

Pharm-D Courses

(Through Department of Pharmacy Practice)

1st Semester			2nd Semester		
Course No.	Title of Course	Cr. Hr.	Course No.	Title of Course	Cr. Hr.
Fourth Year					
PHP-601	Pharmacy Practice- Hospital Pharmacy	3	PHP-602	Pharmacy Practice- Community, Social and Administrative Pharmacy	<u>3</u>
Fifth Year					
PHP-705	Pharmacy Practice- Clinical Pharmacy	3	PHP-714	Pharmacy Practice- Pharmacotherapeutics	<u>3</u>
Total 04 Courses making 12 Credit Hours in five years.					

FIRST SEMESTER

Fourth Professional

PHP-601 Pharmacy Practice: Hospital Pharmacy Cr. Hrs. 3

1. Hospital and Its Organization:
 - a. Brief history of hospital
 - b. Classification of Hospitals
 - c. Minimum requirements for registering a hospitals
 - d. Organizational Structure
 - e. Administration
 - f. Clinical Departments
 - g. Nursing, Dietetic, Pathology, Blood Bank, Radiology and other supportive services
 - h. Hospital Finances
2. Role of Pharmacy in Hospitals, role of pharmacist in small hospitals, nursing homes etc.
3. Minimum Standards for Hospital Pharmacies as per ASHP
 - Pharmacy, Its Organization and Personnel:
 - a. The Physical plant and its equipment:
 - b. Pharmacy specialist
 - c. Drug information Centre
 - d. Poison Control Centre and Antidote Bank
 - e. Pharmacy Education, CEs and CMEs, Internship program, clerkship, etc.
 - f. Professional services rendered
 - g. The Pharmacy: Central Sterile Supply Room (Eye drops, Ear drops) and Hyper alimentation.
 - h. Nuclear Pharmacy
 - i. Investigational use of drugs:
 - j. Health accessories, Ancillary supplies and Surgical supplies
4. Dispensing to Inpatients:
 - a. Methods of Dispensing & SOP's
 - b. Unit dose dispensing
 - c. Other concepts of dispensing, Satellite Pharmacy etc.
5. Dispensing To Ambulatory Patients
6. The Hospital Formulary System: guidelines of AHFS
7. Controlled Substances: Procurement, Distribution, dispensation and inventory management
8. Dispensing during off-Hours, off site Pharmacies
9. Purchasing, Distribution and Control of Hospital Medicines, Medical & surgical supplies
Supply Chain Managements and Execution: Purchasing, Stocking, Stock Control, Inventory Management, Drug Distribution, Relationship between purchasing, Distribution and Clinical Pharmacy Services
10. 200 contact hours Hospital Pharmacy internship in a tertiary care general hospital covering the clinical units.

Books Recommended

1. Pharmacy Practice By Kevin M. G. Taylor, Geoffrey Harding; CRC Press
2. Holdford, D. A. and T. R. Brown (2010). Introduction to Hospital and Health-System Pharmacy Practice, ASHP.
3. Thompson, J. E. (2009). A practical guide to contemporary pharmacy practice Third Edition, Williams & Wilkins Baltimore (MD).
4. Brown, T. R. (2006). Handbook of institutional pharmacy practice, ASHP.
5. Stephens, M. (2011). Hospital pharmacy, Pharmaceutical Press.
6. Hospital Pharmacy by W.E. Hassan, Lea & Fibiger

Fifth Professional

PHP-705 Pharmacy Practice: Clinical Pharmacy Cr. Hrs. 3

1. Rationalize use of drugs
2. Medication Errors
3. Drug Utilization and Drug Utilization Review
4. Lab data interpretation and monitoring (ADR etc.)
5. Developing and implementing TDM.
6. Documentation of Pharmacotherapy Plan
 - SOAP (Subjective, Objective, Assessment and Plan) note
 - CORE (Communication, Organization, Relationship and Expectations) Pharmacotherapy Plan
 - PRIME (Pharmaceutical based problems, Risk to patient, Interactions, Mismatch between medications and conditions or patients need and Efficacy issues) Pharmacotherapy problems
 - FARM (Findings, Assessment, Resolution and Monitoring and Follow up) note
7. Pharmacotherapy Decision making.
8. Pharmaco-economics and its implementation
9. Public health issues and different models to study e.g tobacco cessation programs, obesity prevention, tuberculosis monitoring, vaccinations etc.
10. CNS Unit (Psychosis, Stroke, Epilepsy), GI Unit
11. Oncology Unit (Solid and other cancers)
12. Osso Unit (Bone Density, rickets, osteoporosis)
13. Gastroenterology Unit (Ulcers, cirrhosis, hepatitis etc.)

Books Recommended

1. Pharmacotherapy A Pathophysiologic Approach 9/E By Joseph DiPiro, Robert L. Talbert, Gary Yee, Barbara Wells, L. Michael Posey; McGraw Hill Professional

2. Thompson, J. E. (2009). A practical guide to contemporary pharmacy practice Third Edition, Williams & Wilkins Baltimore (MD).
3. Lauster, C. D. and S. B. Srivastava (2013). Fundamental Skills for Patient Care in Pharmacy Practice, Jones & Bartlett Publishers.
4. Lexi-Comp, Inc. OnlineTM, L.-C., L.-D. OnlineTM, et al. (2015).
5. Ansel, H. C. (2012). Pharmaceutical calculations, Lippincott Williams & Wilkins
6. Koda-Kimble, M. A., B. K. Alldredge, et al. (2012). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs, Lippincott Williams & Wilkins.
7. Chisholm-Burns, M. A., B. G. Wells, et al. (2010). Pharmacotherapy principles & practice, McGraw-Hill New York.

SECOND SEMESTER

Fourth Professional

PHP-602

**Pharmacy Practice: Community, Social &
Administrative Pharmacy**

Cr. Hrs. 3

1. Definitions and background: Health and its types, Fundamentals of health, Health determinants, Health Care System, Health care Organizations and Institutes, Public health and community pharmacy:
2. Epidemiology, Epidemiological methodology with a focus on specific disease states, pharmacoepidemiology.
3. Preventive health (EPI & CDC), family planning and Health policy.
4. Medical complication of drug taking: general and socio-economic Aspects.
5. Pharmacy layout design: objectives of layout design, types of community Pharmacies (Pharmaceutical center, prescription-oriented pharmacies, traditional pharmacies and the super drug stores Chain of Pharmacies), Consumer goods and purchases, classes of layout designs, Principles and characteristics of layout design and traffic flow analysis.
6. Operations in a Community Pharmacy
 1. Procurement of Drugs, Medical devices, Health accessories, ancillary supplies
 2. Good Storage Practices in community Pharmacy
 3. Compounding and dispensing including:
Fundamental operations in compounding, containers and closures for dispensed products,
 4. Prescription-handling (parts of prescription, filling, interpretation, pricing) and labelling of dispensed medication.
 5. Extemporaneous dispensing: solutions, suspensions, emulsions, creams, Ointments, pastes and gels, suppositories and pessaries, powders and granules and oral unit dosage form.
 6. Pharmaceutical incompatibilities: types of incompatibilities, manifestations, correction and prevention with reference to typical examples.
 7. Patient education and counselling, educational role of community pharmacy
 8. Control of drug abuse and misuse in community pharmacy
7. Role of pharmacist: as public health educator in the community for drug Monitoring and drug information.
8. Pharmacoeconomics: pharmacoeconomic modelling and interpretation.
9. Alternative therapies: background, philosophy and use of complementary and Alternative

therapies in practice including herbal medicines, homoeopathy, acupuncture, acupressure, Bach Flower remedies, aromatherapy and reflexology.

10. One month training in Community Pharmacy and DIC under the supervision of licensed registered Pharmacist

Books Recommended

1. Jean-Venable R. Goode, Lynne M. Roman, Kristin W. Weitzel. Community Pharmacy Practice Case Studies
2. Pharmacy Practice By Kevin M. G. Taylor, Geoffrey Harding; CRC Press
3. Pharmacoeconomics: From Theory to Practice By Renee J. G. Arnold
4. Community Pharmacy By Paul Rutter
5. Thompson, J. E. (2009). A practical guide to contemporary pharmacy practice Third Edition, Williams & Wilkins Baltimore (MD).
6. Lauster, C. D. and S. B. Srivastava (2013). Fundamental Skills for Patient Care in Pharmacy Practice, Jones & Bartlett Publishers.
7. Beardsley, R. S., C. L. Kimberlin, et al. (2012). Communication skills in pharmacy practice: a practical guide for students and practitioners, Lippincott Williams & Wilkins.
8. Leadership and Management in Pharmacy Practice, Second Edition (Pharmacy Education Series). Jan 2, 2015. CRC Press

Fifth Professional

PHP-714 Pharmacy Practice: Pharmacotherapeutics Cr. Hrs. 3

Pharmacotherapy of drugs used in:

1. CVS Unit (covering IHD, Hypertension etc.).
2. Pulmonary Unit (Asthma, COPD, pneumonia etc).
3. Infection Unit (Bacterial, Fungal and viral infections).
4. Endocrinology Unit (DM, Hyper / Hypothyroidism etc.).
5. Nephrology Unit (Renal failures etc.).
6. Hematology Unit (bleeding disorders, coagulopathies)
7. Manufacturing Bulk and Sterile: Total Parenteral Nutrition (TPN)

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1. Pharmacotherapy A Pathophysiologic Approach 9/E By Joseph DiPiro, Robert L. Talbert, Gary Yee, Barbara Wells, L. Michael Posey; McGraw Hill Professional
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5. Chisholm-Burns, M. A., B. G. Wells, et al. (2010). Pharmacotherapy principles & practice, McGraw-Hill New York.