

PHM-1360: PHARMACY PRACTICE II

Cuyahoga Community College

Viewing: PHM-1360 : Pharmacy Practice II

Board of Trustees:

March 2020

Academic Term:

Spring 2021

Subject Code

PHM - Pharmacy Technology

Course Number:

1360

Title:

Pharmacy Practice II

Catalog Description:

Fundamentals of pharmacy practice including technician`s role in drug distribution in community, home health care, nursing home, and alternative practice settings. Focuses on oral and topical dosage forms including handling, preparation, packaging, labeling, and distribution.

Credit Hour(s):

3

Lecture Hour(s):

2

Lab Hour(s):

3

Other Hour(s):

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Requisites

Prerequisite and Corequisite

PHM-1350 Pharmacy Practice I, or departmental approval.

Outcomes

Course Outcome(s):

Demonstrate and apply personal and interpersonal knowledge and skills appropriate to pharmacy technicians.

Objective(s):

1. Demonstrate ethical conduct in all job-related activities.
2. Present an image appropriate for the profession of pharmacy in appearance and behavior.
3. Apply interpersonal skills, including negotiation skills, conflict resolution, and teamwork.
4. Apply critical thinking skills, creativity, and innovation to solve problems in pharmacy practice.

Course Outcome(s):

Discuss the Pharmacy Technician's role in the healthcare delivery system.

Objective(s):

1. Demonstrate understanding of the preparation and process for non-sterile compounding.
2. Compare and contrast the roles of pharmacists and pharmacy technicians in ensuring pharmacy department compliance with professional standards and relevant legal, regulatory, formulary, contractual, and safety requirements.
3. Demonstrate understanding of healthcare occupations and the health care delivery system.

4. Demonstrate understanding of wellness promotion and disease prevention concepts.
5. Demonstrate commitment to excellence in the pharmacy.
6. Demonstrate understanding of the pharmacy technician's role in the medication-use process.
7. Demonstrate understanding of innovations in the pharmacy profession and technician roles.

Course Outcome(s):

Perform mathematical calculations essential to the duties of pharmacy technicians in a variety of contemporary settings.

Essential Learning Outcome Mapping:

Quantitative Reasoning: Analyze problems, including real-world scenarios, through the application of mathematical and numerical concepts and skills, including the interpretation of data, tables, charts, or graphs.

Objective(s):

1. Identify and apply measurement units used in medication orders and compounding.
2. Make use of conversions between and within metric and English measurement systems.
3. Use ratio/proportion and alligation methods where appropriate to solve pharmaceutical calculations and formulae.
4. Utilize and convert percentage and ratio notation for expression of medication strengths and doses.
5. Calculate markups and discounts.
6. Prepare medications requiring compounding of non-sterile products.

Course Outcome(s):

Process and handle medications and medication orders.

Objective(s):

1. Demonstrate understanding of the preparation and process for non-sterile compounding.
2. Assist pharmacists in collecting, organizing, and recording demographic and clinical information.
3. Receive and screen prescriptions/medication orders for completeness, accuracy, and authenticity.
4. Prepare non-patient-specific medications for distribution (e.g., batch, stock medications).
5. Distribute medications in a manner that follows specified procedures.
6. Assist pharmacists in preparing, storing, and distributing medication products requiring special handling and documentation (e.g., controlled substances, immunizations).
7. Assist pharmacists in the monitoring of medication therapy.
8. Prepare patient-specific medications for distribution.
9. Maintain pharmacy facilities and equipment, including automated dispensing equipment.
10. Prepare medications requiring compounding of non-sterile products.
11. Discuss and compare common medication dosage forms, their compounding, and required packaging, labeling, and dating.

Course Outcome(s):

Participate in procurement, billing, reimbursement and inventory management.

Objective(s):

1. Discuss how to initiate, verify, and assist in the adjudication of billing for pharmacy services and goods, and collect payment for these services.
2. Apply accepted procedures in purchasing pharmaceuticals, devices, and supplies.
3. Apply accepted procedures in inventory control of medications, equipment, and devices.
4. Explain pharmacy reimbursement plans for covering pharmacy services.

Course Outcome(s):

Apply principles of patient- and medication-safety.

Objective(s):

1. Verify measurements, preparation, and/or packaging of medications produced by other healthcare professionals (e.g., tech-check-tech).
 2. Describe and demonstrate the use of current technology in the healthcare environment to ensure the safety and accuracy of medication dispensing.
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Course Outcome(s):

Discuss regulatory issues and conform to relevant law.

Objective(s):

1. Compare and contrast the roles of pharmacists and pharmacy technicians in ensuring pharmacy department compliance with professional standards and relevant legal, regulatory, formulary, contractual, and safety requirements.
2. Maintain confidentiality of patient information.

Course Outcome(s):

Apply quality assurance principles in pharmacy practice.

Objective(s):

1. Define terms relevant to Quality Assurance.
2. Relate concepts of quality to pharmacy compounding and operations.
3. Explain procedures and communication channels to use in the event of a product recall or shortage, a medication error, or identification of another problem.

Methods of Evaluation:

1. Written assignments
2. Periodic quizzes
3. Laboratory assignments
4. Written examinations
5. Laboratory examinations

Course Content Outline:

1. Prescription and Medication Orders
 - a. Legal definition of a prescription order
 - b. Elements of complete prescription and medication orders
 - c. Terminology and abbreviations related to medication orders
 - d. Practitioners with prescribing authority in Ohio
 - e. DEA numbers
2. Labeling Pharmacy Preparations
 - a. Elements of labels (required and optional)
 - b. Warning labels
 - c. Laboratory exercises in packaging and labeling
3. Institutional Pharmacy
 - a. Definition and context
 - b. Organization and personnel
 - c. P&T Committee and Formulary system
 - d. Accreditation
 - e. Patient-focused v. Product-focused pharmaceutical care
 - f. Unit-dose medication distribution
 - g. Policy and Procedure Manual
 - h. Laboratory exercises
4. Pharmacy Personnel Duties
 - a. Pharmacist care
 - b. Legal requirements for pharmacy personnel
 - c. Technician duties
 - d. Differentiation between technician and pharmacist duties
5. Application of Measurements and Calculations
 - a. Use of ratio/proportion and alligation methods where appropriate
 - b. Percentage and ratio notation for expression of medication strengths and doses
6. Community Pharmacy
 - a. Definitions and types of ambulatory pharmacy settings
 - b. Duties of technicians in community pharmacy
 - c. OBRA and patient counseling initiatives

- d. Medication therapy management
- e. Laboratory exercises in dispensing
- 7. Immunization
 - a. Role of immunization in disease prevention
 - b. Safe handling, storage, and record-keeping for vaccines in the pharmacy
 - c. Immunizations that Ohio pharmacists can be authorized to administer
 - d. Ways in which pharmacy technicians can facilitate pharmacy-based immunization programs
 - e. Common misconceptions about immunizations and how to combat them
- 8. Insurance
 - a. Importance of insurance benefits to patients, providers, and pharmacy practice
 - b. Key features of medical insurance plans
 - c. Types of prescription coverage plans
 - d. Steps in the pharmacy billing cycle
 - e. Billing errors on the success
 - f. Key terms related to insurance
- 9. Inventory Control
 - a. Definitions of terms that apply to pharmacy inventory
 - b. Basic principles of inventory control and the reasoning behind them
 - c. Procedures for ordering and checking in new stock in pharmacies
 - d. FDA drug recalls
 - e. Laboratory exercises in drug recalls and inventory procedures
- 10. Pharmacy Automation
 - a. Uses and advantages of pharmacy automation
 - b. Automated dispensing machines and components
 - c. Laboratory exercises with automated equipment
- 11. Compounding
 - a. Definition of compounding and related terms
 - b. Distinction between compounding and manufacturing
 - c. Extemporaneous and anticipatory compounding
 - d. Laws governing compounding
 - e. Drug Quality and Security Act
 - f. Facilities and equipment for compounding
 - g. Guidelines and documentation
 - h. Beyond-use dating
 - i. Laboratory exercises in compounding various dosage forms
- 12. Liquid measurement
 - a. Aspects of liquid measurement important in Pharmacy practice
 - b. Volumetric and non#volumetric ware and uses for various types
 - c. Imprecision in household measurements
 - d. Appropriate dose measurement by patients
 - e. Laboratory exercises in measuring and packaging liquid medications
- 13. Weighing and Aliquots
 - a. Operation of a prescription balance
 - b. Equipment and supplies for proper use of the prescription balance
 - c. Error of measurement and "Least Weighable Quantity"
 - d. Definitions of aliquot and trituration
 - e. Laboratory exercises using prescription balances
- 14. Common dosage forms
 - a. Includes solutions, suspensions, emulsions, dermatologicals, ophthalmics, nasal products, powders, capsules, tablets, suppositories, lozenges, medication sticks
 - b. Definitions for each dosage form
 - c. Advantages and disadvantages of each dosage form
 - d. Compounding, packaging, labeling, and dating of each studied dosage form
 - e. Laboratory exercises in compounding and dispensing various dosage forms
- 15. Quality Assurance
 - a. Definitions of Quality, Quality Control, and Quality Assurance
 - b. Relation of concepts of quality to pharmacy compounding and operations

- c. Pharmacy errors and causes
 - d. Methods for error analysis, reporting, and prevention
16. Veterinary Compounding
- a. Government regulations regarding veterinary medication use and compounding
 - b. Terms and acronyms relevant to veterinary prescribing and compounding
 - c. Considerations distinguishing veterinary from human prescribing and compounding

Resources

Bachenheimer, Bonnie S. *Manual for Pharmacy Technicians*. 5e. Bethesda MD: American Society of Health-System Pharmacists, 2019.

Davis, Karen. *Pharmacy Management Software for Pharmacy Technicians*. 3e. St. Louis MO: Elsevier, 2018.

Shrewsbury, Robert. *Applied Pharmaceutics in Contemporary Compounding*. 2. Englewood CO: Morton, 2008.

Allen LV Jr, et al. *Remington: The Science and Practice of Pharmacy*. 22. Easton PA: Pharmaceutical Press, 2012.

Stuhan MA and Wakelin J. *PHM 1360: Pharmacy Practice II Laboratory Workbook*. {ts '2019-01-16 00:00:00'}.

Resources Other

Lexicomp Online: collection of clinical databases (subscription content)

Facts and Comparisons eAnswers (subscription content)

<http://USP.org>

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