



**Bow Valley
College**

Course Outline

PHRM2403

Extemporaneous
Compounding Lab
Fall 2024 - Current

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PHRM2403 Extemporaneous Compounding Lab**COURSE DESCRIPTION**

Learners will apply compounding policies and procedures while integrating knowledge and skills including pharmacy calculations, documentation, and independent double checks to prepare a variety of extemporaneous compounds using established formulations and appropriate techniques.

REQUISITES	Earn a minimum grade of A- in each of the following courses: <ul style="list-style-type: none">• PHRM1302 - Pharmacy Calculations II (3)• PHRM2401 - Community Dispensing Lab I (6)
EQUIVALENTS	None
CREDITS	3
HOURS	45
ELIGIBLE FOR PLAR	No
ZERO TEXTBOOK COST	No

COURSE LEARNING OUTCOMES

Bow Valley College is committed to ensuring our graduates can demonstrate their abilities in key areas that will make them effective citizens and encourage their development as lifelong learners. In addition to the discipline-specific skills that learners acquire in their programs, the College has identified ten learning outcomes.

College-Wide Outcomes:

1. Communication
2. Thinking Skills
3. Numeracy and Financial Literacy
4. Working with Others
5. Digital Literacy
6. Positive Attitudes and Behaviours
7. Continuous Learning
8. Health and Wellness Awareness
9. Citizenship and Intercultural Competence
10. Environmental Sustainability

#	COURSE LEARNING OUTCOME(S)	COLLEGE WIDE OUTCOMES SUPPORTED
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1	Describe extemporaneous compounding concepts and principles.	2, 8
2	Process prescriptions according to established guidelines.	2, 5
3	Prepare various extemporaneous compounds.	2, 3, 8, 10
4	Perform quality assurance procedures.	2, 4, 8
5	Demonstrate professionalism in the role of the pharmacy technician.	1, 2, 3, 4, 6, 7, 8, 10

COURSE MODULES AND SCHEDULE

**Course schedule subject to change, depending on delivery mode and term of study. For exact dates, please consult the Course Offering Information in Brightspace.*

WEEK/HOURS MODULES

Week 1	Compounding Lab Orientation
Week 2	Extemporaneous Compounding
Week 3	Extemporaneous Compounding
Week 4	Extemporaneous Compounding
Week 5	Extemporaneous Compounding
Week 6	Extemporaneous Compounding
Week 7	Extemporaneous Compounding; Review
Week 8	Midterm Evaluation
Week 9	Extemporaneous Compounding
Week 10	Extemporaneous Compounding
Week 11	Extemporaneous Compounding
Week 12	Extemporaneous Compounding
Week 13	Extemporaneous Compounding
Week 14	Extemporaneous Compounding; Review
Week 15	Final Evaluation

ASSESSMENT

COURSE

LEARNING ASSESSMENT OUTCOME(S)

WEIGHT

2, 3, 4, 5	Assignments	30%
1, 2	Quizzes	10%
2, 3, 4, 5	Midterm Evaluation	25%
2, 3, 4, 5	Final Evaluation	35%

Important: For details on each assignment and exam, please see the Course Offering Information.

PERFORMANCE STANDARDS

A minimum grade of D is required to pass this course. However, a program may require a higher grade in this course to progress in the program or to meet specific program completion requirements.

The Pharmacy Technician Program requires a minimum grade of A- in this course to progress in the program.

Please consult with the program area or contact the program chair for further details. A minimum Grade Point Average of 2.0 is required for graduation.

GRADING SCHEME

Grade	Percentage	Grade Point	Description
A+	95-100	4.0	Exceptional: superior knowledge of subject matter
A	90-94	4.0	Excellent: outstanding knowledge of subject matter
A-	85-89	3.67	
B+	80-84	3.33	
B	75-79	3.0	Very Good: knowledge of subject matter generally mastered
B-	70-74	2.67	
C+	67-69	2.33	

C	64-66	2.0	Satisfactory/Acceptable: knowledge of subject matter adequately mastered
C-	60-63	1.67	
D+	57-59	1.33	
D	50-56	1.0	Minimal Pass
F	Less than 50	0.0	Fail: an unsatisfactory performance

REQUIRED LEARNING RESOURCES

Bow Valley College. (current year). *PHRM2403 Extemporaneous compounding lab manual*.

Johnston, M. (2006). *The pharmacy technician series: Compounding*. Upper Saddle River, N.J.: Pearson Prentice Hall.

Canadian Pharmacists Association. *e-CPS*. Retrieved from <http://www.e-therapeutics.ca/>. BVC access provided.

PHRM2403 Extemporaneous Compounding Lab Kit. Note: Available for purchase in bookstore.

Additional learning resources may be found in the Course Offering Information or in Brightspace.

ADDITIONAL INFORMATION

NAPRA Competencies:

1.1 Practise within legal requirements.

1.1.1 Apply legal requirements to practice, including federal and provincial/territorial legislation, policies, by-laws, and standards.

- 1.1.2 Apply federal and provincial/territorial workplace, occupational health and safety, and other related legislation to the practice setting.
- 1.2 Uphold ethical principles.
 - 1.2.1 Apply the principles of professional codes of ethics.
- 1.3 Manage actual and potential illegal, unethical, or unprofessional actions or situations in practice.
- 1.4 Apply principles of professionalism.
 - 1.4.1 Apply principles of self-regulation.
 - 1.4.2 Accept responsibility and accountability for own actions and decisions.
 - 1.4.3 Seek guidance when uncertain about own knowledge, skills, abilities, and scope of practice.
- 1.5.1 Maintain complete, accurate and secure patient records.
- 2.1.1 Establish and maintain rapport by using effective communication skills.
- 2.1.2 Demonstrate a caring, empathetic, and professional attitude.
- 2.2.2 Identify factors such as culture, language, demographic and physical characteristics that may impact the patient's care.
- 2.2.3 Gather information from the patient's health records.
- 2.2.6 Organize, reconcile and record the patient's information.
- 2.3.1 Identify patient needs related to issues such as dosage forms, special packaging or labelling.
- 3.1 Receive, interpret and process a prescription.
 - 3.1.1 Determine the validity, clarity, completeness and authenticity of the prescription and resolve concerns in collaboration with the pharmacist.
 - 3.1.4 Interpret numerals, symbols, measurement systems and Latin abbreviations.
 - 3.1.5 Perform pharmaceutical calculations.
- 3.2 Prepare products for dispensing.
 - 3.2.1 Select appropriate products by applying knowledge of brand and generic names, dosages, and dosage forms.
 - 3.2.2 Apply drug interchangeability principles in accordance with applicable formularies, policies or

legislation.

3.2.3 Verify the integrity of a product by considering stability, and, where applicable, sterility, including checking expiry dates, physical appearance, and odour.

3.2.4 Measure products by counting, pouring or weighing using the appropriate equipment and technology.

3.2.5 Package products in a suitable container to maintain product integrity, stability, and, where applicable, sterility.

3.2.6 Use packaging that is safe and appropriate for the patient, including pre-packaging, multi-dose or unit dose packaging and child-resistant vials.

3.2.7 Label products according to legislative requirements, best safety practices, established protocols and patient-specific needs.

3.3 Prepare and compound non-sterile and sterile products according to recognized guidelines and standards of practice.

3.3.1 Perform compounding calculations.

3.3.3 Prepare and compound non-sterile products according to recognized guidelines and standards of practice.

3.4 Verify the technical aspects of the prescription to ensure accuracy and quality of products.

3.4.1 Identify when an independent double check should be performed.

3.4.2 Check the product and its prescription label against the prescription using a systematic approach.

3.5 Collaborate with the pharmacist in the release of the product.

4.1 Optimize the safety, efficacy and efficiency of operations in the practice setting.

4.1.1 Demonstrate the organizational and time management skills necessary to effectively prioritize, organize and manage product distribution workflow.

4.1.2 Supervise pharmacy support personnel so that accepted standards are met.

4.1.3 Use and maintain automation and other technology to enhance safety, efficacy and efficiency in the practice setting.

4.2 Contribute to the management of pharmacy inventory to ensure safe, effective and efficient product distribution.

- 5.1.2 Gather health promotion information relevant to the patient.
- 6.1 Respond to questions that do not require pharmacist referral using appropriate strategies.
 - 6.1.2 Use a variety of retrieval techniques to access reliable and appropriate information, including evidence-based information when possible.
- 7.1 Establish and maintain effective communication skills.
 - 7.1.1 Demonstrate proficiency in written and verbal English or French.
 - 7.1.2 Demonstrate appropriate verbal and non-verbal communication skills, including listening skills.
 - 7.1.4 Select appropriate communication and education techniques for use with the patient and other health professionals.
 - 7.1.5 Conduct interpersonal interactions, including conflict management, in a professional manner.
 - 7.1.6 Communicate with sensitivity, respect and empathy.
- 7.2 Use safe, effective and consistent communication systems.
 - 7.2.2 Record and store information in a consistent manner for efficient access and retrieval by relevant personnel.
- 8.1 Create and maintain collaborative professional relationships.
- 8.2 Contribute to the effectiveness of working relationships in collaborative teams.
 - 8.2.1 Interact respectfully with other members of the team by accepting accountability for themselves and managing disagreements and conflict.
 - 8.2.2 Share decision-making activities with other members of the team.
- 8.3 Participate in the delivery of collaborative health services in collaboration with the pharmacist.
- 9.1 Contribute to a culture of patient safety.
 - 9.1.1 Apply principles of patient safety to improve practice.
- 9.2 Contribute to continuous quality improvement and risk management activities related to the drug distribution system.
- 9.3 Ensure the quality, safety and integrity of products.
 - 9.3.1 Maintain the cleanliness, functionality and integrity of compounding, packaging, dispensing, and storage equipment.

9.3.2 Ensure that products are stored and transported under the conditions required to maintain product quality, safety and integrity, including cold chain management.

9.4 Create and maintain a working environment that promotes safety.

9.4.3 Identify factors that impact the safety of the working environment, including resource allocation, procedural consistency and ergonomics.

9.4.4 Handle hazardous products safely by minimizing personal exposure and reducing environmental contamination.

Additional information may be found in the Course Offering Information or in Brightspace.

ACADEMIC ACCOMMODATIONS

Learners with a disability (learning, physical, and/or mental health) may qualify for academic and exam accommodations. For more information, or to apply for accommodations, learners should make an appointment with Accessibility Services in the Learner Success Services (LSS) Department. Accessibility Services can also assist learners who may be struggling with learning but do not have a formal diagnosis. To make an appointment visit LSS on the first floor of the south campus or call 403-410-1440. It is the learner's responsibility to contact Accessibility Services and request academic accommodations. For more information, please visit our website at <http://www.bowvalleycollege.ca/accessibility>.

INSTITUTIONAL POLICIES

Bow Valley College is committed to the highest standards of academic integrity and honesty. Learners are urged to become familiar with and uphold the following policies: Academic Integrity (500-1-7), Learner Code of Conduct, Procedures and Guidelines (500-1-1), Learner Appeals (500-1-12), Attendance (500-1-10), Grading (500-1-6), Academic Continuance and Graduation (500-1-5), and Electronic Communications (300-2-13). Audio or video recording of lectures, labs, seminars, or any other teaching and learning environment by learners is allowed only with consent of the instructor as part of an approved accommodation plan. Recorded material is to be used solely for personal study and is not being used or distributed without prior written consent from the instructor.

Turnitin:

Students may be required to submit their course work to Turnitin, a third-party service provider engaged by BVC. Turnitin identifies plagiarism by checking databases of electronic books and articles, archived webpages, and previously submitted student papers. Students acknowledge that any course work or essays submitted to Turnitin will be included as source documents in the Turnitin.com reference database, where it will be used solely to detect plagiarism. The terms that apply to a student's use of Turnitin are described

on Turnitin.com.

Online Exam Proctoring:

Examinations for this course may require proctoring through an online proctoring service. Online proctoring enables online exam taking within a controlled and monitored environment, thereby enhancing academic integrity. Online proctoring may occur through a variety of methods, including but not limited to:

- a. live online proctoring where a remote invigilator authenticates identity and observes completion of an exam using specialized software and recordings;
- b. automated proctoring where the exam session is recorded and AI (artificial intelligence) analyzed;
- c. browser lockdown that limits access to other applications, websites, copying, printing, screen capture and other functions; or
- d. a combination of both live/automated proctoring and browser lockdown.

Course instructors will review recordings, analyses, and data obtained through online proctoring for academic integrity infractions. It is the student's responsibility to meet the technical, software, location, and identity verification requirements necessary to enable online proctoring.

Further details of these policies are available in the Academic Calendar and on the Bow Valley College website, bowvalleycollege.ca.

Learners are encouraged to keep a copy of this course outline for future reference.

Collection of Personal Information:

This course, including your image and voice, may be recorded and made available to you and other students taking the course section. By attending the class(es) online or in person, you consent to the collection of your personal information. If you do not wish to be recorded, please contact your instructor before starting the course/class to discuss alternative arrangements.

You may use the recordings only for educational purposes and you must not copy, share, or use the recordings for any other purpose without the instructor's express permission.

Your personal information is collected in accordance with section 33(c) of the Freedom of Information and Protection of Privacy Act (Alberta) to deliver academic programming, support learner flexibility, promote universal design for learning principles, and for purposes consistent with the course activities and outcomes. If you have any questions about the collection, disclosure, use, or protection of this information, please contact the College's Access and Privacy Officer at foip@bowvalleycollege.ca.