able to retain it. This is not the kind of course where you catch up easily if you fall behind. Keep up on the material.

### *Make connections*

Do not make the mistake of treating the lecture and the lab as completely different courses. Although the timing may not perfectly coincide, both aspects of the course deal with the same or at least similar information. Lab provides a tactile and visual learning experience to complement the auditory information in the classroom. If an explanation or diagram is unclear in your textbook, look in your lab book and vice versa. The exams may have different emphasis on the details but the facts of Human Anatomy and Physiology remain the same.

### *Exam strategy*

Always write something on exams and quizzes. There is no penalty for wrong answers. Partial credit will be given for any information that is accurate, even if the answer is incomplete. Certainly on multiple choice questions you might as well take a guess. Sometimes you know things you don't know you know and sometimes you can just get lucky.

### *Utilize the time you paid for*

I have office hours. Ask when you fail to understand something, do not just ignore it and hope it goes away. There are no stupid questions and you will not be bothering me. The office hours are for you and I am more than willing to try to find a way to explain something to you so it will make sense.

Utilize the entire lab period. You are allowed to work at your own pace and leave whenever you feel you are finished, so there is the temptation to get out as early as possible. This is your time to get one-on-one instruction from me if you are in need of clarification. Make use of me! It might be your only chance to really make sure you understand what is going on.

## Student assessment:

### *Quizzes*

Quizzes will be given weekly and will cover the material since the previous quiz or exam, generally two lectures worth of material. You will be given approximately five minutes at the start of class to complete the quiz. Do not be late as quizzes will be collected promptly at five minutes past the start of class, regardless of when you arrived. If you wish more time you may come to class ten minutes early and begin on arrival. Quizzes are usually a fill-in format. The purpose of the quizzes is to insure that you are keeping up on the material weekly. Just cramming the night before an exam is a sure way to fail a course as dense as this one.

### *Lecture exams*

Lecture material will be broken into four units with an exam on each unit. Exams are usually a multiple-choice format. The exams will cover the material since the last exam and are not cumulative. You will have the entire lecture period to complete the exam on the day it is scheduled. There will be no additional lecture material on the same day following an exam. For Lecture exams 1, 2, & 3, the exam may be repeated at home immediately following the in-class exam. The take-home exam must be turned in at the beginning of the next lecture period. Late take-home exams will not be accepted. The final grade for the exam will be calculated as the in-class score plus one-third of the positive difference between the in-class and take-home score. (Do NOT assume this means that you do not have to study for the in class exam. For example: You get an in-class score of 25 because you didn't study. But you work hard from your notes and your book and get a take-home score of 98.  $98 - 25 = 73 \div 3 = 24.3$ , so your final grade is  $25 + 24.3 = 49.3$ . At 50% you are still failing! It is therefore important to do as well as possible on the in-class part. This is merely a way to correct your mistakes and learn from them while earning a few extra points, not a mechanism to get you out of studying. The fourth exam, on the last day of class, will be a standard in-class exam with no take-home component.

### *Lab practical exams*

Lab material will be broken into two parts with an exam on each. The practical exams will cover material since the previous exam and are not cumulative. Lab practical exams tend to be in the format of question stations around the room where you are asked to identify features on the slide/specimen/object. Spelling does matter and no word banks are provided. The time allotted to a lab exam will be determined by the complexity of the exam and the manner in which it is administered. There will be no new lab activities on the same day following an exam.

Grading:

Your performance on four lecture exams, ten weekly quick quizzes, and two lab practical exams will determine your grade. Each exam and the average of all the quizzes will count equally, and the lowest of these seven grades will be dropped (each counted grade will be approximately 16.7% of the total course score). If you have taken all exams and quizzes and have an “A” average, you may be excused from the last lecture exam. There are **no** additional curves or extra credit projects as your grade should represent the percentage of material you mastered. Your final grade will be calculated according to the college catalog as follows:

- 90% and above = A
- 85.0 – 89.9% = B+
- 80.0 – 84.9% = B
- 75.0 – 79.9% = C+
- 70.0 – 74.9% = C
- 65.0 – 69.9% = D+
- 60.0 – 64.9% = D
- 59% and below = F

*Work hard and good luck!*      Record your grades here to keep track of your progress:

Quiz 1	
Quiz 2	
Quiz 3	
Quiz 4	
Quiz 5	
Quiz 6	
Quiz 7	
Quiz 8	
Quiz 9	
Quiz 10	
QUIZ AVERAGE	

Exam 1	
Exam 2	
Exam 3	
Exam 4	
Practical 1	
Practical 2	
QUIZ AVERAGE	

To calculate your final grade, add the highest of the six numbers above and divide by six.

Grades often seem a mystery to students. The numerical convention is to express grades as a percentage so that regardless of the number of questions on any one exam we are all representing the percent of material you got correct. When there are 100 points, you do the percent math automatically in your head, since percents are based on 100. So if you got 85 of them correct, you got 85% of them correct and thus a grade of 85% [(85 ÷ 100) x 100]. When there are 83 questions and you got 71 of them correct, you got 85% percent of the questions correct and thus an 85% as a grade. (85.54% actually, [(71 ÷ 83) x 100].) The formula is always the same: number of questions correct divided by the total number of questions, multiplied by 100 equals the percent of questions correct and thus your grade. It is no mystery, just simple math!

BIO132 Lecture Schedule Mondays & Wednesdays 12:30 – 1:45

<b>LEC #</b>	<b>DATE</b>	<b>TOPIC</b>	<b>CHAPTER for lecture</b>
1	8/31/09	Course Policy and Introduction / Review / Blood	19
2	9/2/09	<i>Take Home Quiz Due</i> Blood	19
	9/7/09	<b>No Class: Labor Day</b>	
3	9/9/09	Blood & Heart	19, 20
4	9/14/09	<i>Quiz 1 (on Lecture # 1, 2, and 3 material)</i> / Heart & Blood Vessels and Circulation	20, 21
5	9/16/09	Blood Vessels and Circulation	21
6	9/21/09	<i>Quiz 2 (Lec # 4, 5)</i> / Lymphatic System	22
7	9/23/09	Lymphatic System and Immunity	22
	9/28/09	<b>No Class: Yom Kippur</b>	
8	9/30/09	Lymphatic System and Immunity	22
	10/5/09	<b>EXAM 1</b> (Chapters 19-22 / Lectures # 1-8)	
9	10/7/09	Digestive System <i>Take Home Exam Due</i>	
10	10/12/09	<i>Quiz 3 (Lec # 9)</i> / Digestive System	24
11	10/14/09	Digestive System	24
12	10/19/09	<i>Quiz 4 (Lec # 10, 11)</i> / Digestive System	24
13	10/21/09	Metabolism	25
14	10/26/09	<i>Quiz 5 (Lec # 12, 13)</i> / Metabolism	25
	10/28/09	<b>EXAM 2</b> (Chapters 24, 25 / Lectures # 9-14)	
15	11/2/09	Respiratory System <i>Take Home Exam Due</i>	23
16	11/4/09	Respiratory System & Urinary System	23, 26
17	11/9/09	<i>Quiz 6 (Lec # 15, 16)</i> / Urinary System	26
	11/11/09	<b>No Class: Veterans Day</b>	
18	11/16/09	<i>Quiz 7 (Lec # 17)</i> / Urinary System & Fluid, Electrolyte, pH Balance	26, 27
19	11/18/09	Fluid, Electrolyte, pH Balance	27
	11/23/09	<b>EXAM 3</b> (Chapters 23, 26, 27 / Lectures # 15-19)	
20	11/25/09	Endocrine System <i>Take Home Exam Due</i>	18
21	11/30/09	<i>Quiz 8 (Lec # 20)</i> / Endocrine System	18
22	12/2/09	Endocrine System & Reproductive System	18, 28
23	12/7/09	<i>Quiz 9 (Lec # 21, 22)</i> / Reproductive System	28
24	12/9/09	Reproductive System and Development and Inheritance	28
25	12/14/09	<i>Quiz 10 (Lec # 23, 24)</i> / Development and Inheritance	29
26	12/16/09	Development and Inheritance	29
	12/21/09	<b>EXAM 4</b> (Chapters 18, 28, 29 / Lectures # 20-26)	

## BIO132 Anatomy and Physiology II

East Campus

Laboratory Schedule Fall 2009

Course Coordinator: Amy Czura, S219, 548-3560, czuraa@sunysuffolk.edu

### Laboratory Activity Book:

Human Anatomy and Physiology Laboratory Manual Cat Version, Ninth Edition by Elaine N. Marieb, Benjamin Cummings, 2008.

Web Resources and Objective Sheets at <http://www2.sunysuffolk.edu/czuraa>

CRN#	91272	93301	
Section#	300	401	
Instructor:	Czura	Demaria	
P.A.:			
<b>Date:</b>	Wednesdays	Wednesdays	<b>Laboratory Activities: (See Objective Sheets for specific activities and exercises)</b>
	09/02	09/09	Lab 1: Microscopy (Ex. 3, Supplemental worksheet)
	09/09	09/16	Lab 2: Blood (Cardiovascular System) (Ex. 29A)
	09/16	09/23	Lab 3: Heart (Cardiovascular System) (Ex. 30, 31)
	09/23	09/30	Lab 4: Blood Vessels & Cardiovascular Physiology (Cardiovascular System) (Ex. 32, 33A, Dissection 4)
	09/30	10/07	Lab 5: Lymphatic System (Ex. 35, Dissection 5)
	10/07	10/14	Lab 6: Digestive System (Ex. 38, Dissection 7)
	10/14	10/21	<i>Lab Practical Exam 1: Labs 1-6</i>
	10/21	10/28	Lab 7: Chemical Digestion (Ex. 39A)
	10/28	11/04	Lab 8: Respiratory System (Ex. 36, 37A, Dissection 6)
	11/04	11/18	Lab 9: Urinary System (Ex. 40, 41A, Dissection 8))
	11/18	12/02	Lab 10: Endocrine System & Embryonic Development (Ex. 27, 44, Dissection 3)
	11/25	12/09	Lab 11: Reproductive System (Ex. 42, 43, Dissection 9)
	12/02	12/16	Lab 12: Genetics and Biotechnology (Ex. 45, EDVO-Kit # 114)
	12/09	12/22	<i>Lab Practical Exam 2: Labs 7-12</i>
	12/16	12/21	*Movie: "In the Womb"

\*Day classes meet 15 times with a lecture before each lab. Night classes meet 14 times independent of lecture. Since the last meeting of day classes could be the same day for both lecture and lab, the last day lab is scheduled to watch a movie so that it is not possible that students would have an exam in both lecture and lab on the same day. The night classes can show this movie in the otherwise wasted second half of the lecture period after the lecture final exam.