PPNP-106 – Pharmacology 1

Health and Human Services

Effective Term & Year: Fall 2027
Course Outline Review Date: 2032-03-01

Program Area: Health

Description:

Learners are introduced to pharmacology principles for safe and professional medication administration in a safe and professional manner, including dosage calculations. Learners will study various routes of medication administration. They will also explore complementary, Indigenous, and alternative therapies, as well as polypharmacy across the lifespan. Decision-making strategies, autonomy, responsibilities, and scope of the practical nurse are also discussed.

Program Information:

This course is one of eight courses required in Level 1 of the Practical Nursing program. Satisfactory completion of this course is required to progress to the next level.

Delivery Methods: On-campus (Face-to-Face)

Credit Type: College of the Rockies Credits

Credits: 2

Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	30
Seminar/Tutorials	
Laboratory/Studio	

Practicum/Field Experience	
Co-op/Work Experience	
Other	
Total	30

Course Requisites:

- Complete all of the following
  - Earned a minimum grade of C+ (65%) in each of the following:
    - PPNP101 – Anatomy and Physiology for Practical Nursing (3)
  - Completed or concurrently enrolled in:
    - PPNP104 – Variations in Health 1 (3)
    - PPNP105 – Health Promotion 1 (2)
    - PPNP107 – Integrated Nursing Practice 1 (4)

Prior Learning and Recognition: Yes

Students are able to request formal recognition of their prior learning or experience outside the classroom. Challenge examination, portfolio-assisted assessment, work-based assessment or a combination of assessments that is appropriate to identify, assess, and recognize prior skills, competencies, and knowledge to achieve course credit. Tuition fees apply, refer to Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR) or contact an education advisor for more information.

Course Transfer Credit:

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see https://www.bctransferguide.ca/ or https://transferalberta.alberta.ca . For more transfer credit information, please visit https://www.cotr.bc.ca/Transfer

All requests for course transfer credit from institutions in British Columba or elsewhere should go to the College of the Rockies Enrolment Services office.

Textbook Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

BCCNM: British Columbia College of Nurses and Midwives – current documents

Astle, B. J., & Duggleby, W. (2024). *Potter and Perry's Canadian fundamentals of nursing* (7th ed.). Elsevier.

Vallerand, A. H., & Sanoski, C. A. (2026). *Davis's Canadian drug guide for nurses* (20th ed.). F.A. Davis Company.

Willihnganz, M. J., Gurevitz, S. L., & Clayton, B. D. (2026). *Basic pharmacology for nurses* (20th ed.). Elsevier.

Please see the instructor's syllabus or check COTR's online text calculator https://textbook.cotr.bc.ca/ for a complete list of the currently required textbooks.

Learning Outcomes:

Upon successful completion of the course the learner will be able to:

1. Identify the current British Columbia College of Nurses and Midwives (BCCNM) LPN Ethics Standards, Practice Standards, and Entry-Level Competencies that define LPN responsibilities and accountabilities in medication administration.

- 1.1 Explain the LPN's responsibilities and accountabilities when administering medications within autonomous scope of practice (without an order) and when administering medications with a client-specific order.
- 1.2 Explain how drug standards and legislation affect medication regulation in Canada.
- 1.3 Explain the purpose of Canadian drug legislation, including the Controlled Drugs and Substances Act and the Food and Drugs Act, and their application to nursing practice.
- 1.4 Discuss the legal and ethical considerations for the nurse when administering medications.

2. Describe the concepts of pharmacodynamics and pharmacokinetics.

- 2.1 Describe the principles of pharmacology as related to common drug actions and interactions.
- 2.2 Describe commonly used drug classification systems in Canada.
- 2.3 Identify basic terminology and abbreviations used in pharmacology.

3. Conduct basic mathematical drug calculations correctly.

- 3.1 Identify common unit conversion factors.
- 3.2 Discuss the 24-hour clock and why this is important in medication administration.
- 3.3 Examine the consequences of mathematical errors when calculating drug dosages.

4. Explain the principles of medication administration, including human and system errors that

contribute to medication errors or near misses.

- 4.1 Discuss the nurse’s role when administering medications.
- 4.2 Identify commonly used drug distribution systems in Canada.
- 4.3 Discuss types of drug orders.
- 4.4 Describe the routes of medication administration.
- 4.5 Review error-prone medication abbreviations.
- 4.6 Discuss factors that contribute to medication incidents or near misses.
- 4.7 Identify the process in reporting and managing medication incidents.

5. Identify various classes of medications used to treat specific disorders and illnesses.

- 5.1 Discuss how drug classifications can be grouped by body systems.
- 5.2 Discuss the main nursing considerations to treat specific health challenges when administering medication via ophthalmic, otic, topical, and rectal (bowel elimination) routes.
- 5.3 Identify complementary, Indigenous, and alternative therapies.
- 5.4 Discuss the implications of using herbal, vitamin, and Indigenous therapies with other medications.

Course Topics:

Course outcomes will be met through examination and exploration of the following:

Introduction to pharmacology

- BCCNM LPN Ethics Standards, Practice Standards, and documents that guide scope of practice
- Introduction to pharmacology
- The practical nurse role and legal responsibilities of medication administration
- Decision making and autonomy in medication administration (e.g., medications “as needed,” medications for asthma, anaphylaxis, and hypoglycemia)
- Pharmacodynamics
- Pharmacokinetics
- Drug actions and interactions
- Drug classifications according to body systems:
    - Adrenergic agents (asthma, COPD)
    - Beta blockers (HTN)
    - Cholinergic agents (symptoms of Alzheimer’s disease)
    - Anticholinergic agents
    - Anti-Parkinson’s agents
    - Cholinesterase inhibitors (symptoms of Alzheimer’s disease)
    - Gastrointestinal medications (used to treat bowel incontinence, constipation)
- Principles of medication administration

- Drug distribution systems
- Basic terminology used in pharmacology
- Nursing process and pharmacology
- Routes of medication administration:
    - Oral
    - Rectal
    - Topical
    - Parenteral
    - Percutaneous
- Introduction to complementary, Indigenous, alternative, and traditional healing therapies
- Vitamin supplements
- Herbal preparations
- Homeopathy
- Basic medication dosage calculations
- Polypharmacy across the lifespan

See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.

Evaluation and Assessments

Assessment Type: On-Campus (face-to-face)

Assessment Type	% of Total Grade
Assignment	10%
Test 1	30%
Test 2	30%
Test 3	30%
Medication Math Exam	Pass/Fail
Total	100%

Grade Scheme

A+	A	A-	B+	B	B-	C+	C	C-	D	F
>=95	94-90	89-85	84-80	79-75	74-70	69-65				<65

Pass requirements:

An overall average of B+ (80%) or higher is required to pass this course and a PASS (100%) on the medication calculation exam.

Evaluation Notes: If a student falls below the minimum 80% requirement, they will have one opportunity to retest.

Evaluation Notes Comments:

The student has three attempts to achieve a PASS (100%) on the medication calculation exam. See course syllabus for retest process.

Additional Evaluation Information:

No rewrites will be granted for any assignments or exams within this course.

Please see the instructor's syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments and use of electronic aids.

Student Attendance/Absence

- As adult learners, students are expected to attend all classes. Attendance is taken as a means of monitoring student success. In the event of illness or other unavoidable cause of absence, the student should notify the appropriate instructor as soon as possible.
- Students must attend all clinical/preceptorship experiences. If illness or other unavoidable absence occurs, the student must notify the appropriate instructor prior to the time s/he is expected.
- Unexcused/excessive absences from clinical/preceptorship may mean students must withdraw from the program.

Written Assignments

- Assignments about clients must be written using the clients' INITIALS ONLY.
- A 15% penalty will be applied for each day past due date for late assignment submissions. If any assignment is more than three days late, it will be assigned a grade of "0".

Exam Attendance:

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a "0" on the exam.

Academic Policies:

College of the Rockies policies related to courses can be found at https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.1.4 Course Audit
- Policy 2.4.1 Credential Framework
- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Rights, Responsibilities and Conduct
- Policy 2.4.8 Academic Performance
- Policy 2.4.9 Student Feedback and Concerns

- Policy 2.4.11 Storage of Academic Works
- Policy 2.5.3 Student Appeal
- Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR)

Equivalent Course(s) and Course Code Changes

Prior Course Code: PNUR 105

Date changed: September 2012

Course Changes:

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.