ANATOMY AND PHYSIOLOGY 205, SEMESTER OVERVIEW
B. ROSE, SPRING 2010

TOPIC	(OPTIONAL) TEXT READINGS	LAB CHAPTERS
Unit One		(**do lab chapters in this order**)
The Senses	Chap 16	17
Endocrine System and Stress	Chap 17	18, p 548, 564-566
		Histology

Lecture and lab exams Thursday, Feb. 25

Unit Two		
Circulatory System	Chap 19, 20, 21(parts)20	
(Note: blood is covered with the next unit)		p 609-652
		23 parts
		21, p 501 & 506
		22
		Histology

Lecture and lab exams Thursday, Mar. 25

Unit Three		
Blood	Chap 18	19
Lymphatic and Immune Systems	Chap 21	23
Respiratory System	Chap 22	24, 25

Lecture exam Tuesday, April 20
Note: Lab material will be tested with unit five.

Unit Four		
Digestive System	Chap 25	26, Histology
Metabolism	Chap 26 (parts)	27, Nutrition/Calories
Excretory System	Chap 23-24	28,29

Lecture exam Tuesday, May 11
Note: Lab material will be tested with unit five.

Unit Five		
Reproductive System	Chap 27, 28	30, 31, p 653-666

Lecture and lab exams Thursday, May 27
Note: Lab exam covers units
three, four, and five.

Lecture and Lab Final

Lecture and lab finals Thursday, June 3

BIOLOGY 205 — HUMAN ANATOMY AND PHYSIOLOGY — 4 UNITS

Instructor: Mrs. Betty Rose, Office ALLB-205 **e-mail: betty.rose@canyons.edu**

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Prerequisites: Biology 204 (with a grade of "C" or better)

Text: ***Anatomy and Physiology,*** by Saladin (**optional**), 5th edition

Human Anatomy and Physiology Lecture Notes, Etc., by B. Rose, Published by COC Foundation. 2005 (passed out in class).

Lab Manual: ***Laboratory Investigations in Anatomy and Physiology***, by Stephen N. Sarikas, 2nd Edition

OUTLINE OF LECTURE TOPICS

Topic:		Chapter(s)
I.	Sensory Organs	16
	A. Development	
	B. Classification	
	C. Sensory Receptors	
	D. Somatic Sensors	
	E. Olfaction	
	F. Gustation	
	G. Vision	
	H. Hearing and Balance	
II.	Endocrine System	17 (parts)
	A. Hormones	
	B. Mechanisms of Action	
	C. Development	
	D. Typical Glands	
	1. Pituitary	
	2. Adrenals	
	3. Thyroid	
	4. Parathyroid	
	5. Pancreas	
	6. Others	
	E. Regulation by the Anterior Pituitary and the Hypothalamus	
	F. Clinical Considerations	
III.	Circulatory System	19, 20, 21
	A. The Structure and Function of the Circulatory System	
	1. Development	
	2. Structures and their modifications	
	3. Circulation Routes	
	4. Cardiac cycle	
	a. Heart sounds	
	b. Electrical activity	
	5. Blood Vessels	
	a. Arteries	
	b. Veins	
	c. The Lymphatic System	

B. Cardiac Output, Cardiac Rate, Blood Volume and Pressure — 22 (lab book)
   1. Cardiac output
   2. Blood volume
   3. Vascular resistance
   4. Blood flow
      a. to the heart
      b. to the skeletal muscles
      c. to the brain
      d. to the skin
      e. blood pressure
   5. Hypertension, shock, & congestive heart failure

IV. Hematology, Lymphatic and Immune Systems
   A. Blood — 18
      1. Composition
         a. Plasma
            1. Plasma Proteins
            2. Electrolytes
            3. Complement Proteins
         b. Formed elements
      2. Hemopoiesis
      3. Clotting
      4. Disorders
   B. Immune System — 21
      1. Non-specific defense mechanisms
      2. Specific immunity
         a. Humoral immunity
         b. Cell-mediated immunity
         c. Immunizations
         d. Active immunity
         e. Passive immunity
      3. Self and Non-self Recognition
         a. Histocompatibility antigens
         b. Red blood cell antigens
         c. Tumor immunology
         d. Autoimmunity
         e. Immune complex diseases
         f. Allergy

V. Respiratory System — 22
   A. Overview of Function and Structure
   B. Development
   C. Respiratory Structures and their Histology
      1. The conducting passageways
      2. Alveoli, lungs, and pleura
   D. Physiology of ventilation
      1. Physical properties of lungs
      2. Mechanical aspects of breathing
      3. Regulation of breathing
      4. Gas exchange
      5. Hemoglobin and oxygen transport
      6. Carbon dioxide transport
   E. The Effects of Altitude and Exercise
   F. Clinical Considerations

VI. Digestive System — 25, 26
   A. Functions

B. Development
C. Supportive Structures
D. The Tunics of the GI Tract
E. Digestive Structures, Their Products and Specializations
F. Digestion and Absorption
G. Regulation of the Digestive System
H. Common Disorders
I. The Regulation of Metabolism
1. Vitamins, minerals and calories
2. Hormonal regulation of metabolism (insulin, glucagon and somatostatin)
3. Regulation by the adrenal hormones, thyroxine and the growth hormone
4. Calcium and phosphate balance
5. Clinical considerations

VII. Excretory System 23, 24
A. Development
B. Kidney Structure
C. Ureters, urinary bladder, urethra and the micturition reflex
D. Kidney physiology
E. Renal control of electrolytes
F. Renal control of pH
G. Clinical considerations

VIII. Reproductive Systems 27, 28
A. The Male Reproductive System
1. Overview of male sex structures and characteristics
2. Development
a. Sex determination
b. Embryonic and fetal development
c. Puberty
3. Structure and Functions of the Testes
4. Structure and Functions of the
a. Spermatic ducts
b. Accessory glands
c. Penis
5. Mechanisms of erection, emission, ejaculation and orgasm
6. Impotence, infertility, sterility and vasectomies
7. Sexually-transmitted diseases and other disorders
B. The Female Reproductive System
1. Overview of female sex structures
2. Development
3. Structure and function of the:
a. Ovaries
b. Uterine tubes
c. Uterus
d. Vagina
e. Vulva
4. Mechanism of erection and orgasm
5. Lactation, structure and function of mammary glands
6. The menstrual cycle: phases of the ovarian cycle and endometrial phases
7. Clinical Considerations

GRADING POLICIES

LECTURE EXAMS: Five lecture exams and a comprehensive lecture final will be given. The comprehensive **finals will be given on Thursday, June 4th, from 4 pm to 7 pm.** Each exam will be worth 100 points. Exams will consist of multiple choice, true-false, matching and essay questions. Periodically, additional assignments totaling 100-200 points may be made.

LABORATORY PRACTICAL EXAMS, 400-500 points, include:

A. Laboratory write-ups
B. Three one hundred point laboratory practical exams
C. A one hundred point laboratory final lab practicum

LABORATORY AND LECTURE SUBJECTIVE PERFORMANCE EVALUATION: Subjective points may lower your grade by 10 percent. In addition to the objective points earned on lecture and lab exams, your laboratory and lecture performances will also be evaluated subjectively. Negative behaviors detract from the learning environment and may lower your grade. Positive behaviors that enhance the learning environment include all of the following:

A. Class participation (in both lecture and lab settings)
   1. Quantity. It is hoped that each student will contribute to the class environment. A student who participates too much or too aggressively can have a more detrimental effect on class morale than a student who contributes little.
   2. Quality. "Quality" contributions enhance the learning environment and everyone's understanding of the subject matter. Relevant stories and experiences, arriving at class on time, avoiding negativity, working at being positive and self-confident, and helping others (except on tests!) are examples of positive contributions. Behaviors that detract from the learning environment include noisily proffering the attitude, "I can't possibly grasp this material in such a short time;" arriving to class late and/or noisily; attempting to monopolize the classroom or hog the instructor's time or attention; being a "show-off-know-it-all," judging others as being "show-off-know-it-alls," and forming gossipy cliques.

B. Preparedness for lab (all labs are to be read before lab begins)
C. The amount of effort used to figure out the lab by yourself

- The amount of effort put into lab

COURSE GRADE: The final course grade will be figured by totaling all possible points. Of the total

90% or above	=A***	70%-79.95%	=C		
80%-89.95%	=B	60%-69.95%	=D	Below 59%	=F

The percentages necessary to achieve a particular grade will not be raised, but might be lowered. In the event they are lowered, the grades will be fitted to a modified curve. It is to everyone's advantage to work together, study together, and help each other to understand the material. However, individual work is appropriate on exams, quizzes, and lab write-ups.

***To earn an "A" grade, in addition to averaging 90% or better, a special project to be described in class needs to be completed. No extra credit points are given for this project.**

MAKEUP POLICY

No makeup tests will be given. In order to compensate for unforeseen disasters, your lowest 2 one-hundred point exam scores will be dropped before figuring the final averages. However, PLEASE let me know before the test, if possible, if anything drastic happens in your life.

MISCELLANEOUS INFORMATION ABOUT COC COURSES, PROGRAMS AND POLICIES

BIOSCI 205 COURSE CONTENT AND OBJECTIVES: Second semester of the sequence covering the structure and function of the human body. For a full list of learning objectives, visit them online at http://www.canyons.edu/offices/curriculum. Choose the public access option.

STUDENT LEARNING LECTURE OUTCOME:

1. For each body system or unit, identify, describe, and draw the anatomical structures (organs, tissues, cells, cell products) for the endocrine system, the sensory system, the circulatory system, the immune system, the respiratory system, the digestive system, the excretory system, and the male and female reproductive systems, and evaluate the functions of each, describing the physiological mechanism by which each works to maintain health and homeostasis.

STUDENT LEARNING LABORATORY OUTCOME:

1. Recognize, name, identify and evaluate the functions of pertinent anatomical structures (organs, tissues, cells, cell products) for each organ system studied.

MATHEMATICS, ENGINEERING, SCIENCE ACHIEVEMENT (MESA):

MESA is a program that supports students in their efforts to excel in math, engineering, and the sciences. It is a rigorous program that builds academic skills and encourages cooperative behavior and problem-solving. There is access to technology. Academic advisement and other support services are available. For more information, please contact the MESA Program Director in ALLB-114 or call (661) 362-3448.

STUDENT CONDUCT POLICY:

- Read and adhere to *Students Rights and Responsibilities* in the *Schedule of Classes*.
- Conduct yourself in a safe and considerate manner at all times (lecture and lab)
- Disruptive behavior, racist, sexist or otherwise inappropriate comments will not be tolerated, and if continued, ejection from the class will occur.
- Any and all forms of cheating will not be tolerated: Plagiarism (use of other's ideas without giving credit) is a violation of COC's Code of Conduct and students caught in any manner of cheating will be turned over to the Dean of Students for disciplinary action.

STUDENT SUCCESS: This Biology course is not easy; it requires your total dedication and concentration. Please, follow these suggestions, put in the required time, and you should be able to earn a good grade.

- Cultivate a positive attitude toward learning; find ways to make the material fun or relevant to you.
- Read the assigned materials ahead of time.
- Do not be afraid to ask questions in lab or lecture.
- Review your lecture notes immediately after class and consult texts or classmates to understand any unclear topic.
- Learn the new vocabulary; treat this course as if it is a foreign language class.
- Do the entire lab, stay the full time and put in extra lab time as often as possible.
- Form study groups .
- Turn off cell phones during class! Cell phones will be confiscated if you are receiving text messages.
- Take advantage of the study packages the Biology Computer Room, BYKN-211. If you enroll in BIOSCI 050, you will get 0.50 units credit for completing 25.5 hours in the computer.

OFFICE HOURS:

Mon./Wed.	3:45pm-4:00pm	ALLB-223
Tuesday	1:45pm–2:00pm	BYKH-113
	5:20pm-5:30pm	ALLB-221
	6:50pm - 7pm	ALLH-104
	8:20pm - 8:30pm	ALLB-221
Thursday	5:20pm - 5:30pm	ALLB-221
	6:50pm - 7pm	ALLH-104
	8:20pm - 8:30pm	ALLB-221

Other Times by Appointment/Always available by email.