

This course will run as a pilot project in which the students will cover both acute and chronic health challenges in a systems approach. This is in direct response to student feedback and is in an effort to increase student retention.

I. COURSE DESCRIPTION:

This course provides the learner with a general understanding and working knowledge of the structure and function of various body systems experiencing both acute and chronic health challenges. The learner will examine changes that occur in the human body and explore how the body compensates for those challenges. Included in this course is the study of the basic principles of microbiology.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Use the appropriate terminology related to how normal physiological processes are altered by health challenges (disease).
2. Explain the pathophysiological concepts of various health challenges.
3. Describe how the human body compensates during a health challenge.
4. Examine common health challenges and their effect on the human body.
5. Examine typical diagnostic testing for common health challenges.
6. Examine the effects of microbes on the body.

Review the selected key terms (vocabulary) for each specific concept/system.

The requirements of the learning outcomes will be met by the defined elements of performance under the following :

CONCEPTS OF DISEASE

1. Introduction to Pathophysiology

- Explain the role of pathophysiology in the diagnosis and treatment of disease
- Review normal defences of the body
- Identify and describe specific and non-specific defences
- Discuss the stress response and its relationship to disease
- Identify and describe the various types of cellular injury, adaptation and death
- Identify and describe the most common causes of cell injury, adaptation and death

2. Inflammation & Healing

- Explain the inflammatory process
- Describe the signs and symptoms of inflammation (local and systemic effects)
- Describe the characteristics of exudates
- Discuss diagnostic tests used to diagnose and monitor inflammation
- Explain the healing process
- Identify and describe factors that affect healing

3. Pain

- Identify and describe the causes, signs and symptoms of pain
- Describe the pain pathway
- Discuss factors that may alter perception of pain
- Compare acute and chronic pain

4. Fluid and electrolyte balance – Acid /base imbalance

- Identify and describe functions and regulatory mechanisms that maintain fluid and electrolyte balance
- Identify and describe the common causes signs and symptoms and complications of fluid volume excess and deficit
- Identify and describe the common causes, signs and symptoms and complications of the more common electrolyte imbalances
- Identify and describe the common causes, signs and symptoms and complications of acidosis and alkalosis (metabolic and respiratory)
- Discuss diagnostic tests used to diagnose and monitor fluid, electrolyte and acid/base imbalances
- Identify and describe the common causes, signs and symptoms and complications of hypertension
- Identify and describe the common causes, signs and symptoms and complications of the various stages of shock

5. Immunological Diseases

- Identify the etiology, contributing factors, signs and symptoms, complications of common immune disorders
- Examine diagnostic tests used to diagnose and monitor immune disorders

6. Infection

- Describe the typical characteristics of a bacteria, virus, fungus, parasite
- Examine the transmission of infectious agents
- Describe the chain of infection
- Discuss interventions to prevent spread of infection (Guidelines for standard and transmission based precautions)
- Describe the progression of infection
- Identify and describe common nosocomial infections
- Discuss diagnostic tests used to diagnose and monitor infection

7. Cardiovascular

- Identify and describe the etiology, contributing factors, pathophysiology, signs and symptoms of common cardiovascular disorders

- Examine the diagnostic tests used to diagnose and monitor cardiovascular disorders

8. Respiratory

- Identify and describe the etiology, contributing factors, pathophysiology, signs and symptoms of common acute respiratory disorders (upper and lower)
- Explain the progressive airway response to a stimulus
- Identify the etiology, contributing factors, signs and symptoms and complications of common chronic respiratory disorders
- Compare and contrast emphysema, asthma and bronchitis
- Discuss diagnostic tests used to diagnose and monitor respiratory disorders

9. Neurological Disorders

- Identify the etiology, contributing factors, signs and symptoms and complications of common neurologic alterations
- Compare and contrast the various types of seizure disorders
- Examine the diagnostic tests used to diagnose and monitor common neurologic alterations

III. TOPICS:

1. Introduction to Pathophysiology
2. Inflammation
3. Pain & Healing
4. Fluid and electrolyte balance – Acid /base imbalance
5. Immune Disorders
6. Infection
7. Cardiovascular Disorders
8. Respiratory Disorders
9. Neurological Disorders

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Gould B. E. (2006). *Pathophysiology for the Health Professions* (4th ed.). Saunders.

Marieb, E. N. (2008). *Essentials of Human Anatomy and Physiology* (9th ed.). Benjamin-Cummings.

Sault College LMS (course notes, online quizzes, important announcements)

Sault College Student Portal – www.mysaultcollege.ca

USEFUL:

Springhouse (2002). *Pathophysiology made Incredibly Easy* (2nd ed.). Lippincott, William and Wilkins.

Kee Lefever, Joyce (2001). *Handbook of laboratory and diagnostic tests* (4th ed.).

Upper Saddle River, NJ: Prentice Hall. (*used in Semester 4*)

V. EVALUATION PROCESS/GRADING SYSTEM:

1. **The pass mark for this course is 60%.** It is composed of term tests and a final exam.

2. Evaluation Methods:

4 Tests (MC & short answer)	60%
Final Exam (multiple choice)	30%
Online Tests	<u>10%</u>
TOTAL	100%

Online quizzes:

Two attempts for each quiz, the highest mark will count.

Final exam will consist of material from the **entire** course.

3. Students missing the tests or the final exam because of illness or other serious reason must inform the professor at least one hour **before** (759-2554, Ext. 2635 OR via email/LMS). Those students who have notified the professor of their absence, according to policy, will be eligible to arrange an opportunity to write **as soon as possible** upon return to the college. Those students who **do not notify** the professor will receive a zero for that evaluation. See Student Success Guide.

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%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 - 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	

NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

VI. SPECIAL NOTES:

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session. *It is the departmental policy that once the classroom door has been closed, the learning process has begun. Late arrivers may not be granted admission to the room.*

VII COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline. www.mysaultcollege.ca