

Grande Prairie Regional College  
Department of Science and Technology

PZ 1620 Elementary Physiology  
Course Outline – 2<sup>nd</sup> Year Nursing (CBL)

**PZ 1620 Elementary Physiology 6(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 content of this course follows the topics outlined in the scenarios presented in the second year of 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  
office - J223  
phone - 539-2860 (w)  
- 538 -1278 (h)

**Fixed Resource Session :** Tuesday 1:00 –2:20

**Seminar / Lab :** Wednesday 4:00 - 5:20

<b>Evaluation:</b>	Mid-term exam I.....20%
	Fall final exam .....25%
	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 1620 - Elementary Physiology - Fall Semester**

**Learning package 2.1.1 - Kayla (1 week)**

**The immune system : Chapter 21**

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

**Learning Package 2.1.2 – Maria (1 week)**

**Embryonic and Fetal Development : Chapter 29 pg. 1033 – 1039**

Prenatal nutrition

**The Neonate : Chapter 29 pg. 1040– 1043**

The transitional period

Premature Infants

C.V. – Congenital anomalies

**Pregnancy and Childbirth : Chapter 29 pg. 1010-1016**

- Hormones of pregnancy

- Childbirth

**Lactation : Chapter 29 pg. 1017-1019**

**Learning Package 2.1.3 - Jack Little (2 weeks)**

**The Endocrine System : Chapter 17 pg. 600 – 628**

- Hormone classification
- Hormone action
- Hormone receptors
- Hormone interactions
- C.V. - IDDM

**Midterm I -**

**Learning Package 2.1.4 - Mrs. White (1 week)**

**Muscle Tissue : Chapter 12 pg. 394 - 422.**

- muscle innervation
- contraction and relaxation
- smooth muscle
- C.V. - Muscular Dystrophy

**Learning Package 2.1.5 – George (2 weeks)**

**The Urinary System : Chapter 23 pg. 839 – 851, 852 – 857.**

- Glomerular filtration
- Tubular resorption and secretion
- Concentration of urine
- Urine storage and elimination
- C.V. - incontinence

**Fall Final Exam –**

# GRANDE PRAIRIE REGIONAL COLLEGE

## PZ 1620 (Integrated Physiology) (261)

### Course Outline

#### **PZ 1620 Elementary Physiology**

★6(3-0-0). An introduction to human physiology. Available only to nursing students.

Note: PZ 1621 and PHYSL 162 may *not* both be taken for credit.

Content of this course is integrated and tested in Context Based Learning courses:  
NURSING 1900, 1940, 2900, 2940.

#### **NURSING 1900 Physiology Objectives**

##### **Learning Package 1.1.1 - Melissa**

1. Describe the physiology of the female reproductive system (oogenesis; menstrual cycle; hormones: FSH, LH, progesterone, estrogen; target cells re. Hormones).
2. Describe physiology of the male reproductive system (spermatogenesis, erection and ejaculation, testosterone, target cells re. Hormones).
3. Describe the physiology of the human stress response.

##### **Learning Package 1.1.2 - Megan**

1. Describe the general function of the respiratory system and its interrelationship to ears, nose, and throat in children.
2. Describe the general function of the gastrointestinal system and its relationship to spread of disease.
3. Describe the meaning of immunity and the role of white blood cells in innate, humeral, and cell-mediated immunity.

##### **Learning Package 1.1.3 - Chelsea**

1. Explain how nerves and muscles function.
2. Discuss the physiological changes as related to menarche.

**Learning Package 1.1.4 - Hockey Players**

1. Describe the process of inspiration and expiration.
2. Describe the technique of spirometry.
3. Understand the effect of the ANS on respiration.
4. Identify the physiological causes of asthma.
5. Understand spinal reflexes.

**Learning Package 1.1.5 - Mark Hofer**

1. Explain the physiology of the respiratory system.
2. Explain the physiology of the gastrointestinal tract.
3. Explain the importance of transport mechanisms across cell membranes.
4. Explain the importance of protein synthesis.
5. Describe the role of pancreatic juice and bile in terms of digestion.

**Learning Package 1.1.6 - Canadian Health Care System**

**Learning Package 1.1.7 - The Bridge Players**

1. Describe age-related changes in structure and function of the following systems: integumentary, respiratory, cardiovascular, gastrointestinal, musculoskeletal, genitourinary, the nervous system, and the special senses.
2. Describe the biological theories of aging.
3. Explain the function of the heart and blood vessels including control of blood pressure and blood flow to the periphery.
4. Describe the physiology of vision and hearing.
5. Describe the types and actions of joints as classified according to function.

**Learning Package 1.2.1 - "We're Expecting"**

1. Describe the physiological changes to the body systems that occur in women during early pregnancy.
2. Explain the hormonal changes that occur in women during pregnancy.
3. Relate the events of conception and implementation of the blastocyst.
4. Describe the formation and function of the placenta and umbilical cord.
5. Relate the major events of embryonic and fetal development.
6. Trace the general path of blood through the fetal circulation.
7. Explain the importance of the Rh factor in pregnancy.
8. Identify risks to normal fetal growth and development including genetic and environmental factors.

**Learning Package 1.2.2 - Toddler Safety**

**Learning Package 1.2.3 - Tim and the Guys**

1. Outline the mechanisms regulating blood flow in the body, particularly in relation to the sympathetic nervous system.
2. Describe the role of neurotransmitters and identify the major ones.
3. Discuss the function of each area of the brain and autonomic nervous system.
4. Describe the mechanism of neuroendocrine integration.
5. Identify the cranial nerves and functions of each.
6. Describe the relationship between the hypothalamus and the pituitary gland.
7. Distinguish between the sympathetic and parasympathetic divisions of the autonomic nervous system.

**Learning Package 1.2.4 - "Misty"**

1. Review the physiology of vision.
2. Describe the process of homeostasis.
3. Describe the functions of the bladder and urethra.

**Learning Package 1.2.5 - Melanie Clarke**

1. Review the functions of the female reproductive system (particularly the breast).
2. Outline the function of hormones in the perimenopausal female.
3. What changes in cell structure might identify the "lump" in the breast as cancerous?
4. Describe process of mitosis as it would relate to Melanie.
5. Discuss menopause and the hormonal changes involved.
6. Review in detail the role of the immune system and its role in fighting cancer.
7. Review the functions of the male reproductive system (particularly the tests).

**NURS 2900 Physiology Objectives** (to be developed)

**NURS 2940 Physiology Objectives** (to be developed)

**EVALUATION**

There will be 9 opportunities to test the content of PZ 1620 within the testing schedule of Nursing 1900, 1940, and 2940. The percentages listed below are the percent each examination contributes to the grade in PZ 1620.

Nursing 1900

Examination #1	Week 4	5%
Examination #2	Week 7	5%
Examination #3	Week 10	10%

Nursing 1940

Examination #1	Week 3-4	5%	
Examination #2	Week 7	25%	CUMULATIVE FOR YEAR ONE

Nursing 2900

Examination #1	Week 3-4	5%
Examination #2	Week 7	10%

Nursing 2940

Examination #1	Week 3-4	5%	
Final Examination	Week 7	30%	CUMULATIVE FOR YEAR TWO