Class Schedule BIO54J

Week #	Topic	Lab Exercise
7	Digestive System Ch. 15	42
8	Respiratory System Ch 16	44, 45 Take Chapter Test
9	Urinary System Ch. 17	46 Take Chapter Test
10	Fluid, Electrolyte Ch. 18	Take Chapter Test
11	Reproductive System, Pregnancy Ch. 19, 20	48,49 Take Chapter Test
12	No Video Lecture	Cumulative Final & Chapter Test

DE ANZA COLLEGE

BIOLOGY, HEALTH AND ENVIRONMENTAL SCIENCE DIVISION

BIOL 54J Greensheet 1½ Units

Applied Human Anatomy and Physiology:

Winter 2010 (Course Dates: February 16, 2010- March 25, 2010 note course starts on a Tuesday and ends on a Thursday.)

Instructor: Judy Cuff-Alvarado Office: KC215

Phone: 408-864-8640 email: cuffjudy@deanza.edu

Winter 2010 Office Hrs:

- Monday/Wed: 2:30-3:30 pm in KC215 (408-864-8640)
- Tuesday: 9am – 11:00am in Science Center (408-864-8921)

Prerequisites: High school Biology or Biology 10, 11, 12, 13, 14, or 15. (Especially designed for students planning careers in medical assisting, Licensed Vocational Nursing, education, speech, home economics, psychology, physical education and/or recreation. Not open to students with credit in Biology 40A, B or C or equivalent.

Advisory: English Writing 100A and Reading 201 (or Language Arts 200), or English as a Second Language 161-163.

One hour lecture, one and one-half hours laboratory, one additional hour to be arranged.

Survey of human anatomy and physiology with emphasis on homeostatic limits of the human body. The respiratory, urinary, reproductive and digestive systems, water and electrolyte balance, nutrition and pregnancy.

Course Objectives:
The student will be able to:
A. Identify the structures, functions, and evolution of the major parts of the digestive system

B. Describe the regulation of digestive secretions

C. List the major sources of the organic nutrients and discuss human needs over time

D. Explain the different functions of the respiratory system based on the anatomy of the structures and the exposures to those structures

E. Examine how air and blood exchange gases

F. Describe the structure and function of the parts of the urinary system

G. Examine the processes in the formation of urine

H. Explain the distribution of fluids between compartments and the differences in fluid composition

I. Discuss how chemical buffer systems, the respiratory center, and the kidneys minimize changes in the pH of the body fluids

J. Name the structures of the male and female reproductive systems

K. Describe how hormones control the activities of the reproductive systems

L. Explain the process of fertilization

M. Discuss the embryonic of development

N. Describe the birth process

Expanded Description

A. Identify the structures, functions, and evolution of the major parts of the digestive system
1. Four distinct layers of the alimentary canal wall
2. Oral cavity, esophagus, stomach, and pancreas
3. Liver, gallbladder, appendix, and intestines

B. Describe the regulation of digestive secretions
1. Enzymes begin the break down of organic compounds
2. Pancreatic juices transported to small intestine

C. List the major sources of the organic nutrients and discuss human needs over time
1. Carbohydrates, lipids, and proteins

2. Vitamins, minerals, and trace elements
3. Age, gender, geographic location and ethnicity impact needs of the body and the types of nutrients available or desired

D. Explain the different functions of the respiratory system based on the anatomy of the structures and the exposures to those structures
1. Airways, passageways, and alveoli
2. Mucous membranes, goblet cells, smooth muscle, and cilia
3. Age, gender, lifestyle, and culture affect the health of tissue

E. Examine how air and blood exchange gases
1. Respiratory membrane structure and function
2. Partial pressures of gases

F. Describe the structure and function of the parts of the urinary system
1. Kidneys, ureters, bladder, and urethra
2. Nephron: functional unit of the kidney

G. Examine the processes in the formation of urine
1. Filtration, re-absorption, and secretion
2. Pathways of filtrate through the nephron

H. Explain the distribution of fluids between compartments and the differences in fluid composition
1. Intracellular, extracellular, and transcellular
2. Concentrations of electrolytes and water across areas
3. Age, gender, geographic location, and ethnicity differences

I. Discuss how chemical buffer systems, the respiratory center, and the kidneys minimize changes in the pH of the body fluids
1. Regulation of hydrogen ion concentration
2. Acid-base balance

J. Name the structures of the male and female reproductive systems and identify their functions
1. Male reproductive structures that allow spermatogenesis
2. Female structures that determine oogenesis
3. Reproductive anatomy that aids fertilization

K. Describe how hormones control the activities of the reproductive systems
1. Activation of mature reproductive function
2. Development of secondary sexual characteristics.

L. Explain the process of fertilization
1. Transport of sex cells
2. Formation and functions of placenta

M. Discuss the embryonic stage of development
   1. Implantation at seventh day through eighth week
   2. Main internal organs develop and major external structures appear

N. Describe the birth process
   1. Changing hormone levels stimulate birth process
   2. Positive feedback system stimulates contractions

Assignments

A. Readings from the assigned text
B. Written laboratory reports

C. Extra Credit is optional but encouraged

Method of Evaluating Objectives

5 Chapter Tests 30 points	150 pts
laboratory Reports	45 pts
1 Final Exam	75pts
total points	270

Extra Credit is Available. See lab personnel for details

Grading Standard for Exams & Final Grade

100-90%	A
89%-80%	B
79-66%	C
65-50%	D
Below 50%	F

Attendance: Students are required to view each video each week, complete and hand in all assigned lab work. This is estimated to take 3 hours/week. This time may vary dramatically between students. Your attendance and effort significantly influence you ability to learn, enjoy and succeed in this and any course. Student hours in lab are monitored as students sign in and out each day they attend.

Essential Student Materials:
Access to video Computer access to Instructor's Webpage Minimum College Facilities: Laboratory facilities including microscopes, human tissues slides, anatomical models, computers with interactive capability, headsets for private audio, basic medical equipment for assessment of vision, hearing, reflexes, blood pressure, respiratory capacity, etc.

Minimum College Facilities

Laboratory facilities including microscopes, human tissue slides, anatomical models, computers with interactive capability, headsets for private audio, basic medical equipment for assessment of vision, hearing, reflexes, blood pressure, respiratory capacity, etc.

Required Texts:

- Hole, J.W: Essentials of Human Anatomy & Physiology.10th edition, McGraw Hill Publisher, NY, NY, 1009 ISBN: 978-0-07-296563-6
- Hole, J.W: Essentials of Human Anatomy & Physiology Laboratory Manual. 10th edition, McGraw Hill Publisher, NY, NY 2009 ISBN: 979-0-07-296567-4

Students who are eligible for reasonable accommodations must speak with the instructor as soon as the need for accommodation is known.