澳門理工大學
Universidade Politécnica de Macau
Macao Polytechnic University

FACULTY OF HEALTH SCIENCES AND SPORTS
BACHELOR OF SCIENCE IN BIOMEDICAL TECHNOLOGY (PHARMACY TECHNOLOGY)
LEARNING MODULE OUTLINE

Academic Year	2024-2025	Semester	2
Module Code	BSPP3102		
Learning Module	Pharmacy Practice III		
Pre-requisite(s)	Nil		
Medium of Instruction	Chinese / English		
Credits	3	Contact Hours	45
Instructor	Kuok Chiu Fai, Kenny Pedro Fong	Email	cfkuok@mpu.edu.mo pedrofong@mpu.edu.mo
Office	M708, Meng Tak Building M729, Meng Tak Building	Office Phone	85993437 85993427

MODULE DESCRIPTION

This is a 45-hour module that covers various aspects of pharmacy practice. Students will learn how to provide drug information services, conduct formal patient counselling and offer other clinical pharmacy services. They will also gain knowledge and skills in formulary management, medication error prevention, immunization, medication use in pregnancy, medical toxicology, drug abuse treatment and rehabilitation service, and more. This module aims to equip students with the competencies and professionalism required for contemporary pharmacy practice.

MODULE INTENDED LEARNING OUTCOMES (ILOS)

On completion of this learning module, students will be able to:

M1.	use appropriate drug information resources and provide recommendations based on high-quality evidence.
M2.	deliver medication counselling services to individuals with specific health needs.
M3.	familiar with the write-up of a drug evaluation monograph and understand how a drug formulary is managed.
M4.	describe various methods to prevent medication errors in the community and hospital settings.
M5.	understand the management of various poisoning including the use of antidotes.
M6.	familiar with the use and handling of common vaccines.
M7.	understand the risks and the benefits of medication use in pregnancy.
M8.	describe the commonly used illicit drugs and the drug abuse treatment and rehabilitation service in Macao.

These ILOs aims to enable students to attain the following Programme Intended Learning Outcomes (PILOs):

PILOs	M1	M2	M3	M4	M5	M6	M7	M8
P1. To demonstrate understanding of a range of subjects, fields, principles and approaches relevant to pharmacy technology	✓	✓	✓	✓	✓	✓	✓	✓
P2. To demonstrate understanding of theories, analytical approaches and practices that underpin pharmacy operations and management	✓	✓	✓	✓	✓	✓	✓	✓
P3. To demonstrate understanding of major trends and issues related to pharmacy technology	✓		✓					
P4. To apply professional knowledge and skills to analyse, interpret and solve problems, challenges and risks in pharmacy practice	✓			✓			✓	✓
P5. To critically appraise and interpret scientific and clinical literature and apply evidence-based practice	✓							
P6. To acquire and apply research skills in pharmacy technology	✓							
P7. To demonstrate effective communication and teamwork skills								
P8. To maintain professional and ethical standards in pharmacy practice and research	✓			✓				

MODULE SCHEDULE, COVERAGE AND STUDY LOAD

Week	Content Coverage	Contact Hours
1	Drug evaluation monographs and formulary management (Pedro) • Purpose, sources and contents of drug monographs • Monograph preparation • Pharmacy and therapeutics (P&T) committee • Macao drug formulary	2
2	**Practice:** Journal clubs (Pedro)	2
3	Formal medication counselling (Pedro) • Purpose, type and content of medication counselling • Knowledge and skills • Counselling aids	2
3	**Practice:** Formal medication counselling (Pedro)	2
4	Dietary supplements (Pedro) • Definition and classification • Approaches to supplement use • Guidelines for supplement use • Drug and supplement interactions • Evidence-based review of common dietary supplements	2
4	**Practice:** Patient/client counselling on dietary supplements (Pedro)	2
4	Pharmacy informatics (Pedro)	2

	• Little data and big data • Data volume, velocity, variety, veracity, and value • Relational databases for healthcare professional • Medical ontologies and semantic web data		
5	**Workshop:** Structured Query Language (SQL) and SPARQL tutorial (Pedro)	2	
5	**Practical exam:** medication counselling – OSCE (Pedro)	2	
6	**Midterm test** (Pedro)	2	
9	Drug information services (Kenny)	4	
10	**Workshop:** PubMed and Micromedex tutorial (Kenny)	2	
10	**Workshop:** Formulating responses to drug information questions (Kenny)	2	
11	Medical toxicology (Kenny)	2	
11	**Workshop:** Antidotes (Kenny)	2	
12	Medication use in pregnancy (Kenny)	4	
13	Immunization (Kenny)	2	
13	**Practical exam:** Performing drug information searching (Kenny)	2	
14	Drug abuse treatment and rehabilitation service (Lecture and site visit) (Kenny)	3	
16	**Final exam** (Kenny)	2	

TEACHING AND LEARNING ACTIVITIES

In this learning module, students will work towards attaining the ILOs through the following teaching and learning activities:

Teaching and Learning Activities	M1	M2	M3	M4	M5	M6	M7	M8
T1. Lectures	✓		✓	✓	✓	✓	✓	✓
T2. Role-plays		✓		✓	✓	✓	✓	
T3. Patient case studies	✓				✓	✓	✓	
T4. Literature review and critical analysis	✓	✓	✓					✓
T5. Group discussion	✓			✓	✓	✓	✓	
T6. Multimedia resources (videos, podcasts, or online resources)	✓	✓						✓

ATTENDANCE

Attendance requirements are governed by the Academic Regulations Governing Bachelor's Degree Programmes of the Macao Polytechnic University. Students who do not meet the attendance requirements for the learning module shall be awarded an 'F' grade.

ASSESSMENT

In this learning module, students are required to complete the following assessment activities:

Assessment Activities	Weighting (%)	ILOs to be Assessed
A1. In-class exercises and active learning module (Kenny)	10	M4, M5, M6, M7, M8
A2. Midterm Test (Pedro): Written test – content will be announced	25	M1, M2, M3
A3. Practical exam (Pedro): Medication counselling (OSCE) – no make-up practical exam will be arranged. Missing any part of the practical exam will result in zero points for the whole exam	20	M1, M2
A4. Practical exam (Kenny): Formulating responses for drug information query – no make-up practical exam will be arranged. Missing any part of the practical exam will result in zero points for the whole exam	20	M4, M5, M6, M7
A5. Final examination (Kenny): Written exam – content will be announced	25	M4, M5, M6, M7, M8

This learning module is graded on a 100-point scale, with 100 being the highest possible score and 50 being the passing score. Any students scoring less than 35% of the total mark in the final examination will be given an "F" grade for the module even if the overall grade is 50% or higher.

The assessment will be conducted following the University's Assessment Strategy (see www.mpu.edu.mo/teaching_learning/en/assessment_strategy.php). Passing this learning module indicates that students will have attained the ILOs of this learning module and thus acquired its credits.

MARKING SCHEME

High grades will be awarded to work that demonstrates exceptional understanding and mastery of the subject matter and consistently exceeding expectations. The followings are the general assessment criteria for the assessment activities.

Assessment Activities	Assessment Criteria	Mark Ranges				
		88-100	73-87	58-72	50-57	<50
A1. In-class exercise	Demonstrate the ability to apply theoretical knowledge to practical scenarios and demonstrate effective problem-solving skills.	Excellent	Good/ Very Good	Satisfactory	Marginal Pass	Fail; not reaching marginal levels
A2. Midterm Test (Pedro): Written test	Demonstrate the depth of understanding and critical analysis of medical information on conventional	Excellent	Good/ Very Good	Satisfactory	Marginal Pass	Fail; not reaching marginal levels

			Excellent	Good/ Very Good	Satisfactory	Marginal Pass	Fail; not reaching marginal levels
		medicines and dietary supplement.					
A3.	Practical exam (Pedro): Medication counselling (OSCE)	Assess the patient counselling skills on drug and dietary supplement usage through a timed OSCE examination.	Excellent	Good/ Very Good	Satisfactory	Marginal Pass	Fail; not reaching marginal levels
A4.	Practical exam (Kenny): Formulating responses for drug information query	Demonstrate the ability to analyze the clinical query and assess the accuracy of information provided to solving problems.	Excellent	Good/ Very Good	Satisfactory	Marginal Pass	Fail; not reaching marginal levels
A5.	Final examination (Kenny)	Demonstrate the depth of understanding on all the topics covered.	Excellent	Good/ Very Good	Satisfactory	Marginal Pass	Fail; not reaching marginal levels

REQUIRED READINGS

Reading materials, such as lecture notes and journal articles, will be provided to the students by the instructors of this module.

MedicinesComplete database - students may access this online database through the MPU library website.

Access Pharmacy database - students may access this online database through the MPU library website.

Micromedex database - students may access this online database through the MPU library website.

REFERENCES

Mason P, 2011, Dietary supplements, 4th edition, Pharmaceutical Press: UK Royal Pharmaceutical Society

Malone P, Malone MJ, Park SK, et al., 2021 Drug information: a guide for pharmacists. 7th edition. New York: McGraw-Hill Education/ Medical.

STUDENT FEEDBACK

At the end of every semester, students are invited to provide feedback on the learning module and the teaching arrangement through questionnaires. Your feedback is valuable for instructors to enhance the module and its delivery for future students. The instructor and programme coordinators will consider all feedback and respond with actions formally in the annual programme review.

ACADEMIC INTEGRITY

The Macao Polytechnic University requires students to have full commitment to academic integrity when engaging in research and academic activities. Violations of academic integrity, which include but are not limited to plagiarism, collusion, fabrication or falsification, repeated use of assignments and cheating in examinations, are considered as serious academic offenses and may lead to disciplinary actions. Students

should read the relevant regulations and guidelines in the Student Handbook which is distributed upon the admission into the University, a copy of which can also be found at www.mpu.edu.mo/student_handbook/.