

**COURSE NAME:** PNE237 Pathophysiology I

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Credit Value: 4  
Total Course Hours: 56  
Prerequisite Course(s): IAP100, IAP120, PNE 128  
Corequisite Course(s): PNE 235

## COURSE DESCRIPTION

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This course provides the learner with a general understanding and working knowledge of the structure and function of the human body experiencing a health challenge, including the basic concepts of disease and illness (inflammation, infection, healing, stress, pain neoplasm). The learner will examine changes that occur in the human body and explore how the body compensates for those challenges.

## LAND ACKNOWLEDGEMENT

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Canadore College resides on the traditional territory of the Anishinaabeg and within lands protected by the Robinson Huron Treaty of 1850. This land is occupied by the people of Nipissing First Nation, Treaty #10 in the Robinson Huron Treaty of 1850 since time immemorial.

## PLAR INFORMATION

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This course is eligible for Prior Learning Assessment and Recognition. Students are advised to discuss options with their program coordinator.

## COURSE LEARNING OUTCOMES

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Upon completion of this course, the student will have reliably demonstrated the ability to:

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| 1.0 Describe how the human body compensates for a health challenge.                | bacteria, viruses, fungi, and parasites  |
| 1.1 Explain the role of pathophysiology in the diagnosis and treatment of disease. | 2.2.3 Define resident flora  |
| 1.2 Review normal defenses in the body.  | 2.2.4 Describe the transmission of infectious agents   |
| 1.3 Identify specific and non-specific mechanical defenses.                        | 2.2.5 Describe the chain of infection  |
| 2.0 Explain the basic pathophysiological concepts of a health challenge.           | 2.2.6 List factors contributing to host resistance to infection  |
| 2.1 Inflammation:  | 2.2.7 List interventions to prevent spread of infection (guideline for standard transmission based precautions). |
| 2.1.1 Define inflammation  | 2.2.8 Describe the progression of infection  |
| 2.1.2 Explain the steps of the inflammatory process.                               | 2.2.9 Identify common health care acquired infection (bacterial, viral, VRE, MRSA, Clostridium Difficile)        |
| 2.1.3 Identify causes of inflammation  | 2.2.10 Explain diagnostic used to diagnose and monitor infection   |
| 2.1.4 Describe the signs and symptoms of inflammation (local and systemic)         | 2.2.11 Examine the effect of microbes of the human body  |
| 2.1.5 Describe the characteristics of exudate                                      |  |
| 2.1.6 Describe the diagnostic tests used to diagnose and monitor inflammation      | 2.3 Healing:   |
| 2.2 Infection:   | 2.3.1 Describe the types of healing  |
| 2.2.1 Define microbiology  | 2.3.2 Explain the healing process  |
| 2.2.2 Describe the basic characteristics of  | 2.3.3 Identify factors that affect healing   |
|  | 2.4 Stress response:   |

- 2.4.1 Describe the stress response
- 2.4.2 Explain how the stress response is related to disease
- 2.5 Pain:
  - 2.5.1 Define acute and chronic pain
  - 2.5.2 Identify the causes of pain
  - 2.5.3 Describe the pain pathway
  - 2.5.4 Relate the methods of pain control to the gate control theory
  - 2.5.5 Describe the signs and symptoms of pain
  - 2.5.6 Explain factors that may alter pain perception
  - 2.5.7 Compare acute and chronic pain
- 2.6 Neoplasm:
  - 2.6.1 Discuss the etiology of neoplastic conditions
  - 2.6.2 Differentiate between benign and malignant tumors
  - 2.6.3 Describe the spread of neoplasms/carcinogenesis
  - 2.6.4 Describe the stages of neoplastic growths
  - 2.6.5 Describe signs and symptoms and complications common to different types of cancer
  - 2.6.6 Explain diagnostic tests used to diagnose and monitor neoplastic conditions
- 3.0 Examine common health challenges, as listed in subsequent outcomes, and their effect on the human body (adult and child).
  - 3.1 Define common conditions.
  - 3.2 Discuss the etiology of common conditions.
  - 3.3 Describe the development of common conditions.
  - 3.4 Describe signs and symptoms and complications of common conditions.
  - 3.5 Explain diagnostic tests used to diagnose and monitor common conditions.
- 4.0 Fluid and electrolyte balance, acid/base imbalance:
  - 4.1 Fluid volume excess and deficit.
    - 4.1.1 Identify functions and regulatory mechanisms that maintain water and electrolyte balance in the body
    - 4.1.2 Compare and contrast the effect of fluid volume excess and fluid volume deficits.
  - 4.2 Electrolyte imbalances.
    - 4.2.1 Hypo/hyponatremia
    - 4.2.2 Hypo/hyperkalemia
    - 4.2.3 Hypo/hypercalcemia
  - 4.3 Acidosis and alkalosis (metabolic and respiratory).
- 5.0 Alteration in Psychosocial Functioning
  - 5.1 Examine common psychosocial conditions including a discussion of the biological and psychosocial theories about the etiology:
    - 5.1.1 Major depression
    - 5.1.2 Bipolar disorders
    - 5.1.3 Suicide
    - 5.1.4 Anxiety (panic/phobias/post traumatic stress disorders/generalized anxiety disorder)
    - 5.1.5 Substance abuse (drug/alcohol)
    - 5.1.6 Personality Disorders (borderline/antisocial)
    - 5.1.7 Schizophrenia
    - 5.1.8 Eating disorders (anorexia nervosa/bulimianervosa/obesity)
- 6.0 Pregnancy.
  - 6.1 Examine potential antepartum, intrapartum and postpartum complications
    - 6.1.1 Ectopic pregnancy
    - 6.1.2 Hypertensive disorders of pregnancy
    - 6.1.3 Hyperemesis gravidarum
    - 6.1.4 Antepartum, intrapartum, and postpartum hemorrhage
    - 6.1.5 Abortions
    - 6.1.6 Gestational Diabetes
    - 6.1.7 Blood incompatibilities
    - 6.1.8 Infections
    - 6.1.9 Anemias
    - 6.1.10 Substance abuse in pregnancy
    - 6.1.11 Postpartum complications
    - 6.1.12 Postpartum mood disorders
- 7.0 Respiratory.
  - 7.1 Examine common respiratory conditions.
    - 7.1.1 Croup
    - 7.1.2 Epiglottitis
    - 7.1.3 Pneumonia
    - 7.1.4 RSV

- 7.1.5 Asthma
- 7.1.6 Hemothorax/pneumothorax
- 7.1.7 COPD (emphysema/chronic bronchitis)
- 7.1.8 Tuberculosis
- 7.1.9 Cystic Fibrosis
- 7.1.10 Influenza
- 7.1.11 Lung Cancer
- 8.0 Cardiovascular.
  - 8.1 Examine common cardiovascular conditions.
    - 8.1.1 Hypertension (primary /secondary)
    - 8.1.2 Coronary Artery Disease
    - 8.1.3 Angina
    - 8.1.4 Myocardial Infarction
    - 8.1.5 Peripheral arterial disease
  - 8.1.6 Periheral venous disease (DVT)
  - 8.1.7 Pulmonary edema
  - 8.1.8 Shock (hypovolemia/anaphylactic/cardiogenic/septic/neurogenic)
  - 8.1.9 CHF ( right and left sided in adults and children)
  - 8.2 Examine modifiable and non-modifiable risk factors for cardiovascular disease.
- 9.0 Endocrine
  - 9.1 Examine common endocrine condition:
    - 9.1.1 Diabetes mellitus (Type 1 and type 2)
    - 9.1.2 Hypothyroidism/hyperthyroidism
    - 9.1.3 Cushing's syndrome
    - 9.1.4 Addison's disease

## GENERAL EDUCATION

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This is not a General Education course.

## ESSENTIAL EMPLOYABILITY SKILLS OUTCOMES

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This course contributes to the following Ministry of Colleges and Universities approved essential employability skills (EES) outcomes:

- 7. Analyse, evaluate, and apply relevant information from a variety of sources.
- 9. Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.

## EXTERNAL COURSE ACCREDITATIONS AND CONDITIONS

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This course is a compulsory course within the Canadore College Practical Nursing program, as reviewed and approved by the College of Nurses of Ontario

## COURSE EVALUATION

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Quizzes/Tests/Exams 100%

## PROGRAM SPECIFIC GRADING

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Successful completion of this course requires a minimum grade of C

## GRADING SYSTEM

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A+:	90-100%	B+:	77-79%	C+:	65-69%	D:	50-54%	S - Satisfactory
A:	85-89%	B:	73-76%	C:	60-64%	F:	0-49%	I - Incomplete
A-:	80-84%	B-:	70-72%	D+:	55-59%			F- Repeat Course, included in GPA
								FS- Failure Supplemental
								FR- Repeat course, excluded from GPA

\*For a complete chart of grades and descriptions, please see the Grading Policy.

## LEARNING RESOURCES

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No textbooks have been identified for this course.

Other Resources:

Required:

VanMeter, K. & Hubert, R. (2022 ). Gould's Pathophysiology for the Health Professions (7th edition). Saunders: Toronto. ISBN-13: 978-0-323-79288-2 or EBook

Elsevier Clinical Learning Suite (Purchased in Semester 2 Book Bundle)

Videbeck, S. (2019). Psychiatric Mental Health Nursing. (8th edition). Lippincott: New York ISBN-13: 978-1975116378 (Book) or ISBN: 9781975151652 (E-Book)

Recommended

VanMeter, K. (2022). Study Guide for Gould's Pathophysiology for the Health Professions (7th edition). Saunders: Toronto.

ISBN-13: 978-0-323-79293-6

Resources listed on the course outline support the achievement of learning outcomes, and may be used throughout the course to varying degrees depending on the instructor's teaching methodology and the nature of the resource.

Technology requirements - <https://www.canadorecollege.ca/BYOD>

The Harris Learning Library's staff can help you find resources to support your learning - [www.eclibrary.ca](http://www.eclibrary.ca)

## LEARNING ACTIVITIES

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In-class activities

## DELIVERY MODE

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This course may be delivered, in whole or in part, in a number of modalities, including in class, online, hybrid, in a synchronous or asynchronous manner or a combination thereof, as per accreditation and/or regulatory standards where appropriate.

## RECORDING GUIDELINES

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This class may be recorded by faculty of the College. Faculty will inform students when recording of the class commences and ceases. 'Recorded' means that the audio-visual and chat portions of the class will be recorded and then be stored on the College or vendor provider server. They will be made available to students, but only for the express and sole use of those registered in this course. If you have any questions or concerns about this recording, please contact your instructor or the College's privacy officer at [privacy.officer@canadorecollege.ca](mailto:privacy.officer@canadorecollege.ca). Full recording guidelines can be found at: <https://cdn.agilitycms.com/canadore-college/academic-centre-of-excellence/Canadore%20Recording%20Guidelines.pdf>

## ACADEMIC POLICIES

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Canadore College is committed to the highest standards of academic integrity, and expects students to adhere to these standards as part of the learning process in all environments. The College's Academic Integrity policy seeks to ensure that all students understand their rights and responsibilities in upholding academic integrity and that students receive an accurate and fair assessment of their work. Please review the Academic Integrity policy (A-18) and other academic policies found on our website: <https://www.canadorecollege.ca/about/policies>.

## COLLEGE POLICIES

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- Protecting human rights in support of a respectful college community

For college policies please see: <http://www.canadorecollege.ca/about-us/college-policies>.

## STUDENT SUCCESS SERVICES - Your Success Matters!

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Student Success Services provides student-focused services to facilitate students' success in their studies. Staff provide support by reducing and/or removing educational-related barriers through individualized accommodations and supports to students with disabilities.

Please visit our webpage to learn more: <https://www.canadorecollege.ca/support/student-success-services> or look for our events on social media.

To connect with Student Success Services email [studentsuccessnow@canadorecollege.ca](mailto:studentsuccessnow@canadorecollege.ca) or call 705.474.7600 ext 5205.

## FIRST PEOPLES' CENTRE:

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A culturally safe environment offering CONFIDENTIAL student focused services, drop in or make an appointment to access:

- One on one counselling
- Elder in residence program
- Peer tutoring
- Peer mentorship
- Lunch & learn workshops on study skills, self-care, life skills
- Learning Resource Centre

Drop by our offices at C254 College Drive, E101 Commerce Court or call 705 474 7600 Ext. 5961 College Drive / 5647 Commerce Court.

<https://www.canadorecollege.ca/experience/indigenous-student-experience>

## WAIVER OF RESPONSIBILITY

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Every attempt is made to ensure the accuracy of this information as of the date of publication. The college reserves the right to modify, change, add, or delete content.

## HISTORICAL COURSE OUTLINES

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Students use course outlines to support their learning. Students are responsible for retaining course outlines for future use in applications for transfer of credit to other educational institutions.

## ADDITIONAL DISCLAIMER NOTE

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Students are expected to adhere to the policies and procedures as outlined in the Practical Nursing Student Success Guide 2022-2023. All previous guides will not apply.