

Nursing Education and Health Studies

COURSE OUTLINE – Spring 2023

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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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.

DELIVERY MODE(S): Lecture – in person

COURSE OBJECTIVES:

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.

CLPNA COMPETENCIES:

A-Nursing Knowledge

S-Oncology

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.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
Quizzes & In-class activities	10%	Twice weekly	1, 2, 3, 4, 5, 6
Midterm Exam #1	27.5%	Week 5	1, 2, 3, 4, 5, 6
Midterm Exam #2	27.5%	Week 11	1, 2, 3, 4, 5, 6
Final Exam	35%	Week 15	1, 2, 3, 4, 5, 6

Subject to change

1. Quizzes and In-class activities

Material will cover pre-readings each week in both pharmacology and pathophysiology. Attendance is mandatory to receive credit for these quizzes and activities.

2. Midterm Exam #1

The first midterm exam includes 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 Exam #2

The second midterm exam includes 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 cumulative and includes all content covered throughout the course. 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: (The following criteria may be changed to suit the particular course/instructor)

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	90-100	C+	2.3	67-69
A	4.0	85-89	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

Academic 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-Defence (Chapter 6, 7, 8)	Chapter 46 Antitubercular Drugs Chapter 47 Antifungal Drugs Chapter 49 Anti-inflammatory and Antigout 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	Midterm #1 Part B
6	Unit 8 – Pulmonary System (Chapter 27, 28)	Chapter 37 Antihistamines, Decongestants and Antitussives (include Fever) Chapter 38 Drugs affecting the Respiratory System

7	Unit 11 Digestive System (Chapter 36, 37)	Chapter 39 - Acid-Controlling Drugs Chapter 40 - Antidiarrheals and Laxatives Chapter 41 - Antiemetic and Antinausea Drugs Chapter 42 - Nutritional Supplements
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 10	Unit 4 Neurological Systems (Chapters 14, 15, 16) Unit 12 Musculoskeletal System (Chapter 39, 40)	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
11	Midterm #2 Part A on Tuesday; Part B on Thursday	
12	Unit 9 Renal and Urological Systems (Chapter 30, 31) Chapter 5 Fluid & Electrolytes Acids and Bases	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	

*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 PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Calendar at <https://www.nwpolytech.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at <https://www.nwpolytech.ca/about/administration/policies/index.html>

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