



**I. COURSE DESCRIPTION:**

This course explores the major pathologies of the cardiovascular, respiratory, urinary, digestive, reproductive and endocrine systems. The course includes basic information on nutritional disorders.

It is imperative that you have a good understanding of normal anatomy and physiology to understand the processes of disease. Thus, you must review the associated Anatomy and Physiology before the study of each system. You will find that by reviewing the material and then applying the knowledge, your understanding of Pathophysiology will deepen and be retained longer. Keep your Anatomy and Physiology text close at hand so that you may constantly refer to it.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the student will be able to:

- A. Explain the basic concepts of pathophysiology and the general principles of disease and injury.
- B. Discuss how the human body deals with the dynamic aspects of a disease or injury process.
- C. Analyze common pathologies of an organ or a system and the effect on the human body from a holistic viewpoint.
- D. Discuss the clinical implications/contraindications of treatment for common pathologies and medications.
- E. Explain when to refer clients to other health care professionals.

**III. TOPICS:****A. Alterations in the Cardiovascular System**

1. disorders of white blood cells and lymphoid tissue (ie. leukemia, Hodgkin's disease, mononucleosis, lymph node obstruction)
2. alterations in homeostasis (bleeding disorders, hemophilia)
3. disorders of the red blood cells (common anemias)

**III. TOPICS:**

4. alterations in blood flow
  - alterations in arterial flow (atherosclerosis, aneurysm, arterial occlusion, Raynaud's disease and phenomenon, thromboangiitis obliterans (Buerger's disease) polyarteritis, temporal arteritis, (angiitis)
  - alterations in venous flow (varicose veins, thrombosis/thrombophlebitis)
  - external forces (compartment syndrome/pressure ulcers)
5. alterations in blood pressure
  - hypertension (essential, malignant)
  - orthostatic hypotension
6. alterations in cardiac function
  - disorders of the pericardium (pericarditis)
  - coronary artery disease (chronic ischemia, angina pectoris, myocardial infarction)
  - disorders of cardiac rhythm and conduction
  - infectious/inflammatory disorders (endocarditis, myocarditis)
  - valvular heart disease
  - congenital heart disease (knowledge level)
7.
  - a. Heart Failure (acute, chronic, congestive)
  - b. Pulmonary Edema
8. Circulatory Shock (knowledge level)

**B. Alterations in Respiratory Function**

- infections (pneumonia, T.B.)
- disorders of lung inflation (pneumothorax, atelectasis, pleurisy) obstructive airway diseases (asthma, COPD, C.F, bronchitis, bronchiectasis)
- pulmonary vascular disorders (embolism/infarction)
- lung cancer
- alterations in control of ventilation
- impaired gas exchange (hypoxia)

**C. Alterations in Fluid and Electrolytes**

- alterations in fluid volume
- alterations in intestinal fluids and edema

**III. TOPICS:****D. Alterations in Renal Function**

- obstructive disorders (renal calculi)
- UTI
- tubule interstitial disorders (pyelonephritis)
- acute/chronic renal failure and clinical complications
- alterations in bladder function

**E. Alterations in the Endocrine System**

- review of endocrine system
- thyroid disorders
  - i) hypothyroidism
  - ii) hyperthyroidism
- adrenal disorder
  - i) Cushing's disease
- pancreatic disorders
  - i) diabetes
  - ii) diabetes complications

**F. Alterations in the Reproductive System**

## 1. Male

- disorders of the prostate (prostatitis, hyperplasia, carcinoma)
- disorders of the scrotum and testes (testicular cancer)

## 2. Female

- disorders of the cervix (inflammatory and neoplastic conditions)
- disorders of the uterus (endometriosis, cancer, fibroids)
- disorders of the fallopian tubes and ovaries (cysts, cancer, PID, ectopic pregnancy)
- menstrual disorders (dysmenorrhea, PMS)
- disorders of the breast (mastitis, benign breast disease, cancer)
- complications of pregnancy (PIH, miscarriage, abortion)

## 3. Sexually Transmitted Diseases

**G. Alterations in Gastrointestinal Functions**

- disorders of the esophagus (esophagitis, hiatus hernia, tonsillitis)
- disorders of the stomach (peptic ulcer, gastritis)
- disorders of the small and large bowel (duodenal ulcer, Crohn's, gastroenteritis, ulcerative colitis, appendicitis, constipation, diverticular disease, hernias, colorectal cancer, malabsorption syndrome)
- peritonitis

**III. TOPICS:****H. Alterations in Function of the Hepato Biliary System and Exocrine Pancreas**

- alterations in hepatic function (hepatitis, cirrhosis, liver failure)
- alterations in biliary functions (cholecystitis/cholelithiasis)
- disorders of the exocrine pancreas (pancreatitis)

**I. Alterations in Nutritional Status**

- malnutrition states (obesity, alcoholism)
- eating disorders (review)

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

Bullock, B. and Henze, R. (2000) Focus on Pathophysiology, Lippincott, Williams & Wilkins.

Kirkwood, Joanne. BIO3100 Class Notes. (2003), Sault College

**V. EVALUATION PROCESS/GRADING SYSTEM:****Evaluation Methods:**

The evaluation methods and procedures for missed exams will be discussed with students and a copy will be provided in writing within the first two weeks of class.

**Supplemental Exam:**

One opportunity for a supplemental exam will be offered to students who meet the following criteria:

- have a grade of 50 – 59% in the course
- have attended at least 80% of the scheduled class time

The final grade for the semester will be based solely on the supplemental exam. The grade achieved will not be higher than a “C”.

***The following semester grades will be assigned to students in postsecondary courses:***

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
R (Repeat)	59% or below	0.00

CR (Credit)	Credit for diploma requirements has been awarded.
S	Satisfactory achievement in field placement or non-graded subject areas.
U	Unsatisfactory achievement in field placement or non-graded subject areas.
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see <i>Policies &amp; Procedures Manual – Deferred Grades and Make-up</i> ).
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has not been possible for the faculty member to report grades.

#### VI. SPECIAL NOTES:

##### Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your instructor and/or the Special Needs office. Visit Room E1204 or call Extension 493, 717, or 491 so that support services can be arranged for you.

##### Retention of course outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

**VI. SPECIAL NOTES:**Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Rights and Responsibilities*. Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course, as may be decided by the professor. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

**VII. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advanced credit in the course should consult the instructor.

**VIII. DIRECT CREDIT TRANSFERS:**

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.