

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	1	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: CSU;
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:	Transferable	Effective:	Fall 1981	Inactive:	Spring 2007
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 column regions, 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, deglutition, 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 sternum, 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 clearance, 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. Neuroendocrine System IV - structural design of the spinal cord, the reflex arc, sensory and motor pathways.
3. Cardiovascular System V - physiology of capillaries, 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

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

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.