

**GRANDE PRAIRIE REGIONAL COLLEGE
DIPLOMA NURSING PROGRAM
COURSE OUTLINE - 1995-96**

Full Year

COURSE: BI 1621 HUMAN BIOLOGY 1995/96

INSTRUCTOR: PAUL LEMAY OFFICE J224
TEL. 539-2863 (HOME 532-3766)

**LABORATORY
TECHNICIAN:** RICK SCOTT OFFICE J121
TEL. 539-2953

**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. 1993. Human Anatomy and Physiology, 6th Ed., Wm. C. Brown Company Publishers.

Hole, John W. Jr. 1993. Laboratory Manual Human Anatomy and Physiology, 6th Ed., Wm. C. Brown Company Publishers.

Hole, John W. Jr. 1993. Student Study Guide Human Anatomy and Physiology, 6th 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 chemistry	2	
Levels of organization		
Organization of the human body		
Anatomical terminology		
2. Cell Anatomy and Physiology		
Cell theory		
Cell membranes		
Cell organelles		
Movement through cell membranes		
Cell reproduction		
Cell metabolism		
Process		
Control of metabolic reactions		
Energy for metabolism		
Metabolic pathways		
Carbohydrate		
Lipid		
Protein		
Nucleic acids		
3. Cytology and histology	3, 4	
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		
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	10, 11
	Nervous system	
	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	14, 15
	Digestive system structure (mouth to anus)	
	Mechanical, chemical and enzymatic digestion along the alimentary canal	
	Nutrition and metabolism	
	carbohydrates	
	lipids	
	proteins	
	energy expenditure	
	vitamins	
	minerals	
	diet	

10.	Respiratory system	16
	Organs	
	Control of breathing and mechanism	
	Gas exchange	
	Transport of gasses	
11.	Circulatory system	17, 18
	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	19
	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	22
	Sex cell formation	
	Endocrine control of reproduction	
	Overview of human growth and development	
16.	Genetics	