

**Emergency Services Department  
COURSE OUTLINE – Winter 2026**

**EM2300 (xx): Pharmacotherapeutics for Health Professionals – 3 (3-0-0) 45 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.

**INSTRUCTOR:** Chris Read **PHONE:** 780-849-1448  
**OFFICE:** Remote **E-MAIL:** cread@nwpolytech.ca  
**OFFICE HOURS:** As posted in course or contact instructor to set up an appointment

**CALENDAR DESCRIPTION:** This course focuses on the theoretical knowledge required for safe medication administration. Knowledge of human anatomy and physiology will be integrated into the curriculum as mechanisms of action, therapeutic effects, adverse effects, and drug interactions are explored. The study of common drug classifications along with selected frequently used medications in each classification will be included. Legislation is reviewed with regards to over the counter and prescription drugs, and political, social, economic, and ethical factors will be discussed. Applicable professional practice interventions are examined with supporting rationale.

**PREREQUISITE(S):**

**COREQUISITE(S):** EM1000, EM1020, EM2100, EM2400, WR1100

**REQUIRED TEXT/RESOURCE MATERIALS:**

**The resources listed in this section are required.**

Sealock, K. Seneviratne, C., Lilley, L. L., Rainforth Collins, S., & Snyder, J. S. (2021). *Lilley's pharmacology for Canadian health care practice* (4th ed.). Elsevier.

**SUPPLEMENTAL LEARNING RESOURCES**

**The resources listed in this section are optional but provide additional information to support learner success.**

Instructor handouts and case studies, articles, journal references, and websites identified by Instructor.

Students are encouraged to utilize research and other resources to augment their learning and share resources with classmates by posting in the on-line discussions.

**DELIVERY MODE(S):**

1. Online delivery of content
2. Pre-class and assigned readings.
3. Class discussions
4. Group exercises/Laboratories
5. Online activities
6. Classroom case studies

**LEARNING OUTCOMES:**

1. Summarize Canadian legislation pertinent to drug administration and its relevance to healthcare practice.
2. Demonstrate knowledge of the pharmacokinetics and pharmacodynamics of medications.
3. Identify common classifications of drugs.
4. Discuss the physiological effects of common drugs in each classification, including medications for clients across the lifespan.
5. Locate and utilize appropriate pharmacological references and resources.
6. Apply knowledge of pharmacology in practice.

**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:**

*This course requires the completion of all assigned learning activities and assessments. This includes all graded components, as well as any mandatory ungraded components designed to support learning. Students who fail to complete any required element of the course will receive a final grade of 'F'.*

| Type of Assessment | Description of Assessment              | Value       |
|--------------------|----------------------------------------|-------------|
| Quizzes            | Participation Quizzes – Weekly Quizzes | 10%         |
| Assignments        | 2 Assignments (15% each)               | 30%         |
| Midterm Exam       | Written Exam (Weeks 1-6)               | 25%         |
| Final Exam         | Comprehensive Final Exam               | 35%         |
| <b>TOTAL</b>       |                                        | <b>100%</b> |

Assignment 1 February 8, 2026

Assignment 2 March 29, 2026

Midterm Written Exam (Content to be covered weeks 1-6) February 23, 2026 @0900

Final Comprehensive Written Exam April 16, 2026 @0900 – 120 minutes

## GRADING CRITERIA:

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**. A minimum of a C- must be obtained to successfully pass EM2300.

### Grading Chart for courses with Alpha Grading:

| 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                 |

## ADDITIONAL INFORMATION REGARDING STUDENT ASSESSMENT

NOTE: To receive credit for this course, students must complete all course requirements as listed under student assessments.

### Online Participation

Students are expected to adhere to the tentative course schedule outlined below. This timeline serves as a guide to inform students of their weekly requirements and to ensure they remain on track for success during onsite sessions and within the curriculum. It is the student's responsibility to stay updated with the provided schedule and actively engage in the learning process to maximize their learning outcomes.

### Certificate Courses

Theory and practical portions of one or more certificate courses may be provided to students during the mandatory onsite lab weeks as part of this course. Students must complete all portions as outlined above under student assessments to pass this course.

## COURSE SCHEDULE/TENTATIVE TIMELINE:

Onsite week attendance - as per onsite week schedule

| Date/Session | Notes                                                            |
|--------------|------------------------------------------------------------------|
| Week 1       | Drug Legislation in Canada<br>General Principles of Pharmacology |
| Week 2       | Peripheral Nervous System<br>Central Nervous System              |
| Week 3       | Immunological Drugs                                              |
| Week 4       | Drugs that affect the Cardiovascular System                      |
| Week 5       | Drugs that affect the Respiratory System                         |
| Week 6       | Drugs that affect the Gastrointestinal System                    |
| Week 7       | Fall Break                                                       |
| Week 8       | Drugs used to Manage pain                                        |
| Week 9       | Drugs that affect the Endocrine System                           |
| Week 10      | Fluids and Electrolytes                                          |
| Week 11      | Diuretics                                                        |
| Week 12      | Anti-inflammatory & Anti-infective Drugs                         |

|         |                                      |
|---------|--------------------------------------|
| Week 13 | Drugs that affect other body systems |
| Week 14 | Review                               |
| Week 15 | Review                               |

\*Instructor reserves the right to change due dates and weeks of lesson plans, assignments, and exams as necessary to comply with yearly calendar changes. Each year, the instructor will inform the students with any schedule changes.

### **GENERAL COURSE EXPECTATIONS:**

Participation is essential for success in this class, and if a student misses a class/lab it is the student's responsibility to obtain ANYTHING missed during class/lab. The student will be assigned a mark of zero for those assignments, exams, quizzes, labs, etc. missed. IF the student contacts the instructor PRIOR to missing any of the above forementioned, and IF the student has an acceptable excuse (the validity of the excuse is at the discretion of the instructor and will require documentation i.e., doctor's note), the student may be excused without being deducted any marks. Missed onsite lab days may come at an additional expense to students regardless of the circumstances associated with not attending.

### **STUDENT RESPONSIBILITIES:**

Enrolment at NWP assumes that the student will become a responsible citizen of the Institute. As such, each student will display a positive work ethic, take pride in, and assist in the maintenance and preservation of Institute property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting instructor expectations concerning attendance, assignments, deadlines, and appointments.

### **NWP Policies:**

It is your responsibility to be familiar with the information contained in this Course Outline and the Paramedic student handbook and to clarify any areas of concern to the instructor. It is also your responsibility to be familiar with NWP Policies.

### **Student attendance:**

Class attendance is useful for two reasons. First, class attendance maximizes a students' learning experience. Second, attending class is a good way to keep informed of matters relating to the administration of the course (e.g., the timing of assignments and exams). Ultimately, you are responsible for your own learning and performance in this course.

### **Pre-reading**

Ensure that you do the pre-reading early, so that you have time to think about what you have read before the exam and before the class if you wish.

### **Preparing questions**

Make a note of anything you are not clear about and prepare a question to ask early in the class to clarify your understanding. This will demonstrate your interest in the topic and indicate to the instructor that you have done the required reading.

### **Preparing responses**

When you read, try to engage with the ideas critically and actively. Make a note of any ideas about which you have strong opinions, positive or negative. Think about how you would refer to these ideas during the class or express your views about them. What language would you use?

### **Note-taking during discussions and Class time.**

Classes can be a very useful source of ideas on a topic, not only from the instructor, but also from other participants. Make a note of any ideas which may be useful to you in writing assignments or broadening your reading.

In most small classes there is an expectation that you will contribute actively to the discussion, and not simply be a 'silent participant'. In some courses marks are given for active participation in class.

### **Learn people's names.**

Make a conscious effort to learn -and use -the names of all the other people in the class. This includes the students at the alternate site while using video conferencing.

### **Using visualization**

Every class you attend is also a preparation for the next class. At the end of a class, play it back in your mind, not just for the content and ideas, but remembering responses, and the sort of language used. Then, before the next class, think about the questions and comments you have thought of, and visualize in your mind how the discussion will go. Most importantly, imagine yourself taking part: using people's names, getting their attention, asking questions, and commenting on what you've read and on what other people are saying. The more positively you do this, the more it will help you in class.

### **Exams, Quizzes and Assignments**

The instructor of the course will provide the date of all exams, quizzes, and assignments for the course during the first week of instruction. This course may require students to write remotely proctored examination(s), either online or within an approved location with a proctor present. Review the Paramedic Student's Handbook for specific information regarding proctored assessment(s).

### **Onsite Weeks**

Course content delivery, quizzes, exams, and assignments may occur during onsite weeks. It is the student's responsibility to attend the onsite week and meet academic timelines/requirements.

### **STATEMENT ON ACADEMIC and NON-ACADEMIC MISCONDUCT:**

Misconduct will not be tolerated. For a more precise definition of academic and non-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.

### **Additional Information:**

Northwestern Polytechnic provides various academic support services to support your journey to success. Please be aware that personal counseling, peer tutoring, learning library services, Elders and mentors, and disability services are provided at your campus. Please inquire about contact details or locations at the Information desk.

### **Course Topics:**

- Introduction to Pharmacology
- Drugs That Affect the Nervous System
- Drugs Used to Manage Pain
- Drugs That Affect the Renal System
- Drugs That Affect the Cardiovascular System
- Drugs That Affect the Endocrine System
- Drugs That Affect the Respiratory System
- Drugs That Affect the Gastrointestinal System
- Anti-inflammatory, Anti-infective and Immunologic Drugs

- Drugs That Affect Other Body Systems
  - Hematological;
  - Dermatological;
  - Ophthalmic; and
  - Otic Agents