



**Bow Valley
College**

Course Outline

PHRM2502

Sterile Production Lab
Fall 2025 - Current

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PHRM2502 Sterile Production Lab

COURSE DESCRIPTION

Learners will prepare intravenous admixtures, pre-filled syringes, ophthalmic preparations, chemotherapy and total parenteral nutrition in certified laminar airflow workbenches. Knowledge and skills including pharmacy calculations, documentation, and independent double checks will be integrated to prepare a variety of products using appropriate aseptic techniques.

REQUISITES	Complete all of the following • Earn a minimum grade of C in each of the following courses ◦ PHRM1207 - Pharmacotherapy and Patient Care II (6) ◦ PHRM1501 - Hospital Pharmacy Practice (3) • Earn a minimum grade of A- in each of the following courses ◦ PHRM1302 - Pharmacy Calculations II (3)
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
1	Prepare the documentation, operator and work area for sterile production.	1, 3, 8
2	Prepare non-hazardous and hazardous sterile products.	5, 8, 10
3	Perform quality assurance procedures.	2, 4, 10
4	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	Lab Orientation; Infection Control
Week 2	Sterile Production
Week 3	Sterile Production
Week 4	Sterile Production
Week 5	Sterile Production
Week 6	Sterile Production
Week 7	Sterile Production
Week 8	Quality Assurance
Week 9	Midterm Evaluation
Week 10	Quality Assurance
Week 11	Sterile Production
Week 12	Sterile Production
Week 13	Sterile Production; Chemotherapy
Week 14	Sterile Production; Parenteral Nutrition; Review
Week 15	Final Evaluation

ASSESSMENT

COURSE LEARNING OUTCOME(S)	ASSESSMENT	WEIGHT
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1, 2, 3, 4, 5	Assignments	45%
1, 2, 4, 5	Midterm Evaluation	20%
1, 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

Required:

Bow Valley College. (current year). *PHRM2502 Sterile production lab manual*.

Johnston, M., Tsallas, G. *Fundamentals of Sterile Products Preparation for Pharmacy Technicians* (canadian ed.). Toronto, ON: Pearson Canada Inc.

PHRM1501 Hospital Pharmacy Practice Kit. Note: Available for purchase in bookstore.

PHRM2502 Sterile Production Lab Kit. Note: Available for purchase in bookstore.

Recommended:

Pickar, G., Pickar-Abernethy, A., Swart, B., Davis, M., O'Connell, J. (2026). *Dosage calculations* (6th ed.). Toronto, ON: Cengage. ISBN-13: 9781778417139

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.

1.3.1 Identify illegal, unethical or unprofessional actions or situations.

1.3.2 Undertake appropriate intervention to address illegal, unethical or unprofessional actions or situations.

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.

1.4.4 Apply principles of continuing professional development including assessing own learning needs and developing a plan to meet these needs.

1.4.5 Maintain appropriate professional boundaries.

3.1.5 Perform pharmaceutical calculations.

3.2.1 Select appropriate products by applying knowledge of brand and generic names, dosages, and dosage forms.

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.

3.3.1 Perform compounding calculations.

3.3.2 Prepare and compound sterile products according to recognized guidelines and standards of practice.

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.

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.

4.2.4 Return or properly dispose of recalled, expired and unusable products.

4.3.2 Use information technology and record-keeping procedures that maintain the integrity, security and permanence of pharmacy records.

6.1.2 Use a variety of retrieval techniques to access reliable and appropriate information, including evidence-based information when possible.

6.2.2 Evaluate the information and use current, relevant and reliable information to improve practice.

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.

7.1.5 Conduct interpersonal interactions, including conflict management, in a professional manner.

7.1.6 Communicate with sensitivity, respect and empathy.

9.1.1 Apply principles of patient safety to improve practice.

9.2.1 Apply principles of continuous quality improvement to practice.

9.2.2 Apply principles of risk management to practice by anticipating, recognizing and managing situations that place the patient at risk.

9.2.3 Identify the occurrence of a medication incident or close call and respond effectively to mitigate harm and prevent reoccurrence.

9.3.1 Maintain the cleanliness, functionality and integrity of compounding, packaging, dispensing, and storage equipment.

9.3.3 Evaluate the quality of supplies and products using recognized quality assurance techniques including visual inspection, verification of the legitimacy of the supplier and use of manufacturers' quality markers.

9.4.1 Minimize and manage distractions in the work environment.

9.4.2 Manage factors that affect personal wellness including work-life balance, sleep deprivation and physical and emotional health.

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.