



Pharmacy Technician I

curriculum

A Pharmacy Technician, or Pharmacy Assistant, is responsible for helping Pharmacists perform daily tasks to serve customers. Their duties include filling and labeling prescriptions, interacting with customers to answer questions or give them their prescriptions and contacting customers to notify them when their prescription is ready

Units	Modules	Clinical Lab Skills	Takeaways
Unit 1 Orientation	<ul style="list-style-type: none"> Orientation to Pharmacy Practice 		<ul style="list-style-type: none"> Describe the contributions made to the practice of pharmacy by nations of the world Identify selected pharmacy professional organizations and describe their functions Describe information resources available to pharmacy personnel and the role of the pharmacy technician in information collection Identify drug distribution centers and the role of the pharmacy technicians in drug procurement and distribution List health care providers who may prescribe and describe the limitations of their prescriptive authority. List sites that employ pharmacy technicians and describe tasks of the pharmacy technician. Describe current trends that may influence the practice of pharmacy and the future role of the pharmacy technician. Describe the rationale for national certification of pharmacy technicians. Discuss the role of the Pharmacy Technician Certification Board and other organizations in this process.
Unit 2 Pharmacy Law and Ethics	<ul style="list-style-type: none"> Pharmacy Law Pharmacy Ethics Applications (case studies) <ul style="list-style-type: none"> Cheating Employee rights and obligations Discrimination and stereotyping Diversion Ethical third-party billing Accountability (taking responsibility for and reporting errors) Valuing quality work Codes of ethics 	<ul style="list-style-type: none"> Law Ethics 	<ul style="list-style-type: none"> Differentiate between responsibilities of pharmacy technician and pharmacist. Differentiate between responsibilities of pharmacy technician and pharmacy assistant Identify penalties associated with failure to practice within scope. Apply knowledge of state and federal law to dispense medication and maintain prescription records in compliance with state laws. Demonstrate knowledge of product substitution laws in determination of product selection. Apply knowledge of regulations pertaining to controlled substances to dispense medication and maintain prescription records in compliance with state laws. Recognize errors of omission on hard copies. Describe models used in ethical decision-making. Use ethical decision-making models to identify ethical dilemmas in case presentations. Analyze case presentations to determine possible solutions. Prepare own case study using ethical decision-making models. Evaluate potential effectiveness of solutions. Learn to be receptive to arguments presented by classmates. Provide feedback to classmates. Assist in modification of plan for ethical resolutions. Defend reasoning for plan of action.

- Demonstrate consistent support for their positions.

<p align="center">Unit 3 Pharmacy Calculations</p>	<ul style="list-style-type: none"> • Basic Math Review • Converting Between Measurement Systems • Interpreting • Dosage Calculation Methods • Various Dosage Calculations • Calculations in Special Care Areas • Special care areas, for example, pediatric, intensive care • Formulas used to compound medicines • Number of days prescription will last (to determine eligibility for next refill) • Volume or quantity to dispense • Percent concentrations • Compounding formulas 	<ul style="list-style-type: none"> • Fractions, Decimals • Percents, Ratios • Roman numerals • Drug dosages • Dilutions • Apothecary • Metric • Household • Prescriptions • Physician orders • Drug labels • Ratio/proportion • Alligation method • Pediatrics • Powdered drugs • Percent preparations 	<ul style="list-style-type: none"> • Describe systems of weight, measure, and temperature used in pharmacy practice. • Accurately convert between apothecary, avoirdupois, metric, and household systems of measurement. • Identify common medication errors involving calculations. • Accurately compute
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<p align="center">Unit 3 Medical Terminology</p>	<ul style="list-style-type: none"> • Complex language of medicine • Medical terms • Medical abbreviations 		<ul style="list-style-type: none"> • Introduction to the complex language of medicine • Emphasizes spelling, analyzing medical terms • Understanding medical terms by learning their parts. • Identify medical abbreviations
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<p align="center">Unit 4 Anatomy and Physiology Pharmacology: Pharmacology I Pharmacology II</p>	<p>Anatomy and Physiology: Treatment of Disorders of the following systems:</p> <ul style="list-style-type: none"> • Nervous System • Skeletal-Muscular System • Cardiovascular System • Respiratory System • Genitourinary System • Hematological System • Immune System • Endocrine and Reproductive Systems • Skin and Eye, Ear, Nose, Throat <ul style="list-style-type: none"> • Principles of Drug Action • Anatomy and Physiology of the Nervous System • Anatomy and Physiology of the Skeletal-Muscular System • Treatment of Disorders of the Nervous System <ul style="list-style-type: none"> • Cardiovascular System • Gastrointestinal System • Endocrine and Reproductive System • Respiratory System • Treatment of Bacterial and Viral Infections 	<ul style="list-style-type: none"> • Classification of drugs, brand/generic names, therapeutic use, warning label usage, common strengths, and dosage forms: <ol style="list-style-type: none"> 1. Nervous System: <ul style="list-style-type: none"> ➢ Anxiety ➢ Depression ➢ Psychosis ➢ Epilepsy ➢ Parkinson’s disease ➢ Muscle spasm and other disorders ➢ Pain 2. Cardiovascular: <ul style="list-style-type: none"> ➢ Angina ➢ Hypertension ➢ Myocardial infarction ➢ Arrhythmia ➢ Congestive heart failure 3. Gastrointestinal: <ul style="list-style-type: none"> ➢ Peptic ulcer disease ➢ Esophageal reflux ➢ Crohn’s disease and ulcerative colitis 4. Endocrine and Reproductive: <ul style="list-style-type: none"> ➢ Hypothyroidism and hyperthyroidism ➢ Diabetes mellitus ➢ Paget’s disease ➢ Hormone replacement therapy 	<ul style="list-style-type: none"> • Describe pharmacokinetic phases and give examples of factors influencing each phase. • Explain, using own words, drug receptor theory, and its relationship to dose response. • Describe anatomy and physiology of the nervous system. • Identify medications used in the treatment and disorders of the nervous system • Demonstrate knowledge of warning label application for drugs used in treatment of disorders of the nervous system. • Identify important drug interactions that should be reported to pharmacist. • Learn common strengths, dosage forms, and directions for use of medications used in the treatment, of disorders of the nervous system. <ul style="list-style-type: none"> • Describe anatomy and physiology of the cardiovascular, gastrointestinal, endocrine, reproductive, integumentary, and respiratory systems. • Identify medications used in the treatment of diseases of the cardiovascular, gastrointestinal, endocrine, integumentary, and respiratory systems. • Identify medications used in the treatment of selected bacterial and viral infections. • Demonstrate knowledge of warning label application for all
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- Integumentary System
- Acute & chronic skin disorders
- Use of corticosteroids & other agents to ameliorate skin disorders

- Contraception
 - Addison's disease and Cushing's syndrome
5. Respiratory System:
- Asthma
 - Chronic obstructive pulmonary disease
6. Bacterial and Viral Infections:
- HIV/AIDS
 - Influenza
 - Urinary tract infection
 - Upper respiratory infection

- drugs covered in Pharmacology II.
- Identify important drug interactions that should be reported to the pharmacist.
- Learn common strengths, dosage forms, and directions for use of all drugs covered in Pharmacology I 1.
- Demonstrate knowledge and use of blood glucose and blood pressuring monitoring devices.

Unit 5

Computer Use in Pharmacy Practice

- Computer Technology

- Word processing
- Spreadsheets
- Presentation

- Focus on operation of the computer hardware and software.
- Overview of operating system, word processing, spreadsheets, Presentation, E-mail, Scheduling, Internet, Database management software.

Pharmacy Technology II

- Computers in Ambulatory care Pharmacy
- In-patient (hospital, nursing home, home health care)
- Prescription Processing
- Creating caution messages

- Order entry
- Patient profiling
- Drug therapy monitoring
- Drug utilization review
- Inventory control
- Patient education
- Third-party claims adjudication
- Order entry
- Patient profiling
- Inventory control
- Drug distribution
- Medication administration records
- Quality assurance
- Bulk compounding
- Creating patient profiles
- Creating doctor files
- Creating drug files
- Creating directions
- Creating prescription labels
- Insurance billing

- Describe application software and its usage in pharmacy settings.
- Describe patient, political, and industry factors responsible for the expansion of the role of computers in the practice of pharmacy.
- Describe use of computers in inventory control.
- Describe use of computers in medication order entry.
- Describe use of computers in quality assurance.
- Compare uses of computers in ambulatory care and in-patient settings
- Demonstrate ability to use pharmacy software to process prescriptions.
- Demonstrate ability to use pharmacy software for third-party claims adjudication.

Pharmacy Technology II

- Drugs
- Computer Operations Ambulatory care
- Prescription Processing

- Uses
- Brand/generic names
- Warning labels
- Order entry
- Patient profiling
- Prescriber profiling
- Drug price updating
- Insurance billing and rebilling
- Handling insurance claims rejections
- Pouring and counting
- Prescription labeling
- Warning label usage

- List brand names of drugs.
- List generic names of drugs.
- Select appropriate warning labels for drugs.
- Classify drugs appropriately by therapeutic use.
- Demonstrate ability to use pharmacy software to process prescriptions.
- Demonstrate ability to accurately enter billing information into computer and generate billing reports

Unit 6

Over-the-Counter Drugs

- Pain and inflammation
- Fever
- Motion sickness/nausea and vomiting
- Insomnia
- Cough and colds
- Fungal infections (topical)
- First aid
- Acne
- Lice and worms
- Warts and calluses
- Vitamins and herbals

- Headache
- Osteoarthritis
- Menstrual cramps
- Canker sores
- Rashes/hives
- Eye allergies
- Hay fever
- Congestion
- Rhinitis
- Cough
- Jock itch
- Athlete's foot
- Vaginal infections
- Bites and stings
- Bacterial infection
- Bums

- Define the term non-legend drug.
- Compare and contrast the use and availability of non-legend drugs and legend drugs.
- Describe common disorders in which consumers seek self-treatment
- Develop a list of questions that will help pharmacists determine the appropriateness of self-treatment.
- For each classification of non-legend drugs covered, identify patient populations for whom usage is contraindicated or for whom cautious use is advised.
- Learn common strengths, dosage forms, and directions for use of nonprescription medications used in the self-treatment of selected disorders.

Unit 7

Community Practice, Pharmacy Records, and Inventory Management

- Prescription Order Processing
- Patient data collection
- Prescription content interpretation
- Application of pharmaceutical calculations
- Introduction of dosage forms
- Application of prescription labeling requirements
- Top 100 Drugs
- Third-Party Insurance Processing
- Computer Skills

- Patient profiling
- Confidentiality (HIPAA)
- Interpretation of Latin abbreviations
- Prescription hard copy minimum requirements
- Metric system
- Apothecary system
- Household equivalents
- Computation of quantity to dispense, days supply
- Label format
- Label data requirement
- Generic to brand recognition
- Brand to generic recognition
- Therapeutic use
- Warning label usage
- Speed building
- Accuracy building
- Form recognition
- General and specific plan billing limitations
- Common acronyms

- Able to accurately produce prescription labels at a rate consistent with industry standards.
- Working knowledge of the forms commonly used in an ambulatory care practice setting; can select and accurately complete appropriate form for task
- Know brand and generic names of at least top 100 drugs.
- Able to apply pharmacy calculations to accurately prepare and dispense pharmaceuticals.
- Able to accurately select appropriate warning labels for top 100 drugs.
- Able to recognize errors of omission on hardcopies.
- Able to apply knowledge of pharmacy law to satisfy record keeping requirements and protect patient rights.
- Demonstrate ability to compound selected prescriptions according to formula.

<p style="text-align: center;">Unit 8</p> <p>Non-sterile Compounding</p>	<ul style="list-style-type: none"> • Prepare product in a variety of dosage forms • Introduction to the resources provided by Professional Compounding Corporation of America (PCCA) 	<ul style="list-style-type: none"> • Ointments • Creams • Suppositories • Suspensions for oral and topical use 	<ul style="list-style-type: none"> • Accurately compute amount of drug needed to compound product. • Demonstrate proper use and care of compounding equipment. • Demonstrate proper weighing and measurement technique. • Demonstrate appropriate product formulation techniques. • Identify potential drug incompatibility problems
<p style="text-align: center;">Unit 9</p> <p>Communication Skills for Pharmacy Practice</p>	<ul style="list-style-type: none"> • Orientation and Group Processes • Interpersonal Communication • Perceptions and Communication • Social and Moral Development, Behaviorist Theory • Valuing Diversity • Nonverbal Communication in Pharmacy • Barriers to Communication • Listening and Empathetic Responding • Assertiveness • Communicating Nondefensively • Resolving Conflict • Building Better Patient Understanding • Telephone Skills in Pharmacy 		<ul style="list-style-type: none"> • Identify the developmental process of an effectively functioning staff. • Participate in team-building activities* that strengthen staff cohesiveness. • Identify characteristics of cognitive, social, and moral development. • Develop effective and assertive staff communication skills. • Identify a variety of appropriate conflict management strategies. • Recognize the effects of change and stress on individuals
<p style="text-align: center;">Unit 9</p> <p>Professional Organizations and Certification</p>	<ul style="list-style-type: none"> • Resume • Job opportunities • Interview 		<ul style="list-style-type: none"> • Prepare a resume for employment. • Identify resources for locating job opportunities. • Describe interview strategies and practice interview techniques.

<p align="center">Unit 10 PTCB Exam Prep</p>	<ul style="list-style-type: none"> • Course is designed to assist students with preparation for the national certification test with PTCB and NHA. 		<ul style="list-style-type: none"> • Practice tests are formatted similarly to the national exam (multiple-choice) relative to the curriculum taught.
<p align="center">Unit 11 Pharmacy Internship</p>	<ul style="list-style-type: none"> • Obtain hands-on experience in a pharmacy setting • Practical experience, knowledge, skills, and insight into the various aspects of the pharmacy technician job • Academic knowledge gained in the classroom with practical hands-on participation in various pharmacy settings. • Ambulatory care settings include chain pharmacy, independent pharmacy, and outpatient hospital/clinic pharmacy. 	<ul style="list-style-type: none"> • Evaluation forms for both the student and preceptor must be completed separately 	<ul style="list-style-type: none"> • Obtain practical experience, knowledge, and skills to enable student to gain proficiency in a structured learning environment. • Learn employer expectations of pharmacy technician. • Develop work ethic skills. • Perform duties of a pharmacy technician in an ambulatory care pharmacy setting
<p>Pharmacy Internship: Community Practice Settings</p>	<p>The pharmacy technician internship is designed to enable students to obtain hands-on experience in a pharmacy setting. The primary objective of internship is to be sure the student gains practical experience, knowledge, skills, and insight into the various aspects of the pharmacy technician job. It is structured to be a learning experience, so the student and preceptor/teaching personnel should commit themselves to working toward that objective. This internship brings together all of the academic knowledge gained in the classroom with practical hands-on participation in various pharmacy settings. The clinical experience gained at these sites is invaluable in ensuring that the student becomes a competent pharmacy technician in all settings. Evaluation forms for both the student and preceptor must be completed separately.</p>		