Arkansas CTE

Pharmacy Technology: Grades 9, 10, 11, 12

Adopted 2010

The History of Pharmacy

1.1 Define terminology

1. Prepare a list of terms with definitions 1.1.1

1.2 Understand the profession of pharmacy through 4 historical perspectives

1. List/describe 4 historical periods: Traditional/Ancient Era; Scientific/Empiric Era; Clinical/Industrialization Era; Pharmaceutical Care/Patient Care Era 1.2.1

1.3 Identify historical figures in pharmacy

1. Identify historical figures and their contributions to pharmacy: Hippocrates, Galen, Aristotle, Mithridates 1.3.1

The Profession of Pharmacy

2.1 Define terminology

1. Prepare a list of terms with definitions 2.1.1

2.2 Identify professional organizations associated with pharmacy

1. List the education requirements to be a pharmacist and a pharmacy technician 2.2.1
2. List the career opportunities for a pharmacist and a pharmacy technician 2.2.2
3. Describe the work environment of a pharmacist and a pharmacy technician 2.2.3
4. Apply professional conduct and communication in a pharmacy environment 2.2.4

2.3 Identify professional organizations associated with pharmacy

1. Identify the most common pharmacy organizations: American Association of Pharmacy Technicians; National Pharmacy Technician Association; American Pharmacists Association; American Society of Health System Pharmacists; The Pharmacy Technician Certification Board 2.3.1

2.4 Understand code of ethics related to pharmacy

1. Demonstrate code of ethics for pharmacy technicians 2.4.1

Skip to main content

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Define terminology

1. Prepare a list of terms with definitions 3.1.1

3.2 Identify common abbreviations and symbols used in pharmacy

1. Interpret abbreviations and symbols used in pharmacy 3.2.1

3.3 Distinguish between brand/trade name and generic drug names

1. Identify and pronounce brand/trade names and generic drug names correctly 3.3.1

3.4 Identify pharmacy terminology

1. Identify and explain pharmaceutical terms such as prefixes, suffixes, and root words in their proper context 3.4.1
2. Interpret prescription orders using pharmacy terminology 3.4.2

3.5 Identify professional jargon in pharmacy

1. Identify professional jargon in pharmacy and its use within the proper context 3.5.1

Pharmacy Law and Safety

4.1 Define terminology

1. Prepare a list of terms with definitions 4.1.1

4.2 Discuss various laws related to pharmacy

1. Identify and distinguish between state and federal regulations: Controlled Substance Act and their five schedules, Food, Drug and Cosmetic Act, Drug Listing Act, Durham-Humphrey Amendment, HIPAA, Kefauver-Harris Amendment, Poison Prevention Packaging Act 4.2.1
2. Identify the federal agencies that regulate pharmacy: DEA, FDA, OSHA, 4.2.2
3. Identify pharmacy related legal terms 4.2.3
4. Identify violations and penalties of pharmacy law 4.2.4

4.3 Examine infection control techniques: disenfecting, handwashing, Material Safety Data Sheet (MSDS), safe operation of equipment, Personal Protection Equipment (PPE), sterilization, universal precautions

1. Identify and demonstrate infection control techniques and safety guidelines 4.3.1
2. Use safety guidelines for pharmacy technicians 4.3.2

Dosage Forms and Routes of Administration

5.1 Define terminology

1. Prepare a list of terms with definitions 5.1.1

5.2 Define and differentiate dosage form and route of administration

Skip to main content

1. Identify various dosage forms used in pharmacy 5.2.1
2. Identify various routes of administration 5.2.2

3. Examine techniques for routes of administration and their advantages and disadvantages 5.2.3

Retail/Community Pharmacy

6.1 Define terminology

1. Prepare a list of terms with definitions 6.1.1

6.2 Identify how prescriptions are received, processed, and checked

1. Demonstrate how prescriptions are prepared and dispensed 6.2.1
2. Demonstrate how prescriptions are packaged and delivered 6.2.2

6.3 Describe how prescriptions are dated, numbered, and labeled

1. Demonstrate process for dating, numbering and labeling prescriptions 6.3.1
2. Identify requirements for refilling prescriptions 6.3.2

6.4 Analyze parts of a prescription stock label

1. Identify parts of a stock label: storage/handling requirements, expiration date and lot number, package size, NDC number, brand name, generic name, dosage form, strength per unit dose, legend label, and manufacturer 6.4.1

6.5 Understand the importance of the NDC numbers

1. Identify parts of an NDC number: Manufacturer, product, pack size 6.5.1
2. Understand the role of the NDC number in preventing medication errors 6.5.2

6.6 Understand organizational structure in retail pharmacy

1. Identify organizational structure in retail pharmacy 6.6.1

Hospital Pharmacy

7.1 Define terminology

1. Prepare a list of terms with definitions 7.1.1

7.2 Identify how medication orders are received, processed, and checked in a hospital

1. Demonstrate how medication orders are prepared and dispensed 7.2.1
2. Demonstrate how medication orders are packaged and delivered 7.2.2

7.3 Describe how medication orders are dated, numbered, and labeled in a hospital

1. Demonstrate process for dating, numbering and labeling prescriptions 7.3.1

7.4 Analyze parts of medication containers

1. Identify parts of a medication container: Unit dose, IV bags, syringe, floor stock, cart fill 7.4.1

Skip to main content

7.5 Understand organizational structure in a hospital pharmacy

1. Identify organizational structure in a hospital pharmacy `7.5.1`

Compounding

8.1 Define terminology

1. Prepare a list of terms with definitions `8.1.1`

8.2 Analyze the components of equipment used in compounding

1. Identify the equipment and procedures used for compounding `8.2.1`

8.3 Explain the various techniques used in compounding

1. Demonstrate the proper techniques for measuring, weighing, and compounding medications `8.3.1`

Pharmacy Math

9.1 Define terminology

1. Prepare a list of terms with definitions `9.1.1`

9.2 Examine four units of measurement: apothecary, avoirdupois, household, and metric systems

1. Identify and convert four units of measurement in: temperature, time, volume, and weight `9.2.1`
2. Identify use of percentages, ratios, and proportions in pharmacy `9.2.2`
3. Apply use of fractions and decimals in pharmacy `9.2.3`

9.3 Identify use of military time

1. Convert standard time to military time `9.3.1`

9.4 Examine Clark's rules and Young's rules

1. Identify Clark's rules and Young's rules and their uses in pediatric doses `9.4.1`

9.5 Examine body surface area

1. Identify body surface area in calculating doses `9.5.1`

Pharmacology

10.1 Define terminology

1. Prepare a list of terms with definitions `10.1.1`

10.2 Examine medications and drug classes

1. Identify medications `10.2.1`
2. Identify the most common drug classes as they relate to medical conditions and body systems `10.2.2`

Define terminology

1. Prepare a list of terms with definitions 11.1.1

11.2 Discuss the 3 main types of purchasing

1. Identify independent, group, and time purchasing 11.2.1

11.3 Explains cost analysis and cost control

1. Identify cost analysis and cost control 11.3.1

11.4 Describe the products reviewing process

1. Identify the steps invovled when medications and products are received in hospital or retail pharmacies 11.4.1

11.5 Discuss the main components involved in a modern record keeping system

1. Identify the 3 main components of a modern record keeping system 11.5.1

11.6 Describe various examples of medical insurance coverage

1. List and describe the 3 main types of insurances: private, managed care programs, government plans 11.6.1

Career and Technical Student Organizations (SkillsUSA / HOSA)

12.1 Define terminology

1. Prepare a list of terms with definitions 12.1.1

12.2 Outline a self-assessment and identify individual learning styles

1. Show individual strengths 12.2.1
2. Show areas in need of improvement 12.2.2

12.3 Describe self-motivation techniques and establish short-term goals

1. Prepare a list of short-term goals 12.3.1
2. Discuss ways to change or improve lifestyle appearance and behavior 12.3.2

12.4 Give examples of individual time-management skills

1. Prepare and maintain a time journal 12.4.1
2. Outline ways to improve time management skills 12.4.2

12.5 Predict future occupations

1. Research the Internet to explore for career opportunities within specified fields of 12.5.1
2. Prepare a presentation on a specified career area 12.5.2

12.6 Identify the customer

1. Differentiate between external and internal customers 12.6.1
2. Identify factors which contribute to poor customer relationships 12.6.2

Skip to main content

12.7 Identify the benefits of doing a community service project

1. Outline ways to become involved in the community `12.7.1`
2. Develop a community service project `12.7.2`

12.8 Describe effective communication with others

1. Note personal barriers to listening `12.8.1`
2. Relate a personal plan to overcome barriers to listening `12.8.2`

12.9 Give locations for a shadowing activity

1. Summarize and relate an experience of job shadowing activity `12.9.1`

12.10 Identify the components of an employment portfolio

1. Present parts of a portfolio `12.10.1`
2. Compile a personal employment portfolio for an interview `12.10.2`

12.11 List proficiency in program competencies

1. Construct an interpersonal competency assessment `12.11.1`

12.12 Describe how to measure/modify short-term goals

1. Discuss how to pursue short-term goal(s) `12.12.1`

12.13 Identify stress sources

1. Prepare a list of personal sources of stress `12.13.1`
2. Outline techniques to cope with individual sources of stress `12.13.2`

12.14 Identify characteristics of a positive image

1. List behaviors and traits that lead to a positive image `12.14.1`
2. Note behaviors and traits that lead to a negative image `12.14.2`

12.15 Describe how team skills can be applied to a group project

1. Form a team to develop a class project `12.15.1`
2. Prepare a critique of the meeting attended `12.16.2`

12.17 List business meeting skills

1. Relate the basic rules required to ensure an orderly and business-like meeting `12.17.1`
2. Demonstrate with role-playing to illustrate appropriate meeting skills `12.17.2`

Skip to main content

12.18 Outline a survey for employment opportunities

1. Compile information on a particular employment opportunity of interest `12.18.1`
2. Perform an internet search of a specific career area `12.18.2`

12.19 Select a professional journal for review and develop a three to five minute

1. Prepare a presentation on the content, purpose, and distribution of a particular professional journal `12.19.1`

12.20 Identify customer expectations

1. List customer expectations `12.20.1`
2. Discover the consequences of unmet customer expectations `12.20.2`

12.21 List parts of a job application

1. Prepare a job application from various businesses in the community `12.21.1`
2. Demonstrate a mock job interview `12.21.2`

12.22 Outline your employment portfolio

1. Construct a personal employment portfolio `12.22.1`

12.23 Identify supervisory and management roles in an organization

1. Prepare an organizational chart `12.23.1`
2. Outline the responsibilities of managers and supervisors `12.23.2`

12.24 Outline safety issues

1. Research safety issues within a given career area `12.24.1`