



COURSE SYLLABUS



Degree Program: BS Pharmacy (2018)

Program Learning Outcomes:

PLO 1: Practice pharmacy in a professional, legal and ethical manner with commitment for continuing professional development

PLO 2: Work effectively with inter- and multi-professional teams in various settings to manage medicines-related issues of individuals, communities and health facilities

PLO 3: Communicate medicines information effectively to patients, carers, healthcare providers, community members and other stakeholders

PLO 4: Produce quality pharmaceutical products to achieve optimum health outcomes for patients and communities

PLO 5: Disseminate research findings to improve medication use, pharmacy education and pharmacy service delivery

A. Course Catalogue Description

Course Title: PHARMACY OPERATIONS

Course Number: CLIN PHARM 160	Credit Units: 3 units (2 unit lecture, 1 unit laboratory)	Number of Hours: 48 hours	Year Level offered: 2nd Year	Semester Offered: 1st Semester
-------------------------------	---	---------------------------	------------------------------	--------------------------------

Meeting Type/Instructional Format: Face-to-face lectures and laboratory sessions using ARAL LMS for materials and submissions

Course Description: This course introduces the fundamental concepts and practices of pharmacy operations in community, hospital, institutional, and public health settings. It covers the organizational, functional, and regulatory requirements of pharmacy practice, including supply chain, inventory control, prescription processing, professional services, and patient-centered innovations. Emphasis is placed on applying these processes through structured laboratory activities, case discussions, and simulated pharmacy operations.

Prerequisites: Clin Pharm 150, Clin Pharm 151

Corequisites: Pharm 116

Course Stipulation (if any)

Provide students with foundational knowledge of pharmacy operations and their role in healthcare.

Develop student competencies in applying pharmacy operations processes across different practice settings.

Course Goals:	Enable students to design and propose innovative pharmacy services that can improve patient care and pharmacy performance.
----------------------	--

B. Relationship of Course Learning Outcomes to Program Learning Outcomes	Program Learning Outcomes
--	---------------------------

Program Learning Outcomes									
---------------------------	--	--	--	--	--	--	--	--	--

Course Learning Outcomes	PLO1	PLO2	PLO3	PLO4	PLO5			
--------------------------	------	------	------	------	------	--	--	--

PLO1	PLO2	PLO3	PLO4	PLO5			
------	------	------	------	------	--	--	--

PLO2	PLO3	PLO4	PLO5			
------	------	------	------	--	--	--

PLO3	PLO4	PLO5			
------	------	------	--	--	--

PLO4	PLO5			
------	------	--	--	--

PLO5			
------	--	--	--

--	--	--

[illegible]

CLO1:	Describe the resources in pharmacy operations.	I			I				
-------	--	---	--	--	---	--	--	--	--

I			I				
---	--	--	---	--	--	--	--

		I				
--	--	---	--	--	--	--

	I				
--	---	--	--	--	--

I				
---	--	--	--	--

--	--	--	--

--	--	--	--

--	--

--	--

CLO2:	Demonstrate knowledge of overall pharmacy operations including medication distribution, pharmacy inventory control and other business processes in pharmacy practice settings.	D	I		D				
-------	--	---	---	--	---	--	--	--	--

Demonstrate knowledge of overall pharmacy operations including medication distribution, pharmacy inventory control and other business processes in pharmacy practice settings.	D	I		D				
--	---	---	--	---	--	--	--	--

D	I		D				
---	---	--	---	--	--	--	--

I		D				
---	--	---	--	--	--	--

	D					

D				
---	--	--	--	--

--	--	--	--	--

--	--	--

--	--

--	--

CLO3:	Develop a proposal for an implementable professional pharmacy service that can be offered in a pharmacy.	D	D	D		I			
-------	--	---	---	---	--	---	--	--	--

D	D	D		I			
---	---	---	--	---	--	--	--

D	D		I			
---	---	--	---	--	--	--

D	I				
---	---	--	--	--	--

	I			
--	---	--	--	--

I			
---	--	--	--

--	--	--

--	--

--	--

I – Introduced D- Demonstrated R- Reinforced

C. Course Content	
-------------------	--

Topics	Number of Hours
--------	-----------------

Number of
Hours

I. Retail pharmacy in the context of the pharmaceutical supply chain - Importance of medicines in health care - The pharmaceutical supply chain in the Philippines - Types of retail drug outlets including those in the public health system	2 hours
--	---------

2 hours

II.	Enabling factors for an effective pharmaceutical supply a. Policy and legal framework b. Financing c. Pharmaceutical management d. Rational and responsible use of medicines e. Management support systems	2 hours
III.	Requirements for establishing drug outlets a. FDA Requirements b. Site selection c. Pharmacy layout d. Personnel e. Standard Operating Procedures (SOPs)	2 hours
IV.	Pharmacy operations in various practice settings (community, hospital, institutional, public health facilities) a. Initial/Opening stock selection b. Processing of prescription/medication order i. Requirements – Senior Citizen, Persons with Disability, PhilHealth reimbursement ii. Prescription medicines iii. Dangerous and controlled substances iv. Investigational drugs c. Processing of Over-the-Counter (OTC) and Pharmacist Only Medication d. Over-the-counter and pharmacist-only medications i. Physical Assessment ii. Screening for Specific Conditions iii. Triaging/Referral to other Health Professionals	4 hours
V.	Pharmacy Inventory Control a. Types of Inventory b. Preparation of Purchase Order c. Quantification d. Documentation	2 hours
VI.	Automation a. Barcoding b. RFID c. Patient Medication Profile	2 hours

VII.	Supplier selection and performance evaluation a. Receiving and checking of deliveries b. Packaging and labeling c. Storage and cold chain d. Forecasting and re-ordering	2 hours
VIII.	Other Aspects of Operation a. Pharmaceutical returns and recalls b. Disposal of Bad Stocks – damaged, expired medicines, returns	2 hours
IX.	Implementing Value-added Pharmacy Services a. Required competencies b. Health and wellness c. Clinical services	2 hours
X.	Medication Safety	2 hours
XI.	Measuring the Success of Pharmacy Services a. Medication adherence b. Patient satisfaction c. Cost-savings	2 hours

D. Course Coverage

Week	Learning Outcomes	LLOs with CLOs	Course Topics	Essential or Key Questions	Teaching and Learning Activities	Assessment Methods and Tools	Core Readings/Learning Resources
1	General Objectives: - Explain the importance of medicines in promoting and maintaining health. - Describe the structure and key components of the pharmaceutical supply	CLO1	I. Retail pharmacy in the context of the pharmaceutical supply chain A. Importance of	How do medicines contribute to improving health outcomes and quality of life? What are the major components of the pharmaceutical	Lecture-discussion, recitations, group activities	Quiz, First Long Examination	Department of Health (DOH) & Philippine Food and Drug Administration (FDA). <i>Rules and Regulations on the Licensing of Drug</i>

	chain in the Philippines. • Differentiate the various types of retail drug outlets in the country. • Understand the value of pharmacy as a component of the health system.		medicines in health care B. The pharmaceutical supply chain in the Philippines C. Types of retail drug outlets including those in the public health system	supply chain in the Philippines? What are the different types of retail drug outlets in the Philippines? How do these outlets differ in terms of services, regulation, and scope of practice? Why is pharmacy considered a critical component of health care delivery?			<i>Establishments</i>. Latest issuance. Desselle, S., Zgarrick, D., & Alston, G. (2012). <i>Pharmacy Management, third edition</i>. McGraw Hill Professional. Management Sciences for Health (MSH). <i>Managing Access to Medicines and Health Technologies (MDS-3)</i>. Arlington, VA: MSH; 2012. Philippine Practice Standards for Pharmacists (PPSP). Philippine Pharmacists Association; latest edition. Republic Act No. 10918. <i>The Philippine Pharmacy Law</i>. 2016.
2	Learning Objectives: • Enumerate the enabling factors for an effective pharmaceutical supply system. • Explain the role of policy and legal frameworks in ensuring access to quality medicines. • Analyze how financing mechanisms support sustainability and equity in	CLO1, CLO2	II. Enabling factors for an effective pharmaceutical supply A. Policy and legal framework B. Financing C. Pharmaceutical management	What factors enable an effective and efficient pharmaceutical supply system? How do these factors interact to ensure the timely delivery of medicines? How do policy and legal frameworks ensure access to safe, effective, and quality medicines?	Lecture-discussion, recitations, group activities	Quiz, First Long Examination	

	medicine supply. - Discuss key elements of pharmaceutical management that influence medicine availability. - Evaluate strategies for promoting the rational and responsible use of medicines. - Recognize the importance of management support systems in strengthening pharmaceutical supply chains.		D. Rational and responsible use of medicines E. Management support systems	In what ways do financing mechanisms influence the sustainability and equity of medicine supply? What are the key elements of pharmaceutical management that determine medicine availability? Why is responsible medicine use important for both public health and health system sustainability? Why are management support systems (e.g., information systems, human resources, logistics) critical in strengthening pharmaceutical supply chains?			
3	Learning Objectives: To define the regulatory bases for requirements in setting up a pharmacy	CLO1, CLO2	III. Requirements for establishing drug outlets	What are the regulatory bases that govern the establishment of a pharmacy in the Philippines, and why	Lecture-discussion, recitations, group activities	Quiz, First Long Examination	

	- To enumerate the requirements for application of an initial license to operate for drug establishments and post-licensing inspections - To explain important considerations in the strategic planning		A. FDA Requirements B. Site selection C. Pharmacy layout D. Personnel E. Standard Operating Procedures (SOPs)	are these important in ensuring safe and effective pharmacy operations? What are the requirements for applying for an initial License to Operate (LTO) for drug establishments? How does effective strategic planning contribute to the sustainability and competitiveness of a pharmacy business?			
4 - 5	Learning Objectives: - Describe the different operations and processes involved in drug selection, purchasing, receiving and storage, packaging and labelling, recalls, and disposal - Describe the important principles and techniques of merchandising and display - Describe how to accurately process prescriptions and medication orders, including special populations, in compliance	CLO1, CLO2	IV. Pharmacy operations in various practice settings (community, hospital, institutional, public health facilities) a. Initial/Opening stock selection b. Processing of	What are the key steps and processes involved in the drug supply cycle from selection to disposal? How do proper storage, packaging, and labelling practices ensure medicine quality and patient safety? What principles of merchandising are important in	Lecture-discussion, recitations, group activities	Quiz, First Long Examination	

	with Philippine regulatory and ethical standards.		prescription/medication order i. Requirements – Senior Citizen, Persons with Disability, PhilHealth reimbursement ii. Prescription medicines iii. Dangerous and controlled substances iv. Investigational drugs c. Processing of Over-the-Counter (OTC) and Pharmacist-Only	community and hospital pharmacy settings? How can effective product display influence patient awareness, sales, and rational medicine use? What are the essential steps in accurately processing prescriptions and medication orders? How should prescriptions for special populations (e.g., children, elderly, pregnant patients) be handled to ensure safety and compliance?			
--	---	--	---	---	--	--	--

			Medication d. Over-the-counter and pharmacist-only medications i. Physical Assessment ii. Screening for Specific Conditions iii. Triaging/Referral to other Health Professionals				
6 - 7	Learning Objectives: 1. Differentiate types of inventory systems and apply appropriate methods of preparing a purchase order, such as quantification and documentation, to	CLO1. CLO2	V. Inventory Control a. Types of Inventory b. Preparation of Purchase Order i. Quantification	What are the different types of inventory systems used in pharmacy practice, and how do they differ in application? How can proper quantification and documentation	Lecture-discussion, recitations, group activities	Quiz, First Long Examination	

	ensure efficient stock management in pharmacy practice. 2. Describe how automation exists in pharmacy operations and explain its impact on the accuracy, safety, and efficiency of various aspects of pharmacy operations.		ii.Documentation X. Automation a. Barcoding b. RFID c. Patient Medication Profile	improve the accuracy of purchase orders? In what ways is automation (e.g., barcoding, RFID, electronic medication profiles) applied in pharmacy operations? How does automation impact accuracy, safety, and efficiency in various facets of pharmacy operations? What challenges might pharmacies face in implementing automation technologies, and how can these be addressed?			
8 - 9	Learning Objectives: 1. Discuss the process of how to accurately receive, inspect, and document pharmaceutical deliveries, ensuring compliance with regulatory standards and	CLO1, CLO2	VI. Supplier selection and performance evaluation a. Receiving and checking of deliveries	How can pharmacists ensure accuracy, compliance, as well as identify discrepancies when receiving and documenting pharmaceutical deliveries?	Lecture-discussion, recitations, group activities	Quiz, First Long Examination	

	identifying discrepancies. 2. Explore the different regulatory requirements and practices for packaging and labeling 3. medications to ensure product safety, compliance, and accurate communication of essential drug information. 4. Explain the importance of proper pharmaceutical storage according to Good Storage 5. Practices, including maintaining the cold chain, to ensure the integrity and quality of medications in compliance with safety guidelines. 6. Utilize inventory management principles to forecast demand and implement effective re- 7. ordering systems, maintaining optimal stock levels and minimizing wastage.		- b.Packaging and labeling c. Storage and cold chain - d.Forecasting and re-ordering	What regulatory requirements and best practices must be followed in packaging and labeling medications to guarantee safety and accurate drug information? Why is proper pharmaceutical storage, including cold chain management, essential for preserving the integrity and quality of medicines? How can inventory management principles be applied to forecast demand, optimize stock levels, and minimize medicine wastage?			
--	---	--	--	---	--	--	--

10	Learning Objectives 1. Discuss and define pharmaceutical returns and recalls 2. Explain the various reasons that pharmaceuticals may be returned or recalled 3. Identify different classes of drug recalls 4. Discuss the process of drug recall in the Philippine setting 5. Discuss and differentiate the roles of the patient and pharmacist/HCP in situations of drug returns or recalls 6. Discuss the importance of safe disposal for unwanted pharmaceuticals 7. Explain the importance of sorting pharmaceuticals into categories that require different disposal methods 8. Differentiate the various methods for disposing	CLO1. CLO2	VII. Other Aspects of the Operation a. Pharmaceutical returns and recalls b. Disposal of Bad Stocks – damaged, expired medicines, returns	What are returns and recalls as it pertains to pharmacy, and what are some valid reasons that pharmacies may encounter this? How are drug recalls classified and processed in the Philippines? Why should unwanted pharmaceuticals be disposed of properly? How can proper pharmaceutical waste disposal practices be adhered to, following national or international guidelines, policies, and regulations What are the various ways that unwanted pharmaceuticals can be safely disposed of, and how is the	Lecture-discussion, recitations, group activities	Quiz, First Long Examination	

	unwanted pharmaceuticals 9. Identify the appropriate disposal method for a sorting category			appropriate method determined?			
11 - 12	Learning Objectives: 1. Understand the objectives and outcomes of pharmacy services 2. Discuss the different considerations in setting up pharmaceutical services in a pharmacy 3. Enumerate and describe the steps in setting up a value-added pharmacy service	CLO1, CLO2, CLO3	VIII. Implementing Value-added Pharmacy Services a. Required competencies b. Health and wellness c. Clinical services	What are the primary objectives of pharmacy services, and how do they contribute to patient care and health system outcomes? What key factors should be considered when establishing pharmaceutical services in a pharmacy to ensure effectiveness, sustainability, and patient-centered care? What are the essential steps in developing and implementing a value-added pharmacy service, and how do these steps ensure its success?	Lecture-discussion, recitations, group activities	Quiz, First Long Examination	

13	Learning Objectives 1. Define medication safety and patient safety goals 2. Describe different policies and guidelines on medication safety 3. Evaluate methods for addressing patient safety concerns with emphasis on medication order processing	CLO1, CLO2	IX. Medication Safety	What is medication safety, and how do patient safety goals guide the practice of pharmacy? What policies and guidelines support medication safety, and how do they ensure safe pharmacy operations? What methods can be used to address patient safety concerns, particularly in medication order processing, and how effective are they?	Lecture-discussion, recitations, group activities,	Quiz, First Long Examination	
14	FIRST EXAMINATION						
15	Learning Objectives: 1. Define different outcomes relevant to measuring the success of implementing pharmacy services 2. Describe specific measures from each outcome that can be considered in the	CLO1, CLO2, CLO3	XI. Measuring the Success of Pharmacy Services a. Medication adherence b. Patient satisfaction c. Cost-saving s	What types of outcomes (ECHO) can be used to determine the success of implementing pharmacy services? What specific measures can be applied to each outcome to assess the	Lecture-discussion, recitations, group activities	Quiz, Comprehensive Examination	Department of Health (DOH) & Philippine Food and Drug Administration (FDA). <i>Rules and Regulations on the Licensing of Drug Establishments</i>. Latest issuance. Desselle, S., Zgarrick, D., & Alston, G. (2012).

	implementation of pharmacy services that can be used to measure its success 3. Identify ways that a pharmacy can maintain the sustainability of implementing pharmacy services			effectiveness of pharmacy services? How can a pharmacy ensure the long-term sustainability of its implemented services?			<i>Pharmacy Management, third edition.</i> McGraw Hill Professional. Management Sciences for Health (MSH). <i>Managing Access to Medicines and Health Technologies (MDS-3).</i> Arlington, VA: MSH; 2012. Philippine Practice Standards for Pharmacists (PPSP). Philippine Pharmacists Association; latest edition. Republic Act No. 10918. <i>The Philippine Pharmacy Law.</i> 2016.
16	COMPREHENSIVE EXAMINATION						
E. Course Requirements							
1	Quizzes						
2	Examinations						
3	Class Activities and Participation						
F. Assessment Plan (formative and summative evaluation)							

COURSE ASSESSMENT PLAN				
Assessment Component	Type of Assessment	Course Learning Outcomes		
		CLO1	CLO2	CLO3
Written Exam 1 (25%)	Formative	MCQ True or False Matching Identification	MCQ True or False Matching Identification Case with Computations	
Written Exam 2 (25%)	Summative	MCQ True or False Matching Identification	MCQ True or False Matching Identification Case with Computations	Case Scenario
Quizzes (25%)	Formative	True or False Identification	True or False Identification	True or False Identification
Activities (20%)	Formative	Rubric	Rubric	Rubric
Class Participation (5%)	Formative	Rating Scale, Observation	Rating Scale, Observation	Rating Scale, Observation

G. References

1	Management Sciences for Health (MSH). <i>Managing Access to Medicines and Health Technologies (MDS-3)</i> . Arlington, VA: MSH; 2012.
2	Republic Act No. 10918. <i>The Philippine Pharmacy Law</i> . 2016.
3	Department of Health (DOH) & Philippine Food and Drug Administration (FDA). <i>Rules and Regulations on the Licensing of Drug Establishments</i> . Latest issuance.
4	Philippine Practice Standards for Pharmacists (PPSP). Philippine Pharmacists Association; latest edition.

H. List of Faculty

1	Yolanda R. Robles, RPh, M Pharm, PhD – Lecture Course coordinator Professor Department of Clinical, Social and Administrative Pharmacy
---	---

2	Margarita M. Gutierrez, RPh, MHPed, PhD Associate Professor Department of Clinical, Social and Administrative Pharmacy
3	Frances Lois U. Ngo, RPh, MHSS Assistant Professor Department of Clinical, Social and Administrative Pharmacy
4	Jarvin Enosh T. Tan, RPh Assistant Professor Department of Clinical, Social and Administrative Pharmacy
5	Adrian Chester P. Uy, RPh, RChT Instructor Department of Clinical, Social and Administrative Pharmacy
6	Cecilio Angelo M. Hipolito, RPh Instructor Department of Clinical, Social and Administrative Pharmacy
7	Erica Nicole J. Tayko Instructor Department of Clinical, Social and Administrative Pharmacy
8	Maria Patrica S. Ugalde Instructor Department of Clinical, Social and Administrative Pharmacy
UPM-(ISO college code)-TP-01 Revision 0  	