

DEPARTMENT OF NURSING EDUCATION AND HEALTH STUDIES

COURSE OUTLINE – Fall 2026 & Winter 2027

NS2160A & NS2160B (YA2 YB2): Pathophysiology and Pharmacology II– 6 (3-0-0) 90 Hours/30 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.

INSTRUCTOR:	Dr. Eleni Hansen PhD, RN
OFFICE:	3 rd level HEC
OFFICE HOURS:	By Appointment
EMAIL:	ehansen@nwpolytech.ca

CALENDAR DESCRIPTION:

The course explores selected episodic and chronic health alterations and the related pharmacological concepts. The focus is on applying foundational knowledge of pathophysiology and pharmacology to evidence-informed nursing practice. Available only to nursing students in the Collaborative Nursing Program.

PREREQUISITE(S): NS1160

COREQUISITE: None

REQUIRED TEXT/RESOURCE MATERIALS:

Lilley, L.L., Rainforth-Collins, S., Snyder, J.S. & Swart, B. (2021). *Pharmacology for Canadian health care practices* (5th Canadian ed.). Elsevier. ISBN 978-0-323-08789-6

Power-Kean, K., Zettel, S., El-Hussein, M. T., Huether, S. E., & McCance, K. L. (2022). Huether and McCance's Understanding pathophysiology. (Canadian ed., 2nd ed.). Toronto, ON: Elsevier.

Understanding Alberta's Drug Schedules:

<https://pharmacists.ab.ca/nPharmacistResources/ABDrugSchedules.aspx>

Any current drug handbook or drug handbook software for a PDA or the electronic “Compendium of Pharmaceuticals and Specialties (e-CPS): (available at through the library).

<https://www.etherapeutics.ca/home.whatsnew.action>

DELIVERY MODE(S):

Lecture In person (classroom): This type of course will be delivered on campus in a specific classroom which will be indicated on your timetable. Students are expected to fully attend lectures

LEARNING OUTCOMES:

1. Link knowledge of anatomy and physiology to pathophysiological and pharmacotherapeutic concepts.
2. Demonstrate theoretical understanding of pharmacokinetic and pharmacodynamic principles.
3. Demonstrate theoretical understanding of altered physiology as it relates to changes in health status.
4. Describe the pharmacodynamic classification, nature, properties, and effects of drugs as they relate to altered physiology.
5. Explain the relationship between pathophysiological concepts and pharmacotherapeutic concepts at a novice level.
6. Identify the nursing implications in relation to pharmacotherapeutics and pathophysiology at a novice level.
7. Apply principles of pharmacotherapeutics and pathophysiology to focused non-complex clinical examples at a novice level.
8. Predict common trajectories in pathophysiological processes at a novice level.
9. Prospectively predict common side effects of major drug classes at a novice level.

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:

Exam I	20%
Exam II	20%
Exam III	20%
Final Examination	20%
Integrated Case Study Analysis & Presentation	20%
Total	100%

All evaluation components of the course must be completed PRIOR TO being permitted to write the final exam. If you have any exam related accommodations, you must register them in Accommodate by the deadline.

1. Integrated Case Study Analysis & Group Presentation (20%)

Case studies are unfolding clinical scenarios that allow students to apply their knowledge of pathophysiology, pharmacology, and nursing practice to a realistic patient situation. Through the development of a case study, students will explore a specific disease process and examine how alterations in normal physiology contribute to the patient's signs, symptoms, assessment findings, diagnostic results, and overall health status.

For this assignment, students will create an original case study that demonstrates the progression and management of an assigned disease process. The case study should require the learner to apply knowledge of etiology and risk factors, pathophysiology, clinical manifestations, assessment findings, diagnostic studies and laboratory values, pharmacological treatment, non-pharmacological treatment, patient education, safety considerations, and applicable nursing interventions.

Students will be expected to use evidence-informed resources to develop a realistic patient scenario and incorporate questions or activities that encourage clinical reasoning and application of course concepts. The case study should demonstrate the connections between the underlying disease process, the patient's clinical presentation, the prescribed treatment, and the role of the nurse in supporting safe and effective patient care. Students are expected to then present their case study to the class. Please see the myClass page for more information. This is a group assignment.

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

**** Please note that a grade less than C+ is not accepted for transfer to the U of A for NURS 216. A minimum grade of C+ is required to receive credit in NS2160.**

COURSE SCHEDULE/TENTATIVE TIMELINE:

*subject to change see myClass for most updated schedule

Week	Pathophysiology Conditions	Pharmacology
1 Sept 2	No Lectures	
2 Sept 7 3 Sept 14 4 Sept 21	<u>Gastro</u> Chapter 36	Chapter 39 - Acid-Controlling Drugs Chapter 40 - Antidiarrheals and Laxatives Chapter 41 - Antiemetic and Antinausea Drugs Chapter 42 - Nutritional Supplements
5 Sept 28 6 Oct 5	<u>Endocrine</u> Chapter 19	Chapter 33 – Antidiabetic Drugs Chapter 31 – Pituitary Drugs Chapter 32 – Thyroid and Antithyroid drugs Chapter 34 – Adrenal Drugs
7/8 Oct 12	Exam - October 15th & October 19th	
8 Oct 19 9 Oct 26 10 Nov 2	<u>Neurological</u> Chapter 15 Chapter 16 Chapter 39	Chapter 21 - Cholinergic Drugs Chapter 22 - Cholinergic blocking Drugs Chapter 16 – Antiparkinsonian Drugs Chapter 15 - Antiepileptic Drugs Chapter 12 - General and Local Anesthetics
11 Nov 9	Reading Break	
12 Nov 16 13 Nov 23 14 Nov 30	<u>Mental Health</u> Readings on myclass	Chapter 17 – Psychotherapeutics Chapter 13 - CNS Depressants Chapter 14 - CNS Stimulants Chapter 18 - Substance Misuse
14/15 Dec 7	Exam 2 - December 3rd & December 7th	
16 Jan 5	No Lectures	
17 Jan 11 18 Jan 18 19 Jan 25 20 Feb 1 21 Feb 8	<u>Cardiac</u> Chapter 5, Chapter 16, Chapter 24 <u>Kidney</u> Chapter 30 <u>Emergency Situations</u> Chapter 24, Chapter 15, Chapter 21	Chapter 30 - Fluid and Electrolytes Chapter 27 - Coagulation Modifiers Chapter 19 - Adrenergic Drugs Chapter 20 - Adrenergic Blocking Drugs Chapter 28 - Antilipemic Drugs Chapter 23 – Antihypertensives Chapter 29 – Diuretics Chapter 24 - Antianginal Drugs Chapter 25 - Heart Failure Chapter 26 – Antidysrhythmic
22 Feb 15	Reading Break	
23 Feb 22	Exam 3 February 23rd & February 25th	
24 Mar 1 25 Mar 8	<u>Reproduction</u> Chapter 33, Chapter 24, Chapter 39	Chapter 36 Men's Health Drugs Chapter 35 Women's Health Drugs
26 Mar 1 27 Mar 22	<u>Cancer</u> Chapter 27, Chapter 33, Chapter 34, Chapter 36, Chapter 38	Chapter 52 Antineoplastic Drugs Part 1 Chapter 53 Antineoplastic Drugs Part 2 Chapter 54 -Biological response anti-rheumatic Chapter 50- Immunosuppressants
28 Mar 29	Asynchronous Presentation work- No formal class	
29 Apr 5	Presentations April 6th & April 8th	
30 April 12	No classes	
	Final Examination in Final exam schedule	

STUDENT RESPONSIBILITIES:

Refer to the College Policy on Student Rights and Responsibilities at:

<https://www.nwpolytech.ca/about/administration/policies/fetch.php?ID=69>

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

LATE ASSIGNMENT POLICY:

To obtain credit in the course ALL assignments, examinations, and quizzes weighted 10% or greater must be completed to obtain credit in the course and permitted to write the final examination, if applicable.

Students are expected to make every effort to complete assignments on time. Assignment submissions are expected on the date determined by faculty. If extensions are necessary, they may be requested up to 48 hours prior to the assignment due date and should be submitted in writing to the faculty member involved. Not all extensions will be granted. In exceptional situations, extension requests within the 48-hour period may be considered. Late assignments will have 5% of total marks (or one letter grade) for the assignment deducted for each day/partial day (including weekend days) beyond the due time. For example, a paper marked at B+ would receive an adjusted grade of B if handed in one day late. After 5 days, a grade of 0 will be awarded to the assignment. If the late penalty places the grade below the necessary pass grade, students will be unsuccessful in the course. When submitting assignments electronically, it is the student's responsibility to ensure the assignment has been received. Papers/assignments may not be rewritten for a higher grade. Concerns regarding grading are to be discussed with the faculty member involved.

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.

AI USE DISCLOSURE:

The use of Artificial Intelligence (AI) tools are not encouraged for completing any assignments within this course. Students who choose to use AI tools must disclose and reference their use appropriately. AI tools may be used only for supportive purposes (e.g., checking grammar, APA formatting) if needed. AI tools **MUST NOT** be used for generating ideas, analysis, or original written content. Students who use AI tools must include the following:

- An Appendix at the end of the assignment titled "AI Use Disclosure."
- Include the exact prompts entered into the AI tool.
- Include the full or summarized AI-generated responses used.
- Briefly explain how the tool was used (e.g., "used to check APA formatting").
- An in-text acknowledgment at the end of the assignment:
- "[AI tool name] was used for [purpose]. All outputs were reviewed prior to assignment submission. Prompts and outputs are provided in the Appendix."

For example:

OpenAI's ChatGPT 4o was used for APA formatting. All outputs were reviewed prior to assignment submission. Prompts and outputs are provided in the Appendix.

Failure to disclose AI use may be considered academic misconduct under Northwestern Polytechnic's Academic Integrity Policy. Failure to uphold your assigned obligations will result in a grade of zero of any assignment.

COMMUNICATION:

Students must use their NWP e-mail address and include a subject line when communicating with the course instructor and other faculty members. The content messages of both e-mail and voice mail must be delivered in a professional manner. Inappropriate messages may be considered "harassment." Refer to the Code of Student Behaviour Section 30.3.4(6) d. Inappropriate use of e-mail sent to fellow students and members of the Faculty of Nursing will result in disciplinary action. Please refer to the University of Alberta/NWP Collaborative Faculty of Nursing's guidelines for e-mail etiquette, the link is provided:

<https://www.ualberta.ca/en/toolkit/digital-and-creative/email-best-practices/index.html>

The use of social networking services such as, but not limited to, Facebook, Instagram, Snapchat, Tik Tok, Twitter, WhatsApp, internet messaging, blogs, and wikis, are subject to the professional and ethical responsibilities outlined in the Canadian Nurses Association (2017) Code of ethics for registered nurses, and the University of Alberta Code of Student Behaviour, Section 30.3.3 Inappropriate Behaviour in Professional Programs.

Course Material and Announcements: The Northwestern Polytechnic Faculty of Nursing creates a myClass online site for all undergraduate nursing courses. Students are expected to access and become familiar with their myClass online site at the beginning of each course and to access their myClass online site on a regular basis throughout the course. Failure to do so may result in students missing important course-related information, resources, instructor feedback, and announcements. General Northwestern Polytechnic Faculty of Nursing (FON) and course announcements will be available on myClass online site.