Pharmacy Technician I

8305 36 weeks / 140 hours

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Acknowledgments

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Course Description

Suggested Grade Level: 10 or 11 or 12
This certificate program is designed to provide students with the basic skills and knowledge to begin work as a pharmacy technician. The coursework will fulfill the requirements of the Virginia Board of Pharmacy and prepare students to take the national examinations, Pharmacy Technician Certification Exam (PTCE) or Examination for Certification of Pharmacy Technicians (ExCPT). Trained, experienced pharmacy technicians, who can demonstrate the right skills and knowledge, have many exciting and respected career options and are well-positioned to pursue postsecondary study in the pharmacy field.

NOTE: This course has specific state laws and regulations from a governing medical board or agency. Please contact the Virginia Department of Education, Office of Career and Technical Education prior to implementing this course. All inquiries may be sent to cte@doe.virginia.gov.

Task Essentials Table

- Tasks/competencies designated by plus icons (⊕) in the left-hand column(s) are essential
- Tasks/competencies designated by empty-circle icons (⊙) are optional
- Tasks/competencies designated by minus icons (⊖) are omitted
- Tasks marked with an asterisk (*) are sensitive.

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### Curriculum Framework

#### Exploring the World of Pharmacy

### Task Number 39

**Describe the healthcare team.**

**Definition**

Description should include the roles and functions of the various members of the healthcare team, such as the following:

- Pharmacists
- Physicians
- Physician assistants
- Nurse practitioners
- Dentists
- Veterinarians
- Nurses

See PTCB 2.13.
See ASHP 2.3.

Process/Skill Questions

- What is the scope of practice for each healthcare team member?
- What are the settings in which each healthcare team member could practice?
- What could the chain of command be in a practice setting?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Health Professions Events

- Dental Science
- Nursing Assisting
- Pharmacy Science
- Veterinary Science

Leadership Events

- Health Career Photography

Teamwork Events

- Health Career Display
- HOSA Bowl

Task Number 40

Describe various pharmacy settings.

Definition

Description should compare a variety of pharmacy and pharmacy-related settings, regarding
• purpose
• customers
• layout
• personnel
• scheduling
• workflow.

Settings should include the following:

• Community pharmacy
• Hospital/institutional pharmacy
• Long-term care facility
• Closed-door pharmacy
• Mail-order pharmacy
• Pharmacy benefit management
• Specialty pharmacy (e.g., oncology, compounding, nuclear, infusion)
• Law enforcement
• Research department of a drug manufacturing company
• Pharmaceutical sales
• Research department in a hospital pharmacy
• Home infusion
• Pharmaceutical processor

See PTCB 2.13.
See ASHP 2.3.

Process/Skill Questions

• How do educational (certification) requirements for a pharmacy technician differ from one pharmacy setting to another?
• What could be the pros and cons of working in each setting from the technician's and pharmacist's perspective?
• Which setting employs most pharmacy technicians?
• What are the customer service responsibilities in each setting?
• When do the technician's responsibilities change among settings?

HOSA Competitive Events (High School)

Health Science Events

○ Pharmacology

Health Professions Events

○ Pharmacy Science
Task Number 41

Describe the roles and responsibilities of pharmacy professionals.

Definition

Description should include the following pharmacy professionals:

- Pharmacists
- Pharmacy technicians
- Lead pharmacy technician
- Shift supervisors
- Pharmacy student interns/externs
- Pharmacy residents
- Store managers
- Directors of pharmacy
- departmental organizational chart

Description should also incorporate an explanation of the usual chain of command and the reasons why following the chain of command is essential.

See PTCB 2.13.
See ASHP 2.3.

Process/Skill Questions

- Why is there a need for different types of pharmacy professionals within a given pharmacy setting?
- How does the type of pharmacy setting affect which responsibilities are of the greatest importance for each professional?
- What education/training is needed to become each type of pharmacy professional?
- What major job tasks may be performed only by pharmacists? Why?
- How has the role of pharmacy technicians increased in recent years? Why has it increased?

HOSA Competitive Events (High School)
Health Science Events
"Pharmacology"

Health Professions Events
"Pharmacy Science"

Teamwork Events
"Health Career Display"

Task Number 42

Maintain American Heart Association cardiopulmonary resuscitation (CPR)/basic life support (BLS).

Definition
Maintaining certification should be accomplished by attending an approved American Heart Association CPR/BLS (to include Automated External Defibrillator [AED]) course, including recertification after the initial certification.

See ASHP 4.3.

Process/Skill Questions

- When would it be appropriate to perform CPR?
- What is the difference among adults, children, and infants regarding the delivery of chest compressions?
- What is the purpose of performing CPR?

HOSA Competitive Events (High School)

Emergency Preparedness Events

- CPR/First Aid
- Emergency Medical Technician
- Life Support Skills*
  *Student must be classified under the provision of the 2004 reauthorized Individuals with Disabilities Education Act (IDEA) to participate.
Task Number 43

Describe the professional organizations, regulatory boards, and credentialing in the field of pharmacy.

Definition

Description should include the following:

- Virginia Board of Pharmacy
- Pharmacy Technician Certification Board (PTCB)
- National Healthcareer Association (NHA)
- American Society of Health-System Pharmacists (ASHP)
- National Association of Boards of Pharmacy (NABP)
- American Pharmacists Association (APhA)
- National Pharmacy Technician Association (NPTA)
- The Joint Commission (TJC)
- Virginia Department of Health Professionals
- U.S. Food and Drug Administration (FDA)
- U.S. Drug Enforcement Agency (DEA)

See PTCB 2.13.
See ASHP 2.1, 2.3.

Process/Skill Questions

- What is the function of each organization in relation to the field of pharmacy?
- What resources are available to pharmacy technicians through these organizations?
- How do these organizations further the professional development of pharmacy technicians?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Health Professions Events

- Pharmacy Science
Building a Professional Career

Task Number 44

Research job opportunities for pharmacy technicians.

Definition

Research should include reviewing

- newspapers
- professional publications
- websites of professional associations
- websites of medical-related businesses and industries
- pharmacies housed in large retailers
- websites with general job postings
- attendance at professional meetings.

Many websites offer career exploration resources, including the Virginia Department of Education's Career Planning Guide.

See PTCB 2.13.
See ASHP 2.1, 2.3.

Process/Skill Questions

- What are the descriptions of each employment resource listed in the definition?
- What are the best sources for in-state and out-of-state job searching?
- How can one research the educational and other requirements of specific jobs?
- What are the advantages of attending professional meetings or belonging to professional organizations?
- How can one best prepare for the job search (e.g., résumé writing, interviewing skills)?

HOSA Competitive Events (High School)
Health Professions Events

- Clinical Specialty

Leadership Events

- Interviewing Skills*
  *Student must be classified under the provision of the 2004 reauthorized Individuals with Disabilities Education Act (IDEA) to participate.
- Job-Seeking Skills

Teamwork Events

- Health Career Display

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge

III. Participating in the Administration and Management of Pharmacy Practice

- III.6. Knowledge of required operational licenses and certificates

Task Number 45

Describe the federal requirements for handling and disposal of non-hazardous, hazardous, and pharmaceutical substances and waste.

Definition

Description should include following federal requirements (i.e., DEA, FDA) for

- receiving
- ordering
- refilling
- labeling
- dispensing
- returning
Description should also include adherence to Occupational Safety and Health Administration (OSHA) requirements for prevention and treatment of hazardous substances exposure (e.g., eyewash, spill kit).  
See PTCB 2.13.  
See ASHP 5.6, 5.7.

Process/Skill Questions

- What should happen when there is a spill in the pharmacy? What are the state requirements?
- What are the containers for waste, and what does each color of container represent?

Code of Virginia Statutes Related to Pharmacy Technicians

Va. Code §54.1, Chapters 33-34 — Pharmacy; Drug Control Act

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Health Professions Events

- Pharmacy Science

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge

I. Assisting the Pharmacist in Serving Patients

- I.1. Knowledge of federal, state, and/or practice site regulations, codes of ethics, and standards pertaining to the practice of pharmacy
- I.2. Knowledge of pharmaceutical, medical, and legal developments which impact on the practice of pharmacy
- I.3. Knowledge of state-specific prescription transfer regulations
- I.76. Knowledge of legal requirements for pharmacist counseling of patient/patient’s representative

II. Maintaining Medication and Inventory Control Systems

- II.1. Knowledge of drug product laws and regulations and professional standards related to obtaining medication supplies, durable medical equipment, and products (for example, Food, Drug and Cosmetic Act; Controlled Substances Act; Prescription Drug Marketing Act; USP-NF; NRC standards)
II.10. Knowledge of regulatory requirements regarding record-keeping for repackaged products, recalled products, and refunded products

III. Participating in the Administration and Management of Pharmacy Practice

- III.6. Knowledge of required operational licenses and certificates
- III.8. Knowledge of legal and regulatory requirements for personnel, facilities, equipment, and supplies (for example, space requirements, prescription file storage, cleanliness, reference materials, storage of radiopharmaceuticals)
- III.11. Knowledge of state board of pharmacy regulations
- III.25. Knowledge of the Americans with Disabilities Act requirements (for example, physical accessibility)
- III.30. Knowledge of legal requirements regarding archiving

Virginia Administrative Code Regulations Governing the Practice of Pharmacy

18VAC110-20-10 et seq. — General Provisions

Task Number 46

Describe the federal requirements for controlled substance prescriptions and DEA controlled substance schedules.

Definition

Description should include identifying controlled substance (i.e., receiving, storing, ordering, labeling, dispensing, reverse distribution, take-back programs, and loss or theft of) prescriptions (i.e., new, refill, transfer) along with the following:

- DEA requirements for record keeping, documentation, and record retention (i.e., minimum length of time that controlled substances and records are maintained on file)
- OSHA Hazard Communications Standard (HazCom)
- Take-back programs and loss or theft of Schedule I—IV drugs
- Federal requirements for the availability of medications (i.e., Rx, over the counter [OTC], behind the counter)
- Federal requirements for non-controlled substance prescription transfer
- FDA requirements for consumer medication information and medication guides
- Methods to electronically verify a prescriber’s DEA number

See PTCB 2.2.

Process/Skill Questions
• What are the requirements for reporting a theft or loss to the DEA and the Virginia Board of Pharmacy?
• Where is information found on take-back programs?
• How is it possible to send schedules electronically?
• What is a medication guide, and when is it required to give to a patient?

HOSA Competitive Events (High School)

Health Science Events

  o Pharmacology

  Health Professions Events

  o Pharmacy Science

Task Number 47

Describe the federal requirements for restricted drug programs and related medication processing.

Definition

Description should include following

  • Combat Methamphetamine Epidemic Act
  • The Pharmacy Act and the Drug Control Act with Related Statutes
  • Risk Evaluation and Mitigation Strategy (REMS).

See PTCB 2.4.

Process/Skill Questions

• How much pseudoephedrine can be bought in a month or a day?
• What is the age requirement to purchase pseudoephedrine?
• Why is pseudoephedrine behind the counter?

HOSA Competitive Events (High School)

Health Science Events
Task Number 48

Describe the current state and federal regulations regarding the practice of pharmacy.

Definition

Description should include regularly monitoring the major state pharmacy-related laws and regulations, including

- statutes (e.g., Virginia Drug Control Act)
- regulations of the Virginia Board of Pharmacy
- other requirements of pharmacy technicians
- Virginia statutory requirements for United States Pharmacopeia (USP) standards.

Compliance should also include monitoring the major federal laws and regulations related to drugs and pharmacy practice, including, but not limited to, the following:

- Food, Drug, and Cosmetic Act
- Controlled Substances Act
- Health Insurance Portability and Accountability Act (HIPAA)
- Other pharmacy-related laws enforced by the FDA
- Poison prevention packaging act

See PTCB 2.8, 2.14.
See ASHP 2.2., 5.1, 5.2, 5.3, 5.4, 5.5.

Process/Skill Questions

- What resources are available for maintaining awareness of current state and federal pharmacy-related laws and regulations?
- Why is compliance with such laws and regulations essential for the pharmacy technician and for the patient?
- How do the state and federal government intervene when determining the types of tasks that technicians can perform in a pharmacy setting?
• What are the pros and cons of government intervention in the job responsibilities of pharmacists and pharmacy technicians?
• How do public and private pharmacies differ in how they align with state and federal laws and regulations?
• Which chapters oversee sterile (797), non-sterile (795), and hazardous (800) compounding?

HOSA Competitive Events (High School)

Health Science Events

  o Medical Law and Ethics
  o Pharmacology

Health Professions Events

  o Pharmacy Science

Teamwork Events

  o HOSA Bowl

Task Number 49

Explain the role of professional ethics in the pharmacy workplace.

Definition

Explanation should include a definition of

  • ethics and a comparison of ethics with law
  • code of ethics and how a code of ethics should influence the work of pharmacy professionals.

Process/Skill Questions

  • What are the similarities between ethics and law in the pharmacy setting?
  • How can a pharmacy technician locate information about pharmacy-related ethics?
  • What are examples of workplace situations that may present ethical questions for the pharmacy technician?
  • How should a technician handle these situations in an ethical manner?
• How could ethical dilemmas differ from one pharmacy setting to another?
• How can a pharmacy technician's professional ethics affect the patient?
• When is workplace ethics training available for pharmacy employees?

**HOSA Competitive Events (High School)**

**Health Science Events**
- Medical Law and Ethics
- Pharmacology

**Health Professions Events**
- Pharmacy Science

**Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge**

**I. Assisting the Pharmacist in Serving Patients**
- I.1. Knowledge of federal, state, and/or practice site regulations, codes of ethics, and standards pertaining to the practice of pharmacy
- I.73. Knowledge of confidentiality requirements

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**Task Number 50**

**Determine the legal responsibilities of the pharmacy technician.**

**Definition**

Determination should include the following:

- Litigation
- Negligence
- Malpractice
- Liability
- Good Samaritan law
- Consent
- Slander
- Libel
- Confidentiality
- Privileged communication
- Assault and battery
- Theft abuse (e.g., physical, emotional, sexual)
- Five rights
- Professional standards (e.g., scope of practice)

See PTCB 2.13.
See ASHP 2.2.

Process/Skill Questions

- What lawsuits are most prevalent in healthcare facilities?
- What is the difference between libel and slander?
- What steps are involved in legally practicing as a pharmacy technician in Virginia or in another state?
- What are the penalties for failing to abide by legal practices while practicing as a pharmacy technician?
- What is the difference between assault and battery?

HOSA Competitive Events (High School)

**Health Science Events**
- Medical Law and Ethics
- Medical Terminology
- Pharmacology

**Health Professions Events**
- Pharmacy Science

**Teamwork Events**
- HOSA Bowl

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**Task Number 51**

**Explain the importance of professional development for pharmacy technicians.**

**Definition**
Explanation should include the following:

- Identification of professional organization memberships available for pharmacy technicians
- Description of certifications available to pharmacy technicians
- Description of options for the further education for pharmacy technicians
- Description of the nature and importance of in-house training sessions and manufacturers’ informational/training sessions
- Identification of professional literature available for enhancing the professional development of pharmacy technicians
- Explanation of the importance of staying current with advances in pharmacy-related laws/regulations, products, processes, and technologies
- **Pharmacy Technician Certification Board; National Healthcareer Association; Explanation of Accreditation Council for Pharmacy Education (ACPE)-approved continuing education courses**
- Description of license/certification renewal processes and continuing education requirements

See PTCB 2.13, 2.14.
See ASHP 2.1, 5.2, 5.4, 5.5.

Process/Skill Questions

- What professional organizations benefit pharmacy technicians and pharmacists?
- What continuing education is required of pharmacy technicians in Virginia and of pharmacy technicians who want to maintain Pharmacy Technician Certification Board (PTCB) certification?
- What are the differences among registration, certification, certificate credentialing, and licensing in the field of pharmacy?

HOSA Competitive Events (High School)

**Health Science Events**

- Pharmacology

**Health Professions Events**

- Pharmacy Science

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge

**III. Participating in the Administration and Management of Pharmacy Practice**
Communicating in the Pharmacy Setting

Task Number 52

Demonstrate the basic knowledge of medical terminology, anatomy, and physiology as related to disease states and pharmacy care.

Definition

Demonstration should include

- abbreviations
- prefixes
- suffixes
- root words
- pharmacy abbreviations.

Use should also reflect a basic understanding of terminology used.

See PTCB 6.2.
See ASHP 2.5.

Process/Skill Questions

- What are the meanings of common prefixes, suffixes, and roots in medical words?
- What are some basic abbreviations used in a pharmacy?

HOSA Competitive Events (High School)

Health Science Events

- Medical Law and Ethics
- Medical Spelling
Task Number 53

Maintain patient, business, and personal confidentiality.

Definition

Maintenance should reflect knowledge of the importance of:

- following HIPAA requirements for confidentiality
- limiting non-clinical information
- keeping all client information, professional pharmacy conversations, or transactions confidential
- being certain that the fax number entered is the correct number
- limiting conversations in the pharmacy to minimum necessary when performing duties or tasks
- ensuring that conversations with patients are not overheard
- adhering to HIPAA national standards for private and secure healthcare transactions.

See PTCB 2.8.
See ASHP 2.2.

Process/Skill Questions

- When should a pharmacy technician involve a pharmacist to answer patient questions?
- How is it possible to converse with a physician’s office so that other customers or non-health care providers do not overhear?
- How can a patient be harmed by a pharmacy employee’s breach of confidentiality?
- How are situations in which a pharmacy employee has breached patient confidentiality handled?
- What are the ethical and legal implications of breaching patient confidentiality?
- What is the importance of HIPAA for the pharmacy customer, the pharmacy, and customer service staff?

Code of Virginia Statutes Related to Pharmacy Technicians

Va. Code §32.1-127.1:03 — Patient health records privacy
HOSA Competitive Events (High School)

Health Science Events

- Medical Law and Ethics
- Pharmacology

Health Professions Events

- Pharmacy Science

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge

I. Assisting the Pharmacist in Serving Patients

- I.1. Knowledge of federal, state, and/or practice site regulations, codes of ethics, and standards pertaining to the practice of pharmacy
- I.2. Knowledge of pharmaceutical, medical, and legal developments which impact on the practice of pharmacy
- I.71. Knowledge of customer service principles
- I.72. Knowledge of communication techniques
- I.73. Knowledge of confidentiality requirements

III. Participating in the Administration and Management of Pharmacy Practice

- III.27. Knowledge of security procedures related to data integrity, security, and confidentiality

Task Number 54

Practice patient and customer service.

Definition

Practice should include

- following the Omnibus Budget Reconciliation Act of 1990 (OBRA 90) requirement for consultation
- maintaining eye contact, a professional tone of voice, and pleasant facial expressions
• carrying on a patient-centric dialogue to express empathy
• keeping the conversation focused on the problem
• working with the patient to achieve a resolution
• seeking assistance from a professional colleague or security personnel to handle a customer service challenge when necessary
• providing understanding of health-literacy situations
• asking patients the appropriate questions to assist the pharmacist in identifying those who request/need counseling.

See PTCB 2.8.
See ASHP 2.2.

Process/Skill Questions

• What is important to you when you are a pharmacy customer/patient? Why?
• How can a pharmacy professional exhibit a positive attitude when a problem arises that is not the pharmacy’s fault or when a problem arises that is the pharmacy's fault?
• How can a pharmacy professional exhibit a positive attitude when a patient is upset?
• How is it possible to show professional assertiveness and politeness simultaneously?
• What are some questions to ask that might identify a need for pharmacist counseling (other than, “Do you want the pharmacist to counsel you”)?
• What are examples of situations in which a pharmacy technician should seek assistance from a professional colleague or security personnel to handle a customer service challenge?

HOSA Competitive Events (High School)

Health Science Events

  o Medical Law and Ethics
  o Pharmacology

Health Professions Events

  o Pharmacy Science

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge

I. Assisting the Pharmacist in Serving Patients

  o I.1. Knowledge of federal, state, and/or practice site regulations, codes of ethics, and standards pertaining to the practice of pharmacy
  o I.2. Knowledge of pharmaceutical, medical, and legal developments which impact on the practice of pharmacy
  o I.71. Knowledge of customer service principles
Applying Pharmacy Calculations

Task Number 55

Demonstrate knowledge of basic medical mathematical skills.

Definition

Demonstration should include

- metric system
- apothecary system
- avoirdupois system
- household conversions.

See PTCB 6.2.
See ASHP 2.6.

Process/Skill Questions

- What are the symbols of the apothecary system?
- What are the standard conversions factors used in a pharmacy setting?

HOSA Competitive Events (High School)

Health Science Events

- Medical Math
- Pharmacology

Task Number 56

Perform mathematical calculations.
Definition

Performance should include calculations that are critical to the tasks of pharmacy technicians in a variety of settings and

- rules of drug calculations
- metric system and conversions
- decimals and fractions
- ratios and proportions and percentages
- osmolarity, milliequivalent (mEq)
- military time
- Roman numerals
- Young's rule
- Clark’s rule
- Fried’s rule
- temperature conversions
- body surface area (BSA) dosage calculations
- drip rate calculations
- increasing and decreasing formulations
- powder volume
- W/W, W/V, and V/V
- percent strength
- ratio strength.

See PTCB 6.3.
See ASHP 2.6.

Process/Skill Questions

- What are the purposes of Young's, Clark’s, and Fried’s rule?
- What are the rules of drug calculations?

HOSA Competitive Events (High School)

Health Science Events

- Medical Math
- Pharmacology

Incorporating Safety Procedures
Task Number 57

Provide a safe, clean, and comfortable environment for the client.

Definition

Provision should include medical settings, including

- a safe environment (e.g., hazard-free counters, drive-through windows, and waiting areas)
- a clean environment (e.g., sterile and uncluttered counters, waiting areas, and other areas)
- a comfortable environment (e.g., counters, windows, drive-through windows, and waiting areas spacious and easily accessible for all clients, including those who are disabled, elderly, or ill)
- adherence to standard precautions.

Provision should also include an explanation of legal and professional standards related to pharmacy safety (e.g., The Joint Commission).

See PTCB 5.2.
See ASHP 4.2.

Process/Skill Questions

- What pharmacy client groups could require special safety considerations? Why?
- How does a clean and comfortable environment create a feeling of well-being for clients?
- How do cleanliness and safety behind the counter contribute to the health and safety of persons in public areas?

HOSA Competitive Events (High School)

Health Science Events

- Medical Law and Ethics
- Pharmacology

Health Professions Events

- Pharmacy Science

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge

I. Assisting the Pharmacist in Serving Patients
I. Knowledge of federal, state, and/or practice site regulations, codes of ethics, and standards pertaining to the practice of pharmacy
I.2. Knowledge of pharmaceutical, medical, and legal developments which impact on the practice of pharmacy
I.71. Knowledge of customer service principles

II. Maintaining Medication and Inventory Control Systems

II.22. Knowledge of policies, procedures, and practices regarding storage and handling of hazardous materials and wastes (for example, Materials Safety Data Sheet [MSDS])

III. Participating in the Administration and Management of Pharmacy Practice

III.8. Knowledge of legal and regulatory requirements for personnel, facilities, equipment, and supplies (for example, space requirements, prescription file storage, cleanliness, reference materials, storage of radiopharmaceuticals)
III.9. Knowledge of professional standards (for example, JCAHO) for personnel, facilities, equipment, and supplies
III.12. Knowledge of storage requirements and expiration dates for equipment and supplies (for example, first-aid items, fire extinguishers)
III.14. Knowledge of hazardous waste disposal requirements
III.15. Knowledge of procedures for the treatment of exposure to hazardous substances (for example, eyewash)
III.16. Knowledge of security systems for the protection of employees, customers, and property
III.18. Knowledge of infection control policies and procedures
III.19. Knowledge of sanitation requirements (for example, handwashing, cleaning counting trays, countertop, and equipment)
III.24. Knowledge of documentation requirements for routine sanitation, maintenance, and equipment calibration
III.25. Knowledge of the Americans with Disabilities Act requirements (for example, physical accessibility)
III.28. Knowledge of downtime emergency policies and procedures

Task Number 58

Identify environmental safety hazards, prevention methods, and disaster plans.

Definition
Identification should include the following:

- Threats to client safety for pharmacies
- Methods for safety hazard prevention (e.g., careful planning, ongoing maintenance of all areas, continual alertness of pharmacy staff)
- Location of fire exits, fire alarms, and fire extinguishers
- Guidelines for disaster preparedness (e.g., natural and manmade disasters)

See PTCB 2.2, 2.11.
See ASHP 4.2, 4.3, 4.4.

Process/Skill Questions

- Why could elderly clients be more vulnerable to accidents than members of other client groups?
- What are the responsibilities of a pharmacy assistant in reporting an accident or a hazardous situation?
- What disasters should a pharmacy be prepared for, and what might that preparation involve?
- Why is it important for a pharmacy to have a plan for disaster preparedness?
- How could safety hazards and disaster plans vary from one pharmacy setting to another?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Health Professions Events

- Pharmacy Science

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge

I. Assisting the Pharmacist in Serving Patients

- I.1. Knowledge of federal, state, and/or practice site regulations, codes of ethics, and standards pertaining to the practice of pharmacy
- I.2. Knowledge of pharmaceutical, medical, and legal developments which impact on the practice of pharmacy
- I.71. Knowledge of customer service principles

II. Maintaining Medication and Inventory Control Systems
II.22. Knowledge of policies, procedures, and practices regarding storage and handling of hazardous materials and wastes (for example, Materials Safety Data Sheet [MSDS])

III. Participating in the Administration and Management of Pharmacy Practice

 III.8. Knowledge of legal and regulatory requirements for personnel, facilities, equipment, and supplies (for example, space requirements, prescription file storage, cleanliness, reference materials, storage of radiopharmaceuticals)
 III.9. Knowledge of professional standards (for example, JCAHO) for personnel, facilities, equipment, and supplies
 III.12. Knowledge of storage requirements and expiration dates for equipment and supplies (for example, first-aid items, fire extinguishers)
 III.14. Knowledge of hazardous waste disposal requirements
 III.15. Knowledge of procedures for the treatment of exposure to hazardous substances (for example, eyewash)
 III.16. Knowledge of security systems for the protection of employees, customers, and property
 III.18. Knowledge of infection control policies and procedures
 III.19. Knowledge of sanitation requirements (for example, handwashing, cleaning counting trays, countertop, and equipment)
 III.24. Knowledge of documentation requirements for routine sanitation, maintenance, and equipment calibration
 III.25. Knowledge of the Americans with Disabilities Act requirements (for example, physical accessibility)
 III.28. Knowledge of downtime emergency policies and procedures

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**Task Number 59**

**Demonstrate general principles of asepsis.**

**Definition**

Demonstration should include the following:

- Defining *asepsis*
- Explaining why pharmacy staff hand washing is mandatory
- Using correct hand-washing techniques
- Describing the medical aseptic technique
- Explaining when and why the aseptic technique is used in pharmacies
- Explaining the primary methods of disinfection and sterilization
- Cleaning equipment, supplies, work areas, and client areas
Process/Skill Questions

- Why is it mandatory for pharmacy staff to wash their hands often during the workday?
- Why is it important to keep public and behind-the-scenes work surfaces always clean?
- Why is it important for pharmacy staff to use the aseptic technique in various pharmacy processes?
- How can some processes in pharmacy settings where the aseptic technique is critical be described?
- What types of protective clothing are required in an aseptic pharmacy environment and in other types of pharmacy environments?
- What role does protective clothing play in the pharmacy environment?
- When would it be important to wear protective clothing in other types of pharmacy environments?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge

III. Participating in the Administration and Management of Pharmacy Practice

- III.8. Knowledge of legal and regulatory requirements for personnel, facilities, equipment, and supplies (for example, space requirements, prescription file storage, cleanliness, reference materials, storage of radiopharmaceuticals)
- III.9. Knowledge of professional standards (for example, JCAHO) for personnel, facilities, equipment, and supplies
- III.12. Knowledge of storage requirements and expiration dates for equipment and supplies (for example, first-aid items, fire extinguishers)
- III.18. Knowledge of infection control policies and procedures
- III.19. Knowledge of sanitation requirements (for example, handwashing, cleaning counting trays, countertop, and equipment)
- III.24. Knowledge of documentation requirements for routine sanitation, maintenance, and equipment calibration
- III.28. Knowledge of downtime emergency policies and procedures
Task Number 60

Describe standard precautions and infectious disease control measures.

Definition

Description should include the following:

- Explanation of the nature and importance of standard precautions
- Identification of appropriate precautions (e.g., use of personal protective equipment [PPE], such as gloves and masks; use of equipment to reduce hazards [e.g., sharps-disposal containers and ventilation hoods]; use of work practice controls to limit exposure [e.g., hand washing and handling of sharps])
- Identification of microorganisms that produce diseases in humans and ways these microorganisms are spread
- Identification of illnesses related to infections (e.g., AIDS, hepatitis B and C)
- Description of the conditions that promote bacterial growth and reproduction
- Demonstration of the use of standard precautions
- Description of infectious disease control measures (e.g., asepsis, PPE, hand washing)
- Demonstration of infectious disease control measures

See PTCB 2.11, 3.1.
See ASHP 2.8.

Process/Skill Questions

- Why are standard precautions important in the pharmacy environment?
- What precautions and control measures can help prevent the spread of AIDS and hepatitis B and C?
- Why are infectious disease controls critical in the pharmacy environment?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Health Professions Events

- Pharmacy Science

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge
I. Assisting the Pharmacist in Serving Patients

- I.1. Knowledge of federal, state, and/or practice site regulations, codes of ethics, and standards pertaining to the practice of pharmacy
- I.2. Knowledge of pharmaceutical, medical, and legal developments which impact on the practice of pharmacy

II. Maintaining Medication and Inventory Control Systems

- II.22. Knowledge of policies, procedures, and practices regarding storage and handling of hazardous materials and wastes (for example, Materials Safety Data Sheet [MSDS])

III. Participating in the Administration and Management of Pharmacy Practice

- III.8. Knowledge of legal and regulatory requirements for personnel, facilities, equipment, and supplies (for example, space requirements, prescription file storage, cleanliness, reference materials, storage of radiopharmaceuticals)
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- III.19. Knowledge of sanitation requirements (for example, handwashing, cleaning counting trays, countertop, and equipment)
- III.24. Knowledge of documentation requirements for routine sanitation, maintenance, and equipment calibration

Task Number 61

Demonstrate sterilization and sanitation procedures.

Definition

Demonstration could include the following:

- Describing the methods of sterilization
- Identifying the methods of cleaning equipment and supplies
- Describing the methods for donning and removing PPE (e.g., gowns, masks, and gloves)
- Identifying the methods for assisting with a sterile procedure
Process/Skill Questions

- What is the difference between sterilization and sanitation?
- Why are both sterilization and sanitation important in the pharmacy setting?
- What equipment and supplies need to be cleaned by a pharmacy technician?
- When should a pharmacy technician need to wear PPE (i.e., gown, mask, and gloves)?
- When and how might a pharmacy technician assist with a sterile procedure?

HOSA Competitive Events (High School)

Health Professions Events

- Pharmacy Science

Pharmacy Technician Certification Board (PTCB) Examination Required Knowledge

III. Participating in the Administration and Management of Pharmacy Practice

- III.8. Knowledge of legal and regulatory requirements for personnel, facilities, equipment, and supplies (for example, space requirements, prescription file storage, cleanliness, reference materials, storage of radiopharmaceuticals)
- III.18. Knowledge of infection control policies and procedures
- III.19. Knowledge of sanitation requirements (for example, handwashing, cleaning counting trays, countertop, and equipment)
- III.24. Knowledge of documentation requirements for routine sanitation, maintenance, and equipment calibration

Task Number 62

Identify laws and standards concerning infectious and hazardous waste.

Definition

Identification should include

- explaining the role of OSHA in the pharmacy environment
describing information found on a safety data sheet (SDS)
• describing state and federal regulations regarding infectious and hazardous waste
• describing pharmacy-related infectious or hazardous waste
• describing the procedures for the disposal of pharmacy-related infectious or hazardous waste
• explaining patient instructions for the disposal of personal-use hazardous materials (e.g., needles, syringes, narcotic medication patches).

See PTCB 2.1, 2.2.
See ASHP 2.8, 5.6, 5.7, 5.8.

Process/Skill Questions

• What is the difference between infectious and hazardous waste?
• What do OSHA and other federal guidelines say about the handling of infectious and hazardous waste?
• Why are SDS important in a pharmacy environment?
• Why is it important for a pharmacy technician to adhere to OSHA and other federal guidelines, and how is the work of a pharmacy technician affected by these guidelines?

HOSA Competitive Events (High School)

Health Science Events

• Medical Law and Ethics
• Pharmacology

Health Professions Events

• Pharmacy Science

Pharmacy Technician Certification Board (PTCB) Examination Required

Knowledge

I. Assisting the Pharmacist in Serving Patients

• I.1. Knowledge of federal, state, and/or practice site regulations, codes of ethics, and standards pertaining to the practice of pharmacy
• I.2. Knowledge of pharmaceutical, medical, and legal developments which impact on the practice of pharmacy

III. Participating in the Administration and Management of Pharmacy Practice
III.8. Knowledge of legal and regulatory requirements for personnel, facilities, equipment, and supplies (for example, space requirements, prescription file storage, cleanliness, reference materials, storage of radiopharmaceuticals)

III.14. Knowledge of hazardous waste disposal requirements

Introducing Prescription and Over-the-Counter Drugs

Task Number 63

Use pharmaceutical references and resources.

Definition

Use should include

- Orange Book
- Red Book
- Physicians' Desk Reference (PDR)
- Drug Facts and Comparisons
- Handbook on Injectable Drugs
- United States Pharmacopeia and National Formulary (USP-NF)
- online databases.

Process/Skill Questions

- What documentation can be found in the Orange Book?
- What does the USP-NF labeling on a medication mean?
- Which chapters oversee sterile compounding?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Health Professions Events

- Pharmacy Science
Task Number 64

Describe the federal agencies involved in drug approvals, classifications, and recalls.

Definition

Description should include agencies such as the FDA and the DEA.

See PTCB 2.3, 2.4, 2.5.

Process/Skill Questions

- What is the FDA's role in the safety of medication administration?
- What is the duty of the DEA regarding medication regulations?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Health Professions Events

- Pharmacy Science

Task Number 65

Describe the drug classification system.

Definition

Description should include

- prescription drugs
- over-the-counter drugs
- behind-the-counter drugs
- controlled substances schedules I–V
- Schedule VI-Virginia.
Process/Skill Questions

- What drugs are found in Schedules I-IV?
- What drugs are found in Schedule VI-Virginia?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Health Professions Events

- Pharmacy Science

Task Number 66

Explain the naming convention of drugs.

Definition

Explanation should include

- brand names
- generic names
- common prefixes, suffixes, and roots associated with classes (e.g., -olol, mab for monoclonal antibodies).

See PTCB 1.1, 1.2, 1.3, 1.4, 1.5.

Process/Skill Questions

- What is the role of the United States Adopted Names (USAN) in naming drugs?
- What is the role of the manufacturer in naming drugs?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology

Health Professions Events
Task Number 67

Identify the therapeutic classes of drugs.

Definition

Identification should include the top 200 drugs and may include the following classes of medications:

- Analgesics
- Anesthetics
- Anti-infectives
- Antineoplastics
- Cardiovascular agents
- Dental agents
- Dermatologics
- Electrolytes
- Gastrointestinal agents
- Hematologics
- Hormones and modifiers
- Immunobiological agents and vaccines
- Musculoskeletal
- Neurologic, ophthalmic, and otic agents
- Psychotropics
- Respiratory agents
- Urinary tract agents

See PTCB 1.1, 1.3.

Process/Skill Questions

- What class of medication is used for pain relief?
- What class of medications are used with mental health patients?

HOSA Competitive Events (High School)

Health Science Events

- Pharmacology
## Health Professions Events

- Pharmacy Science

## SOL Correlation by Task

<table>
<thead>
<tr>
<th>Task</th>
<th>English: 10.5, 11.5, 12.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the healthcare team.</td>
<td>English: 10.5, 11.5, 12.5</td>
</tr>
<tr>
<td>Describe various pharmacy settings.</td>
<td>English: 10.5, 11.5, 12.5</td>
</tr>
<tr>
<td>Describe the roles and responsibilities of pharmacy professionals.</td>
<td>English: 10.5, 11.5, 12.5</td>
</tr>
<tr>
<td>Maintain American Heart Association cardiopulmonary resuscitation (CPR)/basic life support (BLS).</td>
<td>English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8</td>
</tr>
<tr>
<td>History and Social Science: GOVT.7, GOVT.8, GOVT.9</td>
<td></td>
</tr>
<tr>
<td>Describe the professional organizations, regulatory boards, and credentialing in the field of pharmacy.</td>
<td>English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8</td>
</tr>
<tr>
<td>Research job opportunities for pharmacy technicians.</td>
<td>English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8</td>
</tr>
<tr>
<td>History and Social Science: GOVT.8</td>
<td></td>
</tr>
<tr>
<td>Describe the federal requirements for handling and disposal of non-hazardous, hazardous, and pharmaceutical substances and waste.</td>
<td>English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8</td>
</tr>
<tr>
<td>History and Social Science: GOVT.7, GOVT.9</td>
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<tr>
<td>Describe the federal requirements for controlled substance prescriptions and DEA controlled substance schedules.</td>
<td>English: 10.5, 11.5, 12.5</td>
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<td>History and Social Science: GOVT.7, GOVT.8, GOVT.9</td>
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<tr>
<td>Describe the federal requirements for restricted drug programs and related medication processing.</td>
<td>English: 10.5, 10.8, 11.5, 12.5</td>
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<td>History and Social Science: GOVT.7, GOVT.8, GOVT.9</td>
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<tr>
<td>Describe the current state and federal regulations regarding the practice of pharmacy.</td>
<td>English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8</td>
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<tr>
<td>Explain the role of professional ethics in the pharmacy workplace.</td>
<td>English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5</td>
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<tr>
<td>Task</td>
<td>Required Knowledge</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
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<td>Determine the legal responsibilities of the pharmacy technician.</td>
<td>English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8</td>
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<td>Explain the importance of professional development for pharmacy technicians.</td>
<td>English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8</td>
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<tr>
<td>Demonstrate the basic knowledge of medical terminology, anatomy, and physiology as related to disease states and pharmacy care.</td>
<td>English: 10.3, 11.3, 12.3</td>
</tr>
<tr>
<td>Maintain patient, business, and personal confidentiality.</td>
<td>English: 10.5</td>
</tr>
<tr>
<td>Practice patient and customer service.</td>
<td>English: 10.5</td>
</tr>
<tr>
<td>Demonstrate knowledge of basic medical mathematical skills.</td>
<td>Mathematics: A.1, A.4</td>
</tr>
<tr>
<td>Perform mathematical calculations.</td>
<td>History and Social Science: WHII.6</td>
</tr>
<tr>
<td>Provide a safe, clean, and comfortable environment for the client.</td>
<td>Mathematics: A.1, A.3, A.4, AII.3</td>
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<td>Identify environmental safety hazards, prevention methods, and disaster plans.</td>
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</tr>
</tbody>
</table>

### HOSA Information

Health Occupations Students of America (HOSA), the co-curricular student organization for Health and Medical Sciences, provides many opportunities for students to apply the knowledge, skills, and processes learned in a variety of courses. Information about how HOSA competitive events relate to the Pharmacy Technician I course appears elsewhere in this document.


### Resources


*Career Prospects in Virginia. Pharmacy Technicians.*
"Patient health records privacy." 

"Pharmacy."

"Drug Control Act."


Joint Commission on Accreditation of Healthcare Organizations.


United States Department of Health and Human Services. Centers for Medicare and Medicaid
Acronym Glossary

Appendix: Credentials, Course Sequences, and Career Cluster Information

Industry Credentials: Only apply to 36-week courses

- Certified Pharmacy Technician (CPhT) Examination
- College and Work Readiness Assessment (CWRA+)
- National Career Readiness Certificate Assessment
- Nationally Registered Certified Pharmacy Technician (NRCPhT) Examination
- Workplace Readiness Skills for the Commonwealth Examination

Concentration sequences: A combination of this course and those below, equivalent to two 36-week courses, is a concentration sequence. Students wishing to complete a specialization may take additional courses based on their career pathways. A program completer is a student who has met the requirements for a CTE concentration sequence and all other requirements for high school graduation or an approved alternative education program.

- Health Assisting Careers (8331/36 weeks)
- Introduction to Health and Medical Sciences (8302/36 weeks)
- Introduction to Health and Medical Sciences (8301/18 weeks)
- Pharmacy Technician II (8306/36 weeks, 280 hours)

Career Cluster: Health Science

<table>
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</thead>
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<td>Medical Information Technologist, Medical, Health Services Manager</td>
</tr>
<tr>
<td>Support Services</td>
<td>Communications Equipment Operator, Medical, Clinical Laboratory Technologist, Records Processing Assistant</td>
</tr>
<tr>
<td>Therapeutic Services</td>
<td>Pharmacy Technician</td>
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</table>