El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Pharmacy Technology**
COURSE RUBRIC AND NUMBER	**PHRA 1413**
COURSE TITLE	**Community Pharmacy Practice**
COURSE CREDIT HOURS	**4 3 : 2** **Credits Lec Lab**

I. Catalog Description

Introduction to the skills necessary to process, prepare, label, and maintain records of prescriptions in a community pharmacy to include customer service, count and pour techniques, prescription calculations, drug selection and preparation, over-the-counter drugs, inventory management and legal parameters. A grade of "C" or better is required in this course to take the next course. **(3:2). Lab fee.**

II. Course Objectives

Upon satisfactory completion of this course, the student will be able to:

A. Unit I. Principles of Pharmacy Practice.

1. Understand how pharmacists and pharmacy technicians contribute to a healthcare team.
2. Describe the various cultural origins and history of pharmacy and their impact on the profession today.
3. Differentiate among various workplace environments for pharmacist and technicians, and their major roles and responsibilities.
4. Explain what the terms *medication therapy management (MTM)* and *Collaborative Practice Agreements (CPAs)* mean and how they apply to pharmacists and technicians.
5. Define and differentiate the terms licensure, certification, and registration for both pharmacist and technicians.
6. Understand the reasons for the ASHP Practice Advancement Initiative (PAI) and its Pharmacy Practice Model Initiatives (PPMI) and the advanced roles the PPMI supports for pharmacists and technicians.
7. Define and differentiate the terms *licensure, certification,* and *registration* for both pharmacists and technicians.
8. Outline academic and legal requirements for practice.
9. Discuss job realities and the varied career paths that can flow from that of a Certified Pharmacy Technician (CPhT).
10. Differentiate the meanings of the terms *laws*, *regulations*, *professional standards*, and professional *ethics*.
11. Show how drug injuries and deaths often led to protective legislation, and describe the significant federal drug laws in the 20th century and their effects on the contemporary practice of pharmacist and pharmacy technicians in the United States.
12. Discuss the different roles of government regulatory agencies--such as the Food and Drug Administration, the Drug Enforcement Administration, the United States Pharmacopeia (respectively)--in creating standards and enforcing laws and regulations.

13. Explain the role of state boards of pharmacy and the differences between state and federal laws as they apply to pharmacy, and how and why the strictest rule is always applied.
14. Explain the differences between criminal and civil law, how these laws affect the pharmacy profession, and the varying levels of liability of pharmacist and pharmacy technicians.
15. Define different standards of care and the legal definition of "standard of care" and its use in the courts.
16. Explain and provide examples of the potential for legal actions against a pharmacy technician related to negligence, malpractice, or the law of agency and contracts.
17. Define the term *drug* and distinguish between prescription drugs, over-the-counter drugs, homeopathic drugs, and dietary supplements.
18. Discuss the different classifications of drugs uses: therapeutic, prophylactic, destructive, pharmacodynamics, and diagnostic.
19. Describe germ theory and how it has affected the development of key drug types, such as vaccines, antibiotics, and antivirals, and the necessity of sterile compounding.
20. Explain the roles of probiotics, vitamins, nutrition in wellness.
21. Describe the discoveries that led to today's hormone and mental health drugs, and the dangerous side effects when abused.
22. Describe how poisons from World War I and World War II became used in cancer drug therapies and why it is key that technicians follow the recommended *USP* (*Unites States Pharmacopeia*) practices for hazardous drug compounding.
23. Understand the significance of genetics on new drugs for diagnosis and treatment of diseases.
24. Explain the differences between active and inert drug ingredients, and their sources, and why careful checking of medical histories must be done to avoid problematic allergy and medication interactions. Discuss the differing process and roles of the Food and Drug Administration (FDA) and the USP in the approval of new and investigational pharmaceutical products, generic drugs, over-the-counter (OTC) drugs, homeopathic drugs, and dietary supplements.

B. Unit II Routes of Drug Administration and Dosage Formulations

1. Differentiate between the terms *route of administration*, *dosage form*, and *drug delivery system*.
2. Explain the properties of oral, transmucosal, topical, (dermal and transdermal), inhalation (intrarespiratory), and parenteral routes of administration and their dosage forms.
3. Explain the advantages and disadvantages of the varying routes of administrations and formulations, to be able to better understand and remember the different prescription directions.
4. Identify inactive and inert ingredients and the various coatings of tablets and their functions.
5. Demonstrate correct techniques for administration of eye drops, ear drops, metered-dose inhalers, and various parenteral injections (subcut, IM, IV, and ID).
6. Contrast the advantages and disadvantages of insulin administration from syringes versus pens, and discuss the importance of syringe, needle, and other product selection for a diabetic patient.
7. Understand the different drug delivery systems that delay, extend, or target delivery and their prescription notations.

C. Unit III Community Pharmacy Practice

1. Discuss overall processes of community dispensing and a pharmacy technician's general responsibilities within them.
2. Identify the parts of a prescription and the most commonly used abbreviations.
3. Discuss the various types of prescriptions and the step-by-step procedures to fill them.
4. Describe how the pharmacy data management system interfaces online with an external health information network and databases, and with internal software for varied pharmacy and business functions.
5. Describe how to build a patient's profile, and discuss the importance of updating current information about drug and supplement use, allergies, adverse drug reactions, and insurance for medication reconciliation and following HIPAA-mandated guidelines.
6. Describe the process and importance of the Drug Utilization Review.

7. Identify the parts of a stock label and know the importance of comparing National Drug Code numbers in medication selection and filling.
8. Discuss how automation is utilized along with a final check and verification by the pharmacist to minimize medication errors.
9. Describe Medication Therapy Management (MTM) and other health services provided in a community pharmacy setting.

D. Unit IV Healthcare and Prescription Drug Insurance

1. Understand the importance of insurance to address rising prescription drug costs.
2. Explain the various forms of coverage plans: commercial, Health Maintenance Organization, Preferred Provider Organization, workers' compensation, Medicare, Medicaid, and military insurance.
3. Define key terms, such as *average wholesale price*, monthly premium, insurance policy, benefits, deductible, copayment, coinsurance, tiered copay, in-networks providers, out-of-network providers, prior authorization, pharmacy benefits manager, coordination of benefits, and online adjudication.
4. Explain the concept of tiered copayments for private commercial drug insurance programs.
5. Describe the Affordable Care Act's expansion of Medicaid and state healthcare exchanges to help provide coverage for those who are uninsured or underinsured.
6. Be able to read any drug insurance card and identify the necessary information to process claims online for various types of insurance and worker's compensation claims.
7. Understand the role of technician's identifying and resolving errors in online adjudication.
8. Learn the technician's role in explaining insurance drug coverage to patients.
9. Understand how to assist financially struggling patient through medication assistance advocacy.
10. Be able to identify steps to resolve problems with audits and charge-backs.

E. Unit V The Business of Community Pharmacy

1. Understand the roles, responsibilities, and limitations of the pharmacy technician in the sale of OTC drugs, supplements, and retail items.
2. Know how to accurately process restricted OTC drug sales, such as schedule V cough syrups and decongestants containing pseudoephedrine.
3. Identify the advantages and disadvantages of homeopathic drugs and various dietary supplements like herbs, vitamins, and minerals, and understand the differences in regulatory control and labeling requirements from prescription drugs.
4. Describe how to address customer needs for medical and home health supplies and durable medical equipment.
5. Understand necessary cash register functions, barcode scanning, taxable and nontaxable items.
6. Know how to change register receipt paper and ink toner, and provide correct change.
7. Understand the mathematical principles in calculating markup, discounts, and average wholesale prices.
8. Describe the importance of computer management and pharmacy informatics for generating business reports.
9. Explain the technician's role in handling inventory-purchasing, receiving, posting, and returning for credit of stock (including controlled substances).
10. Understand the significance of pharmacy productivity and profits for ensuring a pharmacy's sustainability as a business.

F. Unit VI Extemporaneous, Nonsterile Compounding

1. Define the terms compounding, extemporaneous, nonsterile, and anticipatory compounding.
2. Understand the distinction between a manufactured drug product and a compounded nonsterile preparation and the purpose of USP Chapter <795>.
3. Understand the role and training requirements of pharmacy technicians in nonsterile compounding.

4. Explain the contemporary demands for nonsterile compounding and the process for accreditation of specialty compounded pharmacies.
5. Describe the distinct purposes of their master formulation record and the compounding record.
6. Understand nonsterile compounding hand hygiene and garbing requirements.
7. Identify the functions and limitations of the equipment used or weighing, measuring, and compounding, and the proper techniques for using them.
8. Define the term *percentage of error* and its function.
9. Discuss the types of compounding ingredients (including hazardous substances) and how to determine their quality and safety.
10. Define the various methods for the comminution and blending of ingredients.
11. Explain the differing techniques by which solutions, suspensions, ointments, creams, powders, suppositories, rapid-dissolving tablets, troches, and capsules are prepared.
12. Understand the final compounding steps, including calculating beyond-use dating, labeling, offering patient education, and doing cleanup and equipment maintenance.

G. Unit VII Institutional Pharmacy Practice

1. Describe the functions of a hospital and its organizational framework.
2. Define the roles and functions of the Pharmacy and Therapeutics Committee (especially on the hospital formulary) and the Institutional Review Board (on investigational drug studies).
3. Explain the functions of the pharmacy department within the hospital structure and the roles and responsibilities of the director of pharmacy, pharmacist, and pharmacy technician.
4. Identify the training and certifications required for technicians to work in a hospital pharmacy.
5. Understand the role of the interoperability of hospital management software, different types of electronic health records, medication orders, and automated technology.
6. Discuss the functions and benefits of CPOE, AMDS, BPOC, and eMARs.
7. Describe the different dispensing systems for medication orders, such as unit dose carts, robotic filling and dispensing equipment, automated dispensing cabinets, and specialty cleanroom services.
8. Explain the proper procedure for preparing, labeling, and repackaging unit dose medications
9. Explain the role of pathogenic organisms in causing disease and distinguish between bacteria, viruses, fungi, and protozoa.
10. Identify common modes of contamination and prevent measures.
11. Discuss the dangers of antimicrobial resistance, superbugs, and healthcare associated infections (HAIs).
12. Explain the role of CDC guidelines (including the Universal Precautions), the Infection Control Committee, and USP Chapter <797> and other related chapters.
13. Discuss the advantages and disadvantages of various forms of sterilization.
14. Describe the different kinds of sterile products.
15. Explain the layout of a cleanroom and its ISO air environment standards, and the different levels of air quality controls, including primary and secondary engineering controls.
16. Understand the training requirements for becoming a sterile compounding technician.
17. Provide an overview of the preparatory processes that must be completed prior to assembling compounded sterile preparations (CSPs).
18. Identify the role and function of equipment used in sterile compounding, including syringes, needles, intravenous sets (and their components), and filters.
19. Understand the basic cleanroom quality assurance and control procedures.
20. Discover why an intravenous (IV) medication must have compatible characteristics to blood plasma in terms of pH value, osmotic pressure, and tonicity and have chemical compatibility with other medications.
21. Understand an overview of the sterile compounding process, which follows USP Chapter <797>.
22. Identify the parts of a CSP medication order and label and the types of IV solutions.
23. Learn the functions of the master formulation record and the compounding record.
24. Learn how to handle overfill concerns and calculate the infusion rates and 24-hour supply quantities for IV solutions.

25. Explain general principles in sterile and hazardous compounding with vials, ampules, and automated sterile compounding equipment.
26. Understand the handling of premade parenteral products, including vial-and-bag systems and frozen intravenous sterile solutions.
27. Define a hazardous drug and the categories of risk of exposure and the different levels of primary engineering controls for compounding them according to the new USP Chapter <800>.
28. Describe the importance of a medical surveillance program for those preparing hazardous compounded sterile and nonsterile products.
29. Discuss the key techniques for the receiving, storing, handling, delivering, and disposing of hazardous drugs and ingredients, and the function and the contents of a spill kit.
30. Learn more about the PPE and primary engineering controls for preparing hazardous drugs.
31. Understand the role of the USP's evolving standards in nuclear pharmaceutical compounding.

H. Unit VIII Professional Performance, Communications, and Ethics

1. Discuss the importance of documenting and reporting medication errors.
2. Explain to students the definition of a medical error and the contribution of medication errors to unnecessary hospitalizations, emergency room visits, and healthcare costs.
3. Analyze and discuss with the class the definition of a medication error according to the National Coordinating Council for Medication Error Reporting and Prevention.
4. Discuss with students their important role as technicians in gathering and communicating information to various parties for the purpose of optimal patient outcomes to avoid harmful errors. Such information would include necessary details on a patient's allergy history.
5. Distinguish between unintended consequences of adverse drug reactions and side effects and medication errors. Discuss procedures to minimize selection errors-tall-man lettering, brightly colored cautionary shelf labels for high-alert drugs, large print shelf labels (or mylars), bar coding, stocking same drug "out-of-order" or high-risk drugs in a separate location, etc. Impress upon students the importance of checking the original prescription order and/or medication information sheet and the labeling on the stock bottle and NDC both when retrieving and returning the stock bottle to the storage bottle shelving area.
6. Explain to students the concept of analyzing their own work habits for opportunities to improve patient safety. Emphasize the importance of checks and balances such as the use of bar-code technologies, tech-check-tech procedures, and pharmacist-check-tech procedures on all filling, compounding, and dispensing of prescriptions.
7. Explain the important role of the pharmacy technician as a member of the customer care team, and discuss the concepts of professionalism and teamwork in the pharmacy.
8. Identify and discuss desirable personal characteristics and attitudes of a pharmacy technician.
9. Differentiate verbal and nonverbal communication skills.
10. Identify and resolve cultural and other differences in working with a customer.
11. Identify and resolve challenges related to working with a customer with disabilities.
12. Identify and discuss the important areas of HIPAA.
13. Define "ethics" and discuss characteristics of ethical behavior and dilemmas in the workplace, and provide examples of corporate integrity in a community pharmacy.
14. Define discrimination and harassment, and explain the proper procedures for dealing with these important issues in the workplace environment.
15. Explain why medication and sharps disposal are public health issues requiring corporate responsibility and patient education.
16. Identify several green pharmacy and public health initiatives, including take-back medications and sharps collection program.
17. Describe and contrast the format and content of the PTCE and ExCPT certification examinations.
18. Delineate the application processes for taking the certification examinations.
19. Identify the criteria for the recertification of pharmacy technicians.
20. Make a plan for a successful job search using networking and social media.
21. Write an effective resume and a cover letter.
22. Prepare for and successfully complete a job interview.
23. Identify desirable characteristics and skills employers are seeking.

24. Describe the performance review process.
25. Identify future advanced roles and career paths within pharmacy and other healthcare professions for a technician.
26. Discuss the importance of technician involvement in professional organizations and networking with colleagues.

III. THECB Learning Outcomes (WECM)

1. Translate medical and pharmaceutical abbreviations and symbols used in processing prescriptions in a community pharmacy.
2. Utilize information technology.
3. Demonstrate the procedures and work flow operations relating to processing prescriptions and preparing medications in a community pharmacy setting.

IV. Evaluation

A. Pre-assessment: none at this time

B. Assignments

1. Unit Assignments are designed to supplement lecture. Activities will be graded on a scale determined by the Instructor Syllabus. Please refer to the calendar for specific due dates.
2. **Assignments are due at the beginning of class unless otherwise instructed. It is the student's responsibility to complete assignments as outlined in this syllabus.**

Written unit exams will consist of the following question types: multiple-choice, completion, essay, matching, spelling, analysis, drawing and definition or any combination of these. The number and type of exams will be at the discretion of the instructor.
Written projects will be devised and assigned throughout the semester at the instructor's discretion.
A comprehensive final exam will be administered at the end of the course

C. Grading Scale:

Average Grade	Letter Grade
91-100%	A
82-91.9%	B
75-81.9%	C
67-74.9%	D
<67%	F
Incomplete	I
Withdrawn	W

Note: All health occupations programs require a grade of "C" or better in a course for it to be counted toward the degree plan. A grade of "D" or "F" will need to be repeated in order to graduate.

D. Remediation

At the instructor's discretion, students may be allowed to rewrite papers or retest for higher grades. Students requiring additional help may be referred to tutoring services.

V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.

VII. Title IX and Sex Discrimination

Title 9 (20 U.S.C. 1681 & 34 C.F.R. Part 106) states the following "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance." The Violence Against Women Act (VAWA) prohibits stalking, date violence, sexual violence, and domestic violence for all students, employees and visitors (male and female). If you have any concerns related to discrimination, harassment, or assault (of any type) you can contact the Assistant to the Vice President for Student and Enrollment Services at 915-831-2655. Employees can call the Manager of Employee Relations at 915-831-6458. Reports of sexual assault/violence may also be reported to EPCC Police at 915-831-2200.