

**Grande Prairie Regional College
Department of Science and Technology**

PZ 1500 Elementary Physiology I Course Outline – 1st Year Nursing (CBL)

PZ 1500 Elementary Physiology I 3(3-0-0)

This is an introductory course in physiology for the health sciences. It is available only to students in the Nursing program.

The first semester of this course covers fundamental concepts in physiology. The second semester of this course follows the topics outlined in the scenarios presented in the CBL Nursing program. Some of the topics covered will require extra reading / study by the students.

Textbook : Saladin, K.S. (1998), Anatomy and Physiology : The unity of form and function, WCB / McGraw-Hill, Boston MA
ISBN 0-07-115547-3

Resource Person : Dr. Sean Irwin
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Fixed Resource Session : Thursday 1:00 - 2:20
Seminar / Lab : Monday 12:00 - 1:00

Evaluation:	Mid-term exam I.....20%
	Fall final exam25%
	Midterm exam. II.....20%
	Winter final exam.....35%
	Total 100%

Office Hours : Tuesday - 11:30 - 12:30 pm
Wednesday - 11:30 - 12:30 pm
Thursday -10:00 – 11:00 am
Also by appointment

PZ 1500 - Elementary Physiology I - Fall Semester

Week 1 :

Introduction to physiology : Chapter 1 pg. 20 - 22

- homeostasis
- feedback mechanisms

Macromolecules, Enzymes and Metabolism : Chapter 3 pg. 82 – 98

- carbohydrates, lipids, proteins
- enzymes and metabolism

Week 2:

The Cell : Chapter 4 pg. 111 – 135.

- cell structure
- plasma membranes
- membrane transport / gating
- cellular respiration

Week 3:

Cellular Function : Chapter 5 pg. 140 - 158.

- nucleic acids
- protein synthesis
- cell cycle

Week 4 and 5:

The Circulatory System : Blood : Chapter 18 pg. 640-669.

- functions and properties of blood
- plasma
- blood cell formation
- erythrocytes - anemia
- blood types
- leukocytes
- hemostasis
- C.V. - coagulation disorders

Midterm I - Monday Oct. 18

Week 6:

The Immune system : Chapter 21

- the lymphatic system
- innate immunity
- acquired immunity
- disorders of the immune system
- C.V. - allergies

Week 7:

Nervous Tissue : Chapter 13 pg. 430 - 453.

- cells
- electrophysiology of neurons
- synapses
- neural integration
- C.V. - Alzheimer disease

Week 8:

Muscle Tissue : Chapter 12 pg. 394 - 422.

- muscle tissue
- microscopic anatomy of skeletal muscle
- muscle innervation
- contraction and relaxation
- smooth muscle
- C.V. - Muscular Dystrophy

Week 9:

Autonomic Nervous System and Somatic Reflexes : Chapter 15 pg.525-544.

- Nature of reflexes
- Mechanism
- Flexor (withdrawal) reflex
- The Autonomic Nervous System

Fall Final Exam - Thursday Nov.18

PZ 1500 - Elementary Physiology I - Winter Semester

Learning Package 1.2.1 – We're Expecting (2 weeks)

Male Reproductive System : Chapter 27 pg. 963, 974

- sex determination
- puberty

Female Reproductive System ; Chapter 28 pg. 1000 – 1003, 1010 – 1013

- puberty
- oogenesis and the sexual cycle

Birth Control: Chapter 28 pg. 1003 –8; 1021.

- birth control methods

Human Development : Chapter 29 pg. 1028 – 1030

- fertilization and pre-embryonic development
- C.V. – *in vitro* fertilization

Scenario 1.2.2 – Mark Hofer (2 weeks)

Respiratory System : Chapter 22 pg. 806- 9; 812- 19; 823.

- pressure and flow - Boyles Law
- inspiration and expiration
- resistance and surface tension
- alveolar ventilation
- alveolar gas exchange
- gas transport
- systemic gas exchange
- oxygen imbalances
- C.V. - COPD

Midterm II -

Scenario 1.2.3 – Misty (2 weeks)

Sensory Organs : Chapter 16 pg. 552-562 ; 557- 594.

- Sensory Receptors
- Taste (gustation)
- Smell (olfaction)
- Vision

Scenario 1.2.4 – Melanie Clark (1 week)

Menopause : Chapter 28 pg. 1001 -2

- climacteric and menopause

The Breast: Chapter 28 pg. 998- 1000.

- breast function

Cancer and the Cell Cycle : Chapter 5 pg. 154 -59

- mitosis
- types of cancer
- causes of cancer
- C.V. – breast cancer

Final Exam -