



120-Hours to CPhT Program Curriculum

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Program Director:

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Office Hours:

Monday-Friday 9am-5pm (EST)

Virtual office hours by appointment

Office closes during national holidays and up to 4 additional weeks annually with advanced notice

All program related inquiries are responded to within 72 business hours except during office closure

Rationale:

This course provides didactic education intended to satisfy all of the required knowledge areas of a Certified Pharmacy Technician (CPhT) according to the 2020 and the planned update to the Pharmacy Technician Certification Board (PTCB) CPhT Knowledge Reference: <https://www.ptcb.org/lib24watch/files/pdf/169>. The course also intends to achieve learner competence at a level appropriate for didactic education for all education goals specified in the 2018 ASHP/ACPE Accreditation Manual for entry-level Pharmacy Technician Training Programs. The goal of our program is to offer an affordable and convenient option for aspiring and current pharmacy technicians to gain the knowledge required of a CPhT, and to prepare individuals to proceed to simulated and experiential training.

Course Format:

This course is a self-paced, online module-based education program. Modules consist of SCORM-compliant active e-learning activities, required readings from external textbooks and journals, and competency assessments intended to test achievement of learning objectives from each module.

Live virtual classroom sessions are held weekly throughout the year. These are optional, but students are encouraged to attend as a way to stay engaged and address any questions or concerns that arise during their study. The agenda is updated weekly, and is intended to address questions or concerns that have arisen during the week and address trends in our student outcomes.

Course Requirements:

To complete the course, students must complete all steps in our Learning Management System (LMS). Student progress is tracked by completion of e-learning sections, attestation to completion of required readings, and passing each assessment in the course with a minimum percentage score of 80%.

Academic Integrity:

Each student in this course is expected to abide by the Terms and Conditions that are provided and agreed to upon enrolling in the program. In addition, the following academic integrity requirements are required for continued participation in the Pharmacy Tech Scholar program:

1. Students attest that they are in fact the person taking the entirety of the course. This includes completing each e-learning activity in its entirety, reviewing the required readings, and taking the assessments. Allowing individuals other than the student to log into the student account and/or complete learning activities on behalf of the student is strictly prohibited.
2. Students also attest that they are not allowing anyone else to complete any aspect of the course on their behalf, nor are they completing any aspect of the course on someone else's behalf.
3. All exams in the course should be taken "closed-book." Students are allowed to use a hand-held or on screen calculator and scratch paper, but are not allowed to use printed or on-screen references during the exam attempt.

All LMS activity is tracked and any irregularities are investigated. Violating the Terms and Conditions or Academic Integrity items above may cause removal from the program.

Required Textbooks:

Pharmacy Tech Scholar has partnered with the American Pharmacists Association to bring our students access to their PharmacyLibrary selection of Pharmacy Technician e-books at no additional charge. These electronic textbooks are highly credible references and represent an incredible added value to the Pharmacy Tech Scholar program. Pharmacy Tech Scholar purchases an institutional license to the PharmacyLibrary for the benefit of its students participating in its online educational offerings. The use of the PharmacyLibrary is subject to the terms and conditions of the PharmacyLibrary. By participating in a Pharmacy Tech Scholar program and accessing the PharmacyLibrary, students must abide by the PharmacyLibrary terms. Students may not otherwise copy, transmit, rent, assign, lend, sell, or modify any materials from PharmacyLibrary or modify or remove any proprietary notices contained therein, or create derivative works based on materials from PharmacyLibrary. Students may not engage in systematic retrieval of PharmacyLibrary Owned Content to create or compile, directly or indirectly, a collection, compilation, database or directory without prior written permission from APhA. Students may not use any robots, spiders, crawlers or other automated downloading programs or devices, including without limitation, to: (i) continuously and automatically search or index any PharmacyLibrary Owned Content; (ii) harvest personal information from PharmacyLibrary; or (iii) cause disruption to the operation of PharmacyLibrary. Students may not disseminate any portion of PharmacyLibrary through electronic means, including mail lists or electronic bulletin boards and agrees not to restrict or inhibit any other licensee's access to, or use of, PharmacyLibrary. Pharmacy Tech Scholar retains no accountability for student violation of the PharmacyLibrary terms, and students will be solely subject to the penalties outlined in the PharmacyLibrary terms.

Course Outline

#	Module Title	Objectives	Readings
1.1	Course Introduction and Tutorial	<ol style="list-style-type: none"> 1. Navigate the 120-Hours to CPhT by Pharmacy Tech Scholar course and features. 2. Understand the steps required to complete the course. 3. Demonstrate adherence to the Pharmacy Tech Scholar academic honesty policy. 	<ol style="list-style-type: none"> 1. Pharmacy Tech Scholar Program Syllabus 2. Pharmacy Tech Scholar Academic Honesty Policy
1.2	Pharmacy Technician Career Overview	<ol style="list-style-type: none"> 1. Describe the pharmacy technician role 2. Explain the settings pharmacy technicians work in 3. Discuss the skills needed to be competent in the role 4. Understand the day-to-day activities of a pharmacy technician 5. Identify future career prospects for pharmacy technicians 	<ol style="list-style-type: none"> 1. The Pharmacy Technician Skills-Building Manual: Chapter 1
1.3	Understanding the PTCE	<ol style="list-style-type: none"> 1. Describe the PTCE's format, timing, and content domains. 2. Identify eligibility pathways, application steps, and exam-day requirements. 3. Calculate personal timelines for scheduling, rescheduling, or retaking the PTCE. 4. Evaluate official preparation resources and continuing-education obligations for certification renewal. 	<ol style="list-style-type: none"> 1. PTCB Guidebook: Credential Overview 2. PTCB Guidebook: General Policies 3. PTCB Guidebook: CPhT Credential 4. PTCB Guidebook: General Application Information
2.1	Ethics and Professionalism in Pharmacy	<ol style="list-style-type: none"> 1. Define "ethics" and explain its importance in pharmacy practice. 2. Identify key components of professional appearance and demeanor for pharmacy technicians. 3. Relate ethical and professional guidelines to real-world scenarios in the pharmacy setting. 	<ol style="list-style-type: none"> 1. Communication & Management Skills for the Pharmacy Technician: Chapter 5

2.2	Effective Communication Skills for Pharmacy Technicians	<ol style="list-style-type: none"> 1. Identify key components of active and engaged listening. 2. Describe how to communicate clearly and effectively, both verbally and in writing. 	1. Communication & Management Skills for the Pharmacy Technician: Chapter 2
2.3	Cultural Competence in Pharmacy	<ol style="list-style-type: none"> 1. Describe a respectful and professional attitude when interacting with diverse patient populations, colleagues, and professionals. 2. Discuss the impact of patient-specific factors on drug and non-drug therapy (e.g., cultural beliefs, disabilities, language barriers, socioeconomic status). 	1. Communication & Management Skills for the Pharmacy Technician: Chapter 4
2.4	Interpersonal Skills	<ol style="list-style-type: none"> 1. Explain key principles of time, stress, and change management in pharmacy settings. 2. Identify effective techniques in communication, teamwork, conflict resolution, negotiation, and customer service. 3. Describe problem-solving steps to common pharmacy workplace scenarios. 	1. Communication & Management Skills for the Pharmacy Technician: Chapter 3
3.1	Basic Anatomy and Physiology	<ol style="list-style-type: none"> 1. Demonstrate basic knowledge of anatomy and physiology relevant to the pharmacy technician's role. 	1. Complete Review for the Pharmacy Technician, 4th Edition, Chapter 1: Drug Classifications and Formulation (Introduction through Epidemiology Sections)
3.2	Medical Terminology	<ol style="list-style-type: none"> 1. Demonstrate basic knowledge of medical terminology relevant to the pharmacy technician's role. 	1. Complete Review for the Pharmacy Technician, 4th Edition, Chapter 2: Pharmacy Calculations, Abbreviations, and Terminology (Medical Terminology Section)
3.3	Basic Pharmacology	<ol style="list-style-type: none"> 1. Describe the concept of medication. 2. Demonstrate basic knowledge of pharmacokinetics and pharmacodynamics. 3. Define key pharmacology terms. 4. Differentiate between prescription and over-the-counter medications and their labeling 	1. Complete Review for the Pharmacy Technician, 4th Edition, Chapter 1: Drug Classifications and Formulation (Pharmacotherapy through Pharmacodynamics sections)

4.1	Introduction to Medications	<ol style="list-style-type: none"> 1. Review medication naming conventions. 2. Define therapeutic equivalence and describe the requirements for designation. 3. Identify resources to determine equivalence. 4. Discuss the nuances of generic product interchange and distinguish from therapeutic interchange. 5. Describe how drugs are classified by mechanism and indication. 	<ol style="list-style-type: none"> 1. Food and Drug Administration: Generic Drug Facts: https://www.fda.gov/drugs/generic-drugs/generic-drug-facts
4.2	Medication Dosage Forms	<ol style="list-style-type: none"> 1. Define key terms such as dosage form, active ingredient, and excipient. 2. Describe the purpose of excipients. 3. Classify major categories of dosage forms (solids, semi-solids, liquids). 4. Identify characteristics of specific dosage forms (tablets, capsules, ointments, etc.). 5. Explain the importance of special formulations like modified/delayed release and enteric coatings. 	<ol style="list-style-type: none"> 1. Complete Review for the Pharmacy Technician, 4th Edition, Chapter 1: Drug Classifications and Formulation (Dosage Forms and Strengths Section)
4.3	Medication Administration	<ol style="list-style-type: none"> 1. Describe the various routes of medication administration and how they are performed. 2. Identify key equipment and supplies needed for different administration methods. 3. Explain special instructions or considerations for administration. 4. Relate dosage form characteristics to specific routes of administration. 	<ol style="list-style-type: none"> 1. Kim J, De Jesus O. Medication Routes of Administration. [Updated 2023 Aug 23]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK568677/

4.4	Drug Storage, Stability, and Compatibility	<ol style="list-style-type: none"> 1. Define key concepts related to medication stability and compatibility. 2. Explain proper storage requirements for various drug forms (e.g., refrigerated, room temp, protected from light). 3. Identify common compatibility issues in nonsterile and sterile preparations. 4. Describe how pharmacy technicians prepare, store, and deliver medications requiring special handling. 5. Apply these concepts in scenario-based practice exercises. 	Complete Review for the Pharmacy Technician, 4th ed. Chapter 5 (Drug Storage Section)
4.5	Drug Facts to Know	<ol style="list-style-type: none"> 1. Explain why medication knowledge is critical for pharmacy technicians. 2. Identify the key areas of drug information tested on the PTCE. 3. Formulate a personal study strategy to master medication facts and classifications. 	Pharmacy Technician Certification Quick-Study Guide, 5th ed. Chapter 1: Medication Terminology
5.1 - 5.24	Top 300 Drugs Modules	<ol style="list-style-type: none"> 1. Associate generic names, brand names, and classifications of medications included in this module. 2. Describe indications for medications included in this module. 3. Give examples of common or severe medication side effects and adverse effects for medications included in this module. 4. Identify common or life-threatening drug interactions and contraindications for medications included in this module. 	Quick Reference Guides supplied for reading with each module
6.1	Introduction to Pharmacy Law	<ol style="list-style-type: none"> 1. Define the role of federal legislation in regulating pharmacy practice. 2. Identify key historical pharmacy laws that shape current practice. 3. Describe how federal, state, and local regulations interact and the importance of reconciling differences. 	Complete Review for the Pharmacy Technician, 4th ed. Chapter 3: Pharmacy Law and Regulation (Introduction through Drug Approval Process sections)

6.2	Handling and Disposal of Pharmaceutical Substances	<ol style="list-style-type: none"> 1. Identify key agencies involved in regulating pharmaceutical substances and wastes. 2. Describe requirements for safe storage, handling, and disposal of hazardous and non-hazardous substances. 3. Explain how to locate and interpret information from SDS, NIOSH, and USP resources. 4. Apply OSHA Hazard Communication Standard requirements to real-world scenarios. 	Complete Review for the Pharmacy Technician, 4th ed. Chapter 3: Pharmacy Law and Regulation (Safety Data Sheets and OSHA Sections)
6.3	Controlled Substances	<ol style="list-style-type: none"> 1. Describe why certain substances are controlled based on abuse potential and medical use. 2. Identify the roles of the DEA and other organizations in regulating controlled substances. 3. Differentiate between DEA Schedules I–V, providing examples in each. 4. Explain the essential elements required on a controlled substance prescription. 5. Outline federal rules for refilling and transferring controlled substance prescriptions. 	<ol style="list-style-type: none"> 1. United States Drug Enforcement Administration. Drug Scheduling. https://www.dea.gov/drug-information/drug-scheduling 2. United States Drug Enforcement Administration. The Controlled Substances Act. https://www.dea.gov/drug-information/csa
6.4	Controlled Substance Requirements	<ol style="list-style-type: none"> 1. Identify federal requirements for receiving, storing, ordering, and dispensing controlled substances. 2. Explain proper methods for handling controlled substance returns, take-back programs, and destruction. 3. Describe DEA documentation and recordkeeping guidelines, including retention length and verification of prescriber credentials. 4. Discuss how state prescription drug monitoring programs (PDMPs) function to mitigate abuse and diversion. 5. Demonstrate how to verify prescribers' DEA/NPI numbers electronically. 	Complete Review for the Pharmacy Technician, 4th ed. Chapter 3: Pharmacy Law and Regulation (Sections on DEA and Controlled Substances)

6.5	Restricted Drug Programs	<ol style="list-style-type: none"> 1. Define the purpose and scope of REMS. 2. Identify core components of REMS and high-profile REMS programs. 3. Describe pharmacy technician responsibilities in managing REMS processes. 4. Explain the requirements of CMEA regarding pseudoephedrine. 5. Demonstrate appropriate procedures for verifying, documenting, and dispensing restricted medications. 	<ol style="list-style-type: none"> 1. Drug Enforcement Administration. General Information Regarding the Combat Methamphetamine Epidemic Act of 2005. https://www.deadiversion.usdoj.gov/meth/cma2005.htm 2. Food and Drug Administration. What's in a REMS? https://www.fda.gov/drugs/risk-evaluation-and-mitigation-strategies-rems/whats-rems 3. Food and Drug Administration. Frequently Asked Questions about REMS. https://www.fda.gov/drugs/risk-evaluation-and-mitigation-strategies-rems/frequently-asked-questions-faqs-about-rems 4. Food and Drug Administration. Roles of Different Participants in REMS. https://www.fda.gov/drugs/risk-evaluation-and-mitigation-strategies-rems/roles-different-participants-rems 5. Food and Drug Administration. FDA's Role in Managing Medication Risks. https://www.fda.gov/drugs/risk-evaluation-and-mitigation-strategies-rems/fdas-role-managing-medication-risks
6.6	Product Tracking Tracing and Recall	<ol style="list-style-type: none"> 1. Define the FDA's framework for medication recalls. 2. Describe DSCSA requirements for product tracing and serialization. 3. Explain the steps in executing internal and external drug recalls within a pharmacy setting. 4. Apply standardized procedures for product quarantining and communication, including drug shortages. 	<ol style="list-style-type: none"> 1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 5: Drug Formularies, Storage, Recalls, Shortages, and Diversion (Drug Recalls and Drug Shortages Section) 2. Food and Drug Administration. FDA's Role in Drug Recalls. https://www.fda.gov/drugs/drug-recalls/fdas-role-drug-recalls
6.7	Medication Accessibility, Availability, and Transferral	<ol style="list-style-type: none"> 1. Describe ADA requirements that ensure accessible medications for patients with physical limitations. 2. Identify Federal regulations distinguishing Rx, OTC, and behind-the-counter medications. 3. Explain the process and legal considerations for transferring non-controlled prescriptions. 4. Evaluate practical scenarios to determine appropriate accessibility accommodations. 	none

6.8	Medication Information and Counseling	<ol style="list-style-type: none"> 1. Define the FDA's requirements for consumer medication information and Medication Guides. 2. Describe how OBRA-90 established consultation requirements and why they matter. 3. Explain the pharmacy technician's role in identifying patients who need or want counseling. 4. Apply effective communication strategies when interacting with patients or caregivers. 	none
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6.9	Patient Confidentiality	<ol style="list-style-type: none"> 1. Describe the key federal privacy laws affecting pharmacy technicians (HIPAA, HITECH, 42 CFR Part 2). 2. Identify proper procedures for safeguarding Protected Health Information (PHI). 3. Apply confidentiality principles to common real-world scenarios in the pharmacy. 4. Discuss how state-level privacy laws may add additional requirements for pharmacy staff. 	1. Communication & Management Skills for the Pharmacy Technician: Chapter 6
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7.1	State Agencies and Pharmacy Technician Registration	<ol style="list-style-type: none"> 1. Identify primary state agencies regulating pharmacy. 2. Describe the standard roles and functions of these agencies. 3. Explain the process for obtaining pharmacy technician registration/licensure. 4. Summarize maintenance requirements including CE and renewal. 	https://nabp.pharmacy/about/boards-of-pharmacy/
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7.2	Scope of Practice and Institutional Requirements	<ol style="list-style-type: none"> 1. Define the roles and responsibilities of pharmacists, pharmacy technicians, and other pharmacy employees. 2. Describe state requirements for pharmacy facilities, equipment, and supplies. 3. Compare differences among various states' regulations for technicians and medication handling. 4. Apply knowledge of state laws to determine permissible technician tasks in realistic scenarios. 	none
7.3	Pharmacy Operations Under State Law	<ol style="list-style-type: none"> 1. Describe state requirements for medication access: Rx, OTC, behind-the-counter. 2. Explain state regulations for storage, handling, and disposal of medications and pharmaceutical waste. 3. Identify state-specific controlled substance schedules and differences from federal schedules. 4. Outline state rules for ordering, receiving, labeling, dispensing, transferring, and destroying controlled substances. 5. Summarize record-keeping and documentation requirements under state law. 	none
8.1	High-Alert and Look-Alike Sound-Alike Medications	<ol style="list-style-type: none"> 1. Define "high-alert" medications and explain why they pose increased risks to patient safety. 2. Identify examples of high-alert medications in acute care, community/ambulatory care, and long-term care settings. 3. Describe strategies to mitigate risks associated with high-alert medications. 4. Recognize look-alike/sound-alike (LASA) medications and apply recommended Tall Man lettering. 5. Explain safe-handling strategies to reduce LASA errors in pharmacy practice. 	none

8.2	Medication Errors	<ol style="list-style-type: none"> 1. Define key terms related to medication errors (e.g., adverse drug event, preventable adverse drug event). 2. Describe the medication-use process and the 'Five Rights' of medication administration. 3. Identify types of errors at each step of the medication-use process. 4. Evaluate mitigation strategies for preventing medication errors in pharmacy practice. 5. Apply error-prevention principles to real-world pharmacy technician scenarios. 	<ol style="list-style-type: none"> 1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 7: Pharmacy Quality Assurance and Medication Safety (Medication Safety, Common Causes of Medication Errors, System-Based Causes of Errors Sections) 2. Emily Jerry Story: https://emilyjerryfoundation.org/emilys-story/
8.3	Event Reporting Procedures	<ol style="list-style-type: none"> 1. Define key event reporting procedures for medication errors, adverse drug events, and near misses. 2. Describe the process for reporting medication-related incidents to internal systems and external agencies. 3. Apply root cause analysis (RCA) principles to investigate and address errors. 4. Demonstrate a simulated response to a pharmacy error scenario. 5. Explain the technician's role in fostering a culture of safety. 	None
8.4	Identifying Issues That Require Pharmacist Intervention	<ol style="list-style-type: none"> 1. Identify common red flags that indicate the need for a pharmacist's clinical intervention. 2. Explain the pharmacy technician's role in recognizing and escalating Drug Utilization Review (DUR) alerts, Adverse Drug Events, and other critical issues. 3. Demonstrate decision-making skills in handling suspicious prescriptions, OTC requests, and post-immunization follow-up. 4. Distinguish appropriate scenarios for therapeutic substitution discussions and detect signs of drug misuse or non-adherence. 	None

8.5	Hygiene, Cleaning, and Infection Prevention	<ol style="list-style-type: none"> 1. Define key cleaning standards for pharmacy equipment and work surfaces. 2. Describe proper hand hygiene and PPE usage in compliance with OSHA and USP guidelines. 3. Explain how to implement infection control policies and procedures in a pharmacy setting. 4. Demonstrate appropriate techniques for cleaning laminar flow hoods and biological safety cabinets. 	None
8.6	Quality Assurance Practices	<ol style="list-style-type: none"> 1. Describe the main information sources used in quality improvement initiatives. 2. Explain how to systematically evaluate dispensing and inventory control systems for potential errors. 3. Identify key strategies for error detection and reporting in pharmacy settings. 4. Discuss QA applications to pharmaceuticals, devices, and supplies. 5. Outline major best practices from ASHP, ISMP, USP, and FDA. 	1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 7: Pharmacy Quality Assurance and Medication Safety (Introduction until Medication Safety Section and System-Based Causes of Errors through Conclusion)
9.1	Non-Sterile Compounding	<ol style="list-style-type: none"> 1. Define nonsterile compounding and describe its purpose within pharmacy practice. 2. Explain differences among simple, moderate, and complex nonsterile compounding (legacy knowledge for historical context, but still relevant in practice). 3. Identify the key responsibilities of pharmacy technicians in preparing nonsterile compounds in alignment with USP <795> and ASHP standards. 4. Apply the fundamentals of selecting ingredients and bases appropriately. 5. Distinguish how BUD considerations and prior knowledge of beyond-use dating/hygiene factor into nonsterile compounding. 	1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 12 Nonsterile and Bulk Compounding

9.2	Sterile Compounding	<ol style="list-style-type: none"> 1. Define the purpose and importance of sterile compounding. 2. Describe the basic facility requirements that ensure a sterile environment. 3. Identify key components of aseptic technique and contamination prevention. 4. Explain the differences among USP <797> Category 1, 2, and 3 CSPs. 5. Summarize common errors in sterile compounding and best practices to prevent them. 	1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 13 Sterile Compounding
9.3	Introduction to Pharmacy Information Systems	<ol style="list-style-type: none"> 1. Define the core components and functions of a Pharmacy Information System (PIS). 2. Demonstrate accurate data entry and profile management steps when using a PIS. 3. Describe best practices for documenting the dispensing of medications, immunizations, and supplies. 4. Explain how PIS usage aligns with safety standards and regulatory requirements for pharmacy technicians. 	1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 11 Pharmacy Computer and Information Systems
9.4	Interpreting a Prescription Order	<ol style="list-style-type: none"> 1. Identify common sig codes, abbreviations, and roman numerals used in prescription orders. 2. Demonstrate methods for detecting forged or altered prescriptions. 3. Prioritize prescription processing based on urgency (stat, waiting, routine). 4. Verify prescription completeness, accuracy, and authenticity to meet legal and regulatory requirements. 	1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 10 Processing Prescriptions and Medication Orders (Introduction Through Entering Orders Sections)

9.5	Processing a Prescription Order	<ol style="list-style-type: none"> 1. Explain the procedure for staging prescriptions prior to the pharmacist's final verification. 2. Demonstrate correct techniques for counting, measuring, and labeling patient-specific medications. 3. Identify required patient information materials and describe how to assemble them for dispensing. 	1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 10 Processing Prescriptions and Medication Orders (Processing Prescriptions and Medication Orders through Conclusion)
9.6	Basic Math Operations	<ol style="list-style-type: none"> 1. Apply the correct order of operations to solve mathematical expressions commonly encountered in the pharmacy. 2. Convert between Arabic numbers and Roman numerals with accuracy. 3. Perform basic arithmetic with fractions and decimal fractions. 4. Transform fractions to decimals and decimals to fractions. 	1. Complete Math Review for the Pharmacy Technician, 5th Edition, Chapter 1: Back to Basics
9.7	Units of Measurement and Conversions	<ol style="list-style-type: none"> 1. Identify and differentiate between metric, apothecary, and avoirdupois systems. 2. Convert non-metric units to metric units (and vice versa) for volume, weight, and length. 3. Calculate temperature conversions between Celsius and Fahrenheit. 4. Convert between 12-hour and 24-hour time formats. 	1. Complete Math Review for the Pharmacy Technician, 5th Edition, Chapter 2: Systems of Measurement
9.8	Ratios, Proportions, and Percentages	<ol style="list-style-type: none"> 1. Express fractions/decimals as ratios 2. Perform ratio and proportion calculations 3. Understand percent strength (w/w, v/v, w/v) 4. Convert between ratios and percentages 	<ol style="list-style-type: none"> 1. Complete Math Review for the Pharmacy Technician, 5th Edition, Chapter 3: Ratios and Proportions 2. Complete Math Review for the Pharmacy Technician, 5th Edition, Chapter 8: Percentage Calculations

9.9	Pharmacy Calculation Concepts	<ol style="list-style-type: none"> 1. Calculate doses or volumes based on a prescribed dose or concentration. 2. Perform weight-based dose calculations for pediatric or adult patients. 3. Solve dry powder reconstitution problems, including displacement. 4. Determine infusion rates from medication orders. 	<ol style="list-style-type: none"> 1. Complete Math Review for the Pharmacy Technician, 5th Edition, Chapter 6: Reconstitution of Dry Powders 2. Complete Math Review for the Pharmacy Technician, 5th Edition, Chapter 7: Intravenous Flow Rates
9.10	Advanced Pharmacy Calculations	<ol style="list-style-type: none"> 1. Determine the amount of a stock solution required to prepare a dilution. 2. Perform dilutions of liquid, semisolid, and solid dosage forms. 	<ol style="list-style-type: none"> 1. Complete Math Review for the Pharmacy Technician, 5th Edition, Chapter 9: Concentrations and Dilutions
9.11	Codes Used in Medication Packaging	<ol style="list-style-type: none"> 1. Identify the purpose and regulations behind lot numbers, expiration dates, and NDCs. 2. Explain how these codes protect patient safety and streamline workflow. 3. Apply best practices for documenting and verifying codes in pharmacy settings. 4. Evaluate scenarios where improper handling of codes can lead to serious errors. 	<ol style="list-style-type: none"> 1. The Pharmacy Technician Skills-Building Manual: Chapter 3 Medication Labels and Dosage Forms
9.12	Medication Expiration and Returns	<ol style="list-style-type: none"> 1. Identify dispensable vs. non-dispensable medications and supplies. 2. Explain the regulatory requirements for expired medication handling. 3. Demonstrate the correct procedures for returning expired or unusable products. 4. Differentiate between credit return, return-to-stock, and reverse distribution. 5. Discuss safe disposal methods for various medication categories. 	<ol style="list-style-type: none"> 1. The Pharmacy Technician Skills-Building Manual: Chapter 5 Inventory Control (Expired Medications through Disposal Sections)

10.1	Medication Formularies	<ol style="list-style-type: none"> 1. Define what a medication formulary is and explain its key purposes. 2. Describe the roles of P&T committees in selecting and managing formulary drugs. 3. Differentiate between open, closed, and tiered formulary designs. 4. Explain how pharmacy technicians manage formulary issues in everyday practice. 	<ol style="list-style-type: none"> 1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 5: Drug Formularies, Storage, Recalls, Shortages, and Diversion (Section on Drug Formularies) 2. Complete Review for the Pharmacy Technician, 4th ed. Chapter 14: Pharmacy Billing and Reimbursement (Section on Interacting with Third-Party Payers)
10.2	Equipment Used to Store Medications and Manage Inventory	<ol style="list-style-type: none"> 1. Identify various packaging and repackaging products used in pharmacy practice (e.g., IV bags, syringes, child-resistant containers). 2. Describe the role of medication quality control systems (automated dispensing, barcoding, floor stock, crash carts) in preventing errors. 3. Explain how to select and maintain equipment for storing medications and managing inventory, in alignment with ASHP standards. 4. Demonstrate appropriate decision-making when confronted with real-world inventory and storage scenarios. 	<ol style="list-style-type: none"> 1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 11: Pharmacy Computer and Information Systems (Section on Computerized Systems for Pharmacy Dispensing) 2. The Pharmacy Technician Skills-Building Manual Chapter 8 Hospital Pharmacy (Sections on Unit-Dose Medications, Pre-Packing Unit Doses, and Medication Storage)
10.3	The Medication Ordering Process	<ol style="list-style-type: none"> 1. Explain the standard process for ordering medications, devices, and supplies. 2. Describe alternatives to standard ordering, including borrowing or transferring. 3. Identify key regulatory and contractual requirements (including GPOs). 4. Demonstrate awareness of best practices for receiving and verifying shipments. 	<ol style="list-style-type: none"> 1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 4: Inventory Management (Sections on Placing and Receiving Orders)

10.4	Inventory Control Practices and Recordkeeping	<ol style="list-style-type: none"> 1. Explain the steps to properly address temperature or humidity excursions. 2. Describe and apply best practices in par-level management, turnover, and perpetual inventory systems. 3. Perform or outline procedures for physical inventories, including controlled substances. 4. Identify just-in-time inventory principles and methods to prevent theft and diversion. 5. Demonstrate knowledge of recordkeeping requirements for controlled substances and immunizations. 	<ol style="list-style-type: none"> 1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 4: Inventory Management (Remaining Sections) 2. The Pharmacy Technician Skills-Building Manual Chapter 5 Inventory Control
11.1	Wellness and Disease Prevention	<ol style="list-style-type: none"> 1. Describe major wellness promotion and disease prevention concepts 2. Identify common monitoring/screening devices and proper usage 3. Explain adverse effects of tobacco, alcohol, and other drugs 4. Demonstrate understanding of technician roles and legal considerations in POCT 5. Apply best practices in device maintenance to ensure accuracy and safety 	<ol style="list-style-type: none"> 1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 9: Patient Care Services and the Pharmacy Technician (Chronic Disease Management and Point-of-care testing sections)
11.2	Medication Management and Monitoring	<ol style="list-style-type: none"> 1. Define medication adherence and explain its significance 2. Identify strategies to assess patient compliance 3. Explain the purpose of medication therapy monitoring 4. Demonstrate familiarity with monitoring procedures & tools 5. Apply knowledge in real-world scenarios 	<ol style="list-style-type: none"> 1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 9: Patient Care Services and the Pharmacy Technician (Medication Therapy Management section)

11.3	Emergency Preparedness	<ol style="list-style-type: none"> 1. Identify signs and symptoms of common health emergencies 2. Describe how pharmacy technicians assist pharmacists safely and legally 3. Apply key safety and emergency protocols in pharmacy settings 4. Explain OSHA requirements for blood-borne pathogen exposure 	None
11.4	Billing & Reimbursement	<ol style="list-style-type: none"> 1. Define fundamental terms in pharmacy billing and reimbursement. 2. Describe the role of third-party payers, PBMs, and government programs in pharmacy billing. 3. Identify key steps in the claim adjudication workflow and common rejection codes. 4. Explain different reimbursement models (AWP, MAC, NADAC) and how copays/coinsurance apply. 5. Demonstrate how to resolve basic billing issues and coordinate benefits. 	1. Complete Review for the Pharmacy Technician, 4th ed. Chapter 14: Billing and Reimbursement
11.5	Medication Reconciliation	<ol style="list-style-type: none"> 1. Define the purpose and key steps of the medication reconciliation process. 2. Describe how pharmacy technicians assist pharmacists in collecting and verifying medication lists. 3. Identify common medication discrepancies and articulate how to flag them for resolution. 4. Demonstrate how to apply medication reconciliation best practices across inpatient, outpatient, and long-term care settings. 5. Evaluate the impact of robust medication reconciliation on patient safety and readmissions. 	1. Fabiilli, N. A., & Powers, M. F. (2017). Roles for Pharmacy Technicians in Medication Reconciliation During Transitions of Care. The Journal of pharmacy technology : jPT : official publication of the Association of Pharmacy Technicians, 33(1), 3–7. https://doi.org/10.1177/8755122516680621