ANAT 51 Course Outline as of Spring 2007

CATALOG INFORMATION

Dept and Nbr: ANAT 51 Title: ANAT/PHYSIO L&L
Full Title: Anatomy & Physiology
Last Reviewed: 3/5/2007

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	0	17.5	Lecture Scheduled	0
Minimum	1.00	Lab Scheduled	0	17.5	Lab Scheduled	0
		Contact DHR	10.00		Contact DHR	175.00
		Contact Total	10.00		Contact Total	175.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 0.00 Total Student Learning Hours: 175.00

Title 5 Category:	AA Degree Applicable
Grading:	Grade or P/NP
Repeatability:	22 - 4 Times in any Comb of Levels
Also Listed As:	
Formerly:	

Catalog Description:
Individualized instruction in basic structure and function of human tissues, organs, and organ systems.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100.

Limits on Enrollment:

Schedule of Classes Information:
Description: Individualized instruction in basic structure & function of human tissues, organs & organ systems. (Grade or P/NP)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100 or ESL 100.
Limits on Enrollment:
Transfer Credit:
Repeatability: 4 Times in any Comb of Levels

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**		Effective:	Inactive:
	C	Natural Sciences	Fall 1981	Spring 2007
CSU GE:	**Transfer Area**		Effective:	Inactive:
	B2	Life Science	Fall 1981	Spring 2007
	B3	Laboratory Activity		
IGETC:	**Transfer Area**		Effective:	Inactive:

CSU Transfer: Effective: Inactive:

UC Transfer: Effective: Inactive:

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
The students will:
1. Deepen their appreciation for the design and workings of the human body.
2. Especially for future healthcare workers, establish a basis for greater awareness of, confidence in, and understanding of situations and procedures with which such individuals will be confronted in medically-related settings.
3. Further their awareness of the need for thoroughness and diligence in the pursuit of excellence in any discipline.

Specific, behaviorally-orientated learning objectives for each module are on file in the SRJC Community Health Education Center. Their bulk prohibits their attachment to this outline.

Topics and Scope:

UNIT 1
1. Introduction to anatomical terminology.
2. Organizational levels of the body.
3. Body planes, surfaces, and cavities.
4. Basic histology.
5. Skeletal System I - divisions, bone groups, functions of skeleton.
6. Neurendocrine System I - design of nervous system, overall functions, neuron design, ultrastructure of a skeletal muscle cell.
7. Muscular System I - overall functions, types and locations, typical skeletal muscle design, ultrastructure of a skeletal muscle cell.
8. Sensory System I - sensor designs, with examples, olfaction, gustation, cutaneous sensor design and function.
9. Cardiovascular System I - major components of the system and their general functions.

10. Respiratory System I - components, their locations, design, and functions, cleaning mechanisms.
11. Renal System I - components: their design and locations, overall functions.
12. Digestive System I - location, design, and overall functions of components.
13. Male Reproductive System I - design, location, and function of components, basic principles of reproduction.
14. Female Reproductive System I - design, location, and function of components.

UNIT 2

1. Cytology I - organelles: structure, location, and locations within cells.
2. Integument I - basic layers: thick v. thin, overall functions.
3. Skeletal System II - axial skeleton: skull-cranial v. facial bone, vertebral columnregions, design of typical vertebra.
4. Neuroendocrine System II - grey v. white matter, brain components, with functions, ventricular-CSF system of brain.
5. Muscular System II - muscle cell physiology, motor units, tonus.
6. Sensory System II - the eye: structures and functions, the ear: components and general functions.
7. Cardiovascular System II - the heart: pericardial sac, coronary circuit, all components of the cardiac cycle.
8. Respiratory System II - the breathing mechanism.
9. Renal System II - gross and microscopic anatomy of the kidneys.
10. Digestive System II - salivation, peristalsis, diglutition, vomition, defecation.
11. Male Reproductive System II - emission, ejaculation, spermatogenesis, cryptorchidism, male endocrinology.
12. Female Reproductive System II - menarche and menopause, pituitary: ovarian endocrinology.

UNIT 3

1. Cytology II - membrane transport systems.
2. Cytology III - DNA and RNA, production control and processing of proteins.
3. Integument II - hair follicle structure, temperature regulation by the skin, skin healing.
4. Skeletal System III - detailed features of the skull, anatomy of atlas axis, and sacrum, ligaments of the spine, anatomy of the sterum, types of ribs, anatomy of a typical rib.
5. Muscular System II - location, origins and insertions, and major actions of thirty-nine skeletal muscles.
6. Neuroendocrine System III - neuronal physiology including all forms of signalling employed by neurons.
7. Sensory Systems III - optical physics relating to the eye, optical dysfunctions of the eye, physiology of the cochlea, semicircular canals, saccules and utricles.
8. Cardiovascular System III - identification and course of 45 major arteries and veins.
9. Cardiovascular System IV - hemodynamics of pulse, blood pressure, vasomotor control, theory of sphygmomanometer.
10. Respiratory System III - lung volumes and capacities, minute and

alveolar ventilation, concept of physiologic dead space.
11. Renal System III - physiology of the renal corpuscle, concepts of renal clearande, transport maximums and renal threshold, obligatory water reabsorption.
12. Digestive System III - histology of stomach & duodenal walls, physiology of gastric & duodenal activities, bile & pancreatic secretions & control of their release, factors in absorption efficiency.
13. Female Reproductive System III - conception, fertilization, implantation, gestation, parturition,

UNIT 4

1. Skeletal System IV - bones & bone features of the appendicular skeleton.
2. Neurendocrine System IV - structural design of the spinal cord, the reflex arc, sensory and motor pathways.
3. Cardiovascular System V - physiology of capilaries, veins & lymphatic drainage.
4. Cardiovascular System VI - cardiac output, reserve, insufficiency.
5. Respiratory System IV - surfactants, LaPlace's principle, ventilation perfusion ratio.
6. Digestive System IV.
7. Renal System IV.
8. Body Temperature Regulation - all mechanisms.
9. Fluid and Electrolyte Balance I.
10. Acid-Base Balance I.

UNIT 5

1. Neurendocrine System V.
2. Neurendocrine System VI.
3. Cardiovascular System VII.
4. Cardiovascular System VIII.
5. Respiratory System V.
6. Renal System V.
7. Digestive System V.
8. Blood Glucose Regulation.
9. Fluid-Electrolyte Balance II.
10. Acid-Base Balance II.

Assignment:

1. Completion of required instructional modules including notetaking.
2. Text-book reading.
3. Study of available models, specimens, charts, etc.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None	Problem solving 0 - 0%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None	Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Completion	Exams 0 - 100%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials:
ESSENTIALS OF HUMAN ANATOMY AND PHYSIOLOGY by John W. Hole.