Alabama CTE

Pharmacy Technician: High School

Foundational Standards

1. **Incorporate safety procedures in handling, operating, and maintaining tools and machinery; handling materials; utilizing personal protective equipment; maintaining a safe work area; and handling hazardous materials and forces.** F.1
2. **Demonstrate effective workplace and employability skills, including communication, awareness of diversity, positive work ethic, problem-solving, time management, and teamwork.** F.2
3. **Explore the range of careers available in the field and investigate their educational requirements and demonstrate job-seeking skills including resume-writing and interviewing.** F.3
4. **Advocate and practice safe, legal, responsible, and ethical use of information and technology tools specific to the industry pathway.** F.4
5. **Participate in a Career and Technical Student Organization (CTSO) to increase knowledge and skills and to enhance leadership and teamwork.** F.5
6. **Demonstrate effective infection control techniques as defined by the Centers for Disease Control and Prevention (CDC) and The Joint Commission guidelines.** F.6

Overview

1. **Describe and contrast the roles of pharmacy personnel, including the pharmacist, pharmacy technician, and pharmacy clerk.** 1
   - a Describe various pharmacy settings and business models. 1.A

Medication Safety and Quality Assurance

2 **Identify and describe high-alert medications, high-risk medications, and sound-alike look-alike drugs (SALAD).** 2

- a Explain the differences between side effects and adverse reactions and between contraindications and drug interactions, giving examples of each. 2.A
- b Explain the five rights of medication administration (right patient, right drug, right time, right dosage, and right route). 2.B
- c Research and report on the stability of drugs, including oral suspensions, insulin, reconstituted medications, injectables, and vaccines. 2.C
- d Demonstrate strategies for preventing medication errors, including prescription or medication order to the correct patient, tall man lettering, separating inventory, leading and trailing zeroes, barcode usage, and limiting the use of error-prone abbreviations. 2.D
- e Describe the benefits of using compliance aids and devices to help patients use and store medications safely. 2.E
- f Explain issues that require pharmacist intervention. 2.F
- g Demonstrate proper event reporting procedures. 2.G
- h Research types of prescription errors and identify ways to prevent them. 2.H
- i Interpret the components of prescriptions, including superscription, inscription, subscription, signature, and prescription labels. 2.I
- j Disinfect work areas in each section of the pharmacy setting to prevent cross contamination of medications. 2.J
- k Compare medication disposal methods based on product-specific requirements. 2.K

Pharmacy Law and Regulations

3 **Summarize federal requirements for handling and disposal of hazardous, non-hazardous, and pharmaceutical substances and wastes.** 3

- a Compare federal requirements for controlled substance prescriptions to requirements for non-controlled substance prescriptions. 3.A
- b Summarize federal requirements for ordering, receiving, storing, labeling, and dispensing controlled substances, including reverse distribution, take-back programs, and loss or theft. 3.B
- c Describe the federal requirements for restricted drug programs and related medication processes. 3.C
- d Summarize Food and Drug Administration (FDA) procedures for responding to recalls of medications, devices, supplies, and supplements. 3.D
- e Explain the levels of authorized access to the pharmacy areas, including requirements regarding identification and levels of supervision. 3.E
- f Outline Alabama laws and regulations pertaining to pharmaceutical careers and explain where such information may be obtained. 3.F

Pharmacology

4 Describe and compare pharmacodynamics, pharmacogenetics, and pharmacokinetics. 4

- a Recognize and report on the generic name, brand name, indications, contraindications, side effects, and side effect classifications of the top two hundred drugs, relating them to body systems and common diseases. 4.A
- b Identify common over-the-counter (OTC) medications and behind-the-counter (BTC) medications and explain their indications for use. 4.B
- c Compare and contrast common severe medication side effects, adverse effects, allergic reactions, and interactions. 4.C
- d Describe the five controlled substance schedules and list the drugs at each level. 4.D
- e Compare and contrast the criteria of drugs for therapeutic equivalents and drugs with narrow therapeutic index (NTI). 4.E
- f Identify strengths, doses, dosage forms, routes of administration, special handling and administration instructions, and duration of drug therapy in given scenarios. 4.F
- g Research and report on the indications for dietary supplements. 4.G

Medication Order Entry, Processing, and Dispensing

5 Describe the information that must be included on every prescription and the measures to be taken if the information is illegible or missing. 5

- a Construct and enter complete patient profiles in pharmacy computer systems for use in input, storage, and output in the pharmacy. 5.A
- b Identify and interpret third party payer information on a prescription medication card, and summarize insurance terms needed to communicate with customers and the pharmacist. 5.B
- c Explain the meaning of each dispense-as-written (DAW) code and explain how to attach it to a third-party claim. 5.C
- d Describe drug administration equipment and supplies included in prescriptions. 5.
- e Compare and contrast the basic types of insurance programs that may be encountered in a pharmacy setting. 5.E
- f Identify and interpret lot numbers, expiration dates, and National Drug Code (NDC) numbers of medications. 5.F

Compounding

6 Compare and contrast the procedures, equipment, and regulations for sterile and non-sterile compounding in pharmacy settings. 6

- a Set up and maintain the four sets of records that sterile and non-sterile compounding pharmacies are required to create and keep (master formulation record, compounding record, standard operating procedures, and safety data sheets). 6.A

Medical Terminology and Abbreviations	**7 Interpret Roman numerals, medical abbreviations, medical terminology, and symbols for days supply, quantity, dose, concentration, and dilutions commonly found on prescriptions.** 7
Pharmacy Calculations	**8 Convert within and between each of the systems of measurements.** 8 a Calculate the quantities of prescriptions or medication orders to be dispensed, utilizing applicable rules and formulas. 8.A b Calculate the days' supply for prescriptions. 8.B c Calculate individual and total daily dosages. 8.C d Perform calculations for sterile and non-sterile compounding. 8.D e Perform basic pharmacy business calculations. 8.E f Perform temperature conversions required for medication storage. 8.F g Calculate percentages related to medication as used in the pharmacy setting. 8.G