

**Macao Polytechnic Institute**  
**School of Health Sciences and Sports**  
**Bachelor of Science in Biomedical Technology**  
**(Pharmacy Technology)**

**Module Outline**  
**Academic Year 2020 / 2021 Semester 2**

<b>Learning Module</b>	Pharmacy Practice III (藥學執業 III)		<b>Class Code</b>	BSPP3102-321	
<b>Pre-requisite(s)</b>	Nil				
<b>Medium of Instruction</b>	English / Cantonese			<b>Credit</b>	3
<b>Lecture Hours</b>	25 hrs	<b>Lab/Practice Hours</b>	20 hrs	<b>Total Hours</b>	45 hrs
<b>Instructor</b>	Lao Cheng Kin, Chatmann		<b>E-mail</b>	cklao@ipm.edu.mo	
<b>Office</b>	Room M708, 7/F, Meng Tak Building, Main Campus		<b>Telephone</b>	8599-3473	

**Description**

This 45-hour module provides an introduction to advanced pharmacy practice. Emphasis is placed on drug information services, formal patient counseling and other clinical pharmacy services, formulary management, prevention of medication errors in the community and hospital settings, clinical toxicology, immunization, and medication use in pregnancy, etc.

**Learning Outcomes**

After completing the learning module, students will be able to:

1. Use appropriate drug information resources and provide recommendations based on high-quality evidence.
2. Effectively deliver medication counseling services to individuals with specific health needs.
3. Describe the key components of developing and implementing a clinical pharmacy service.
4. Be familiar with the write-up of a drug evaluation monograph and understand how a drug formulary is managed.
5. Describe various methods to prevent medication errors in the community and hospital settings.
6. Understand the management of various poisoning including the use of antidotes.
7. Be familiar with the use and handling of different vaccines.
8. Understand the risks and the benefits of medication use in pregnancy.

## **Content**

1. Drug information services (5 hours)
- 2. Workshop I: Drug information I (PubMed tutorial) (0.5 hour)**
- 3. Workshop II: Drug information II (Micromedex tutorial) (0.5 hour)**
- 4. Workshop III: Drug information III (Formulating responses to drug information questions) (3 hours)**
5. Clinical pharmacy services (2 hours)
6. Medication use in pregnancy (3 hours)
7. Clinical toxicology (5 hours)
- 8. Workshop IV: Antidotes (1 hour)**
- 9. Active learning module I: Toxicology (4 hours)**
10. Drug evaluation monograph and formulary management (3 hours)
11. Formal medication counselling (2 hours)
- 12. Active learning module II: Formal medication counselling (2 hours)**
13. Prevention of medication errors (2 hours)
- 14. Workshop V: Prevention of medication errors (2 hours)**
15. Immunization (2 hours)
- 16. Practical exam (OSCE + computer-based exam) (6 hours)**
- 17. Final exam (2 hours)**

## **Teaching Method**

Lectures, videos, in-class exercises, active learning modules, case studies, role-playing, and group discussion

## **Attendance**

Attendance requirements are governed by the “Academic Regulations Governing Bachelor’s Degree Programmes of Macao Polytechnic Institute”.

## **Assessment**

This learning module is graded on a 100 point scale, with 100 being the highest possible score and 50 the pass 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. Also, students will need to take the re-sit examination if they miss the final examination due to unreasonable absence and their maximum final score will be 50. Students are allowed to take final examination only if their attendance rate in practical sessions of this module is over 90%.

	<b>Item</b>	<b>Description</b>	<b>Percentage</b>
1.	In-class exercises	Workshops I (2%), II (2%), III (4%), VI (3%), and V (4%)	15%
2.	Active learning modules	Active learning modules I and II	15%
3.	Assignments		20%
4.	Practical exam	OSCE and computer-based exam	20%
5.	Final exam		30%
<b>Total Percentage:</b>			<b>100%</b>

## **Teaching Material(s)**

### **Textbook(s)**

- None

## **Reference**

### **Reference book(s)**

- Nelson L, Hoffman R, Howland MA, et al. *Goldfrank’s toxicologic emergencies*. 11<sup>th</sup> ed. New York: McGraw-Hill; 2019.
- Malone P, Malone MJ, Park SK, et al. *Drug information: a guide for pharmacists*. 6<sup>th</sup> ed. New York: McGraw-Hill Education/ Medical; 2017.
- DiPiro JT, Yee GC, Posey LM, et al. *Pharmacotherapy: a pathophysiologic approach*. 11<sup>th</sup> ed. New York: McGraw-Hill Medical; 2020.
- Ellis AW, Sherman JJ. *Community and clinical pharmacy services: a step by step approach*. 1<sup>st</sup> ed. New York: McGraw-Hill Education/ Medical; 2013.
- Research articles, package inserts and guidelines.