

GRANDE PRAIRIE REGIONAL COLLEGE
NURSING PROGRAM
COURSE OUTLINE - 1996-97
Full Year

COURSE: BI 1621 HUMAN BIOLOGY 1996/97

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NATURE OF THE COURSE:

BI 1621 is a combined elementary human anatomy and physiology course designed for nursing programs. The course covers topics including cells, respiration, genetics, and all body systems. The topics will support an understanding of system homeostasis, pathophysiology, and nursing function.

This course integrates all of the course contents of the former courses, PE 1000 and PZ 1621. Consequently there are four lecture hours and a one hour laboratory per week over two semesters. The course is supplemented by individual study requirements and CDRom materials.

EVALUATION:

Lecture:

Tests (multiple choice, short answer and class presentations)

3 @ 7%

1 @ 9%

30%

Comprehensive lecture final examination

40%

Laboratory:

Tests

2 @ 7.5

15%

Comprehensive laboratory final test

15%

100%

TEXTBOOKS:

Hole, John W. Jr. 1996. Human Anatomy and Physiology, 7th Ed., Wm. C. Brown Company Publishers.

Hole, John W. Jr. 1996. Laboratory Manual Human Anatomy and Physiology, 7th Ed., Wm. C. Brown Company Publishers.

Hole, John W. Jr. 1996. Student Study Guide Human Anatomy and Physiology, 7th Ed., Wm. C. Brown Company Publishers.

LECTURE OUTLINE

TOPICS

CHAPTER IN HOLE

1.	Introduction	
	Human physiology and anatomy	1
	Characteristics of life	
	Maintenance of life	
	Elementary particles of life	2
	Levels of organization	
	Organization of the human body	
	Anatomical terminology	
2.	Cell Anatomy and Physiology	
	Cell theory	3
	Cell membranes	
	Cell organelles	
	Movement through cell membranes	
	Cell reproduction	
	Cell metabolism	4
	Process	
	Control of metabolic reactions	
	Energy for metabolism	
	Metabolic pathways	
	Carbohydrate	
	Lipid	
	Protein	
	Nucleic acids	
3.	Cytology and histology	3, 5
4.	Skin and the Integumentary System	6
	Membranes	
	Skin	
	Accessory organs	
	Growth and repair	
	Regulation of body temperature	
	Skin color	
	Skin disorders	
5.	Support and Movement	
	Skeletal system	7
	Bone structure	
	Organization	
	Joints	8
	Bone growth and development	
	Functions	

	Blood cell formation	
	Muscular system	9
	Structure of muscle types	
	Major skeletal muscles	
	Muscle contraction	
	Muscular response	
	Skeletal muscle actions	
6.	Integration and Coordination	
	Nervous system	10, 11
	Nervous tissue and systems	
	Impulse generation and conduction	
	Synaptic transmission	
	Processing of impulses	
	Nerve pathways	
	Functional divisions of the nervous system	
	meninges	
	spinal cord	
	brain	
	peripheral nervous system	
	autonomic nervous system	
7.	Somatic and Special Senses	12
	Receptors and sensations	
	Somatic senses	
	Special senses	
	Sense of smell	
	Sense of taste	
	Sense of hearing	
	Sense of equilibrium	
	Sense of sight	
8.	Endocrine system	13
	Endocrine glands	
	Hormones and their action	
	Control of hormonal secretions	
	Survey of glands	
9.	Digestive system	17
	Digestive system structure (mouth to anus)	
	Mechanical, chemical and enzymatic digestion along the alimentary canal	
	Nutrition and metabolism	18
	carbohydrates	
	lipids	
	proteins	
	energy expenditure	
	vitamins	

minerals
diet

10.	Respiratory system	19
	Organs	
	Control of breathing and mechanism	
	Gas exchange	
	Transport of gasses	
11.	Circulatory system	14, 15
	Blood	
	blood and blood cells	
	blood plasma	
	hemostasis	
	blood groups and transfusions	
	Structure and actions of the heart	
	Blood vessels	
	Arterial and venous system	
	Fetal circulation	
	Blood pressure	
12.	Lymphatic System and Immunity	16
	Formation and function of lymph	
	Movement of lymph	
	Lymph nodes	
	Thymus and spleen	
	Body defence against infection	
	Nonspecific immunity	
	Specific immunity	
13.	Elimination and excretion	20, 21
	System	
	Kidneys	
	Formation of urine	
	Elimination of urine	
	Fluid, electrolyte, and acid/base balance	
	distribution of body fluids	
	water balance	
	electrolyte balance	
	acid base balance	
14.	Reproductive system	22
	Male system	
	Female system	
15.	Life Cycle	23
	Sex cell formation	
	Endocrine control of reproduction	
	Overview of human growth and development	
16.	Genetics	24