

Department of Practical Nurse and Health Care Aide

COURSE OUTLINE – Winter 2024

NP1600 (6): Pathophysiology and Pharmacology – 6 (6-0-0) 90 Hours for 15 Weeks

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

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INSTRUCTOR: Jaclyn Lucas, RN BScN

OFFICE: FTI 235

OFFICE HOURS: By Appointment

PHONE: (780) 835-6620

E-MAIL: jlucas@NWPolytech.ca

CALENDAR DESCRIPTION: Exploration of disordered physiological processes associated with disease or injury and the use of medications, including indications, effects, and mechanisms of action.

Note: Available only to Practical Nursing Students

PREREQUISITE(S): NP1205, NP1250, NP1280, NP1500

COREQUISITE(S): NP1400, NP1410, NP1450, NP1480

REQUIRED TEXT/RESOURCE MATERIALS:

Huether, S. E., McCance, K. L., El-Hussein, M., Power-Kean, K., & Zettel, S. (2022).

Understanding Pathophysiology (2nd ed.). Elsevier.

Lilley, L. L., Swart, B., & Snyder, J. S. (2020). *Pharmacology for Canadian Health Care Practice* (4th ed.). Elsevier.

Lilly, L. L., Swart, B. & Snyder, J., S. (2016). *Guide for Lilley's Pharmacology for Canadian Health Care Practice 3rd* : Elsevier

DELIVERY MODE(S): Lecture – in-person

LEARNING OUTCOMES:

Upon successful completion of NP1600 learners will be able to:

1. Apply concepts from anatomy and physiology to pathophysiological processes and pharmacotherapy

2. Identify pathophysiological process and pharmacotherapy interventions.
3. Describe relationships between pathophysiology and pharmacology.
4. Identify various pharmacology classifications.
5. Identify various microorganisms.
6. Describe various microorganisms and the relationship to transmission of infection and disease.

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page

<http://www.transferalberta.alberta.ca>.

**** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

EVALUATIONS:

Assignment	Weight	Date	Related Course Learning Outcome
Ticket to Class	25%	Weekly	1, 2, 3, 4, 5, 6
Midterm Exam #1 (Part A & B)	25%	Week 5	1, 2, 3, 4, 5, 6
Midterm Exam #2 (Part A & B)	25%	Week 11	1, 2, 3, 4, 5, 6
Final Exam	25%	Week 15	1, 2, 3, 4, 5, 6

1. Ticket to Class

Questions will be handed out at the start of one or two lectures a week to assess required pre-reading knowledge. This exercise aims to encourage students to keep up with class readings, refresh student memory of subject matter and prepare students to engage in class discussion, which is essential to the function of this course. Ticket to Class sheets will be submitted within the class after the allotted time, following which no further submissions will be allowed. Students must be in attendance each week to receive the sheet and grade. Please see the course myClass page for further information.

2. Midterm Exams #1

The first midterm exams will include all content covered up to and including Week 5. Question format includes a variety of styles including, but not limited to multiple choice, short answer, long answer, matching, and select all that apply.



Sample Exam Question:

Which of the following is the most critical index of nervous system dysfunction:

- a) Size and reactivity of pupils.
- b) Breathing pattern.
- c) Motor response.
- d) Level of consciousness.

3. Midterm Exams #2

The second midterm exams will include all content covered from Week 6 up to and including Week 10. Question format includes a variety of styles including, but not limited to multiple choice, short answer, long answer, matching, and select all that apply.

Sample Exam Question:

What type of pulmonary disease requires more force to expire a volume of air?

- a. Restrictive.
- b. Obstructive.
- c. Acute.
- d. Communicable.

4. Final Exam

The final exam is not cumulative and will include content from Week 11 onward. Question format includes a variety of styles including, but not limited to multiple choice, short answer, long answer, matching, and select all that apply.

Scheduling of the final exam is set by the Registrar's Office.

Sample Exam Question:

Gastroesophageal reflux disease (GERD) is a result of:

- a. Excessive production of hydrochloric acid.
- b. A zone of low pressure over the lower esophageal sphincter.
- c. Presence of *Helicobacter pylori* in the esophagus.
- d. Reverse muscular peristalsis of the esophagus.

GRADING CRITERIA

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	95-100	C+	2.3	67-69
A	4.0	85-94	C	2.0	63-66
A-	3.7	80-84	C-	1.7	60-62
B+	3.3	77-79	D+	1.3	55-59
B	3.0	73-76	D	1.0	50-54
B-	2.7	70-72	F	0.0	00-49

PROGRESSION CRITERIA

A grade of C- is the minimum passing grade for all Practical Nursing courses in the program. For promotion from term to term in the program and for graduation, students must have successfully completed all the required Practical Nursing and non-Practical Nursing courses of the previous term.

A student with a GPA of 1.69 or lower must withdraw from the Practical Nursing program. Readmission to the program is subject to departmental review.

Students who withdraw or fail twice from a required practical nursing course will be withdrawn from the program and ineligible for re-admission.

COURSE SCHEDULE/TENTATIVE TIMELINE:

Week	Pathophysiology chapters	Pharmacology chapters that are related
1	Unit 1 – The cell (Chapter 1, 4)	Chapter 43 – Antibiotics: Part 1 Chapter 44 – Antibiotics: Part 2 Chapter 45 – Antiviral Drugs
2	Unit 2 – Mechanisms of Self-Defense (Chapter 6, 7, 8)	Chapter 46 – Antitubercular Drugs Chapter 47 – Antifungal Drugs Chapter 49 – Anti-inflammatory and Anticancer Drugs
3	Unit 3 – Cellular Proliferation: Cancer (10, 11, 12)	Chapter 50 – Immunosuppressants Chapter 52 – Antineoplastic Drugs Part 1 Chapter 53 – Antineoplastic Drugs Part 2 Chapter 54 – Biological response anti-rheumatic



4	Unit 6 - The Hematological System (Chapter 21, 22)	Chapter 55- Anemia
5	Midterm #1 Part A on Monday; Part B on Wednesday	
6	Unit 8 - Pulmonary System (Chapter 27, 28) Unit 11 - Digestive System (Chapter 36, 37)	Chapter 37- Antihistamines, Decongestants and Antitussives (include Fever) Chapter 38- Drugs affecting the Respiratory System Chapter 39 - Acid-Controlling Drugs Chapter 40 - Antidiarrheals and Laxatives Chapter 41 - Antiemetic and Antinausea Drugs Chapter 42 - Nutritional Supplements
7	READING WEEK	
8	Unit 5 - Endocrine System (Chapter 18, 19)	Chapter 31 - Pituitary Drugs Chapter 32 - Thyroid and Antithyroid drugs Chapter 34 - Adrenal Drugs Chapter 33 - Antidiabetic Drugs
9	Unit 4 - Neurological Systems (Chapters 14, 15, 16)	Chapter 21 - Cholinergic Drugs Chapter 22 - Cholinergic blocking Drugs Chapter 16 - Antiparkinsonian Drugs Chapter 15 - Antiepileptic Drugs Chapter 17 - Psychotherapeutics Chapter 11 Analgesic Drugs Chapter 12 - General and Local Anaesthetics Chapter 13 - CNS Depressants and muscle relaxants Chapter 14 - CNS Stimulants and related drugs Chapter 57 - Ophthalmic Drugs Chapter 58 - Otic Drugs
10	Unit 12 - Musculoskeletal System (Chapter 39, 40)	
11	Midterm #2 Part A on Monday; Part B on Wednesday	
12	Unit 9 - Renal and Urological Systems (Chapter 30, 31) Fluid & Electrolytes Acids and Bases (Chapter 5)	Chapter 30 - Fluid and Electrolytes Chapter 29 - Diuretics Chapter 19 - Adrenergic Drugs Chapter 20 - Adrenergic Blocking Drugs Chapter 23 - Antihypertensives Chapter 24 - Antianginal Drugs
13	Unit 7 - Cardiovascular & Lymphatic Systems (Chapter 24)	Chapter 25 - Heart Failure Chapter 26 - Antidysrhythmic Chapter 27 - Coagulation Modifiers Chapter 28 - Antilipemic Drugs
14	Unit 10 - Reproductive Systems (Chapter 33, 34)	Chapter 36 - Men's Health Drugs Chapter 35 - Women's Health Drugs
15	Final Examination as scheduled by Registrar's Office - Will be 1 exam	

Please note this is subject to change

STUDENT RESPONSIBILITIES:

Refer to NWP Academic Policies <https://www.nwpolytech.ca/about/administration/policies/>

For policies related to clinical absences, immunizations, uniforms, and other clinical requirements please see the NWP Department of Nursing Education & Health Studies PN Student Handbook.

STATEMENT ON ACADEMIC MISCONDUCT:

Academic Misconduct will not be tolerated. For a more precise definition of academic misconduct and its consequences, refer to the Student Rights and Responsibilities policy available at <https://www.nwpolytech.ca/about/administration/policies/index.html>.

****Note:** all Academic and Administrative policies are available on the same page.