ELIM OUTREACH TRAINING CENTER

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PHARMACY TECHNICIAN PROGRAM

Revised 7/2015

PHARMACY TECHNICIAN CATALOG
STUDENT HANDBOOK

Pharmacy Technician Program

At the time of publication, all material enclosed herein is current, true, and correct and represents policies of ELIM Outreach Training Center. All curricula offered are aimed for those who desire to enter allied health careers or those who desire a career change.

ELIM Outreach Training Center is not accredited by an accrediting body recognized by the U.S. Department of Education.

ELIM Outreach Training Center is approved to operate by the Private Business and Vocational Schools Division of the Illinois Board of Higher Education.

PHRMACY TECHNICIAN
ADMISSION REQUIREMENTS

Prerequisites:

1. **High school diploma or equivalent**
2. **Fine motor coordination (good manual dexterity and hand/eye coordination)**
3. **Good visual acuity to distinguish color**
4. **Able to hear at normal levels**
5. **Ability to stand for extended periods of time**
6. **Must display flexibility, accept and integrate constructive criticism at all times.**
7. **9th grade reading and math levels**
8. **Completed a high school science course**

A Certificate of Completion will be issued when the student completes:

1. **60 hours (theory and simulated laboratory)**
2. **Pass the course with a "C" or better**
3. **Participate in all simulated laboratory**
4. **His or her financial obligations are satisfied**

PHARMACY TECHNICIAN

SYLLABUS/Course Objectives

Certification as a Pharmacy Technician is taught through didactic, laboratories and simulated clinics. Students successfully completing course work shall master a variety of routine tasks performed in pharmacies under the supervision of a registered pharmacist.

Graduates of the pharmacy technician program are eligible to take the Certification Exam.

The duration of the program is 11 weeks, which includes 60 clock hours.

Course Objectives:

Graduates of this program shall:

1. **Possess the proficiency to successfully pass the Certification Exam**
2. **Demonstrate a basic knowledge of pharmaceutical terminology**
3. **Demonstrate a working knowledge of drug regulation and control**
4. **Explain the role of a pharmacy technician**
5. **Know how to perform basic calculations**
6. **State the difference between community pharmacy and hospital pharmacy**
7. **Have an understanding of basic biopharmaceutics**
8. **Explain and demonstrate routes of administration and formulations**
9. **Understand financial issues and inventory management**
10. **Demonstrate a working knowledge of aseptic techniques**

Pharmacy Technician Course Description

Pharmacy Technicians work in pharmacies under the supervision of a pharmacist. Their main responsibility is filling prescriptions according to doctor's orders.

Pharmacy technicians have a variety of responsibilities, depending on State laws and guidelines. Technicians receive written prescriptions or requests for prescription refills from clients. They must confirm that all information on the prescription is complete and exact. To put the prescription into order, technicians must retrieve, count, pour, weigh, measure, and sometimes mix the medication.

Pharmacy technicians work with drugs to be administered orally, topically, for the eyes, nose, and in the admixture of drugs for intravenous use. They work in hospitals, home infusion pharmacies, community pharmacies, retail pharmacies and other health care settings.

ELIM'S Pharmacy Technician program will prepare students to enter the pharmaceutical industry and to take the Pharmacy Technician Board's PTCB exam or affiliated national certification exams.

According to the Bureau of Labor Statistics , employment for the Pharmacy Technician is expected to increase much faster than average by 32 percent from 2006 to 2016, which is much faster than the average for all occupations and job opportunities are expected to be good. (www.state.bls.gov)

Pharmacy Technician
Tuition

COURSE DESCRIPTION:

Certification as a Pharmacy Technician has a variety of responsibilities depending on State Laws and guidelines. Technicians receive written prescriptions or request for prescription refills from clients. They must confirm that all information on the prescription in complete and exact. To put the prescription in order, technicians must retrieve, count pour, weigh, measure and sometime mix the medication. ELIM's Pharmacy technician program will prepare students to enter the pharmaceutical industry and to take the Pharmacy Technician National Exam.

COST:		
Tuition/Registration	$ 700.00	
Book(s):	$ 210.00	
Fees:	$ 70.00	
Total :		**$980.00**
Other: (Items needed)	**$240.00**	
Uniform	$25.00	
Shoes	$25.00	
CPR	$60.00	
National Exam	$130.00	
Total Cost:		**$1220.00**

Under the law you have the right, among others, to pay full amount due and to obtain under certain conditions a partial refund of financial charges if applicable. (ELIM does not charge finance charges. A late fee of 10% will be added to all late payments)

Method of Payment: Money Order, or Cashier's Check. **SORRY, WE DO NOT ACCEPT CASH OR PERSONAL CHECKS.**

Please see your contract regarding registration fee and amount due on the first day of class (book(s) will be issued with first payment

*Supplies may be purchased from ELIM or you may purchase uniforms and other supplies at: Wal-Mart, Work N Gear, and Life Uniform. Please consult the yellow book for a location near you.

Pharmacy Technician
Required Textbooks

Textbooks Information:

Main Textbook

1. The Pharmacy Technician, Third Edition

By: Perspective Press

This book is designed to equip the pharmacy technician student with basic knowledge, understanding and skills to work in the pharmaceutical industry.

Reference Books Needed

A. The Pharmacy Technician *Workbook & Certification Review* , Third Edition

By: Perspective Press

This workbook will aid the student in preparing for the National Exam. It outlines key concepts and practice problems to refresh students knowledge and skills.

B. Complete Math Review *for the Pharmacy Technician*, Second Edition
By: William A. Hopkins, Jr., PharmD, RPH, FACA

This book offers basic math functions and slowly progress to more challenging issues. It will also serve as a reference book for the pharmacy technician student.

PHARMACY TECHNICIAN
COURSE OUTLINE

Unit 1

Pharmacy and Health Care

A. Introduction
B. Overview of Medicine past and present
C. Pharmacy today
D. The computer system

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **State the origins of medicine**
2. **List 5 contributors and their contributions to medicine**
3. **State the importance of the pharmacist, pharmacy setting, and current economic trends**
4. **Explain the component of the computer systems**

Unit 2

The Pharmacy Technician

A. Personal Criterions
B. Preparation and Proficiency
C. Certification

Unit Objectives
_____At the end of this unit the student will be able to:

1. **Explain the role of the pharmacy technician**
2. **List personal qualities technicians should possess**
3. **Explain training and competency requirements**
4. **List the requirements for the Pharmacy Technician Certification Exam**

Unit 3

Drug Regulation and Control

A. Regulation and control
B. New drug approval
C. Marketed Drugs
D. Behind the counter drugs/OTC medications
E. Labels
F. Controlled substances
G. DEA forms
H. Public safety
I. Law and the Technician

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **List several agencies involved with drug regulation and their requirements**
2. **State how new drugs are approved**
3. **Explain why drugs are patent or marketed**
4. **Give names and reasons why some drugs are kept behind the counter**
5. **Identify information found on sample labels**
6. **Discuss the five groups of drugs identified as controlled substances**
7. **Describe the commonly used DEA forms**
8. **Discuss how FDA monitors adverse reactions of drugs**
9. **Differentiate between federal law, state law, liability and other standards that assure Compliance**

Unit 4

Pharmaceutical Terminology

- **A. Terminology**
- **B. Organ system terminology**
- **C. Senses**
- **D. Prefixes/Suffixes**
- **E. Drug classifications**
- **F. Medical Abbreviations**

Unit Objectives:
_____At the end of this unit the student will be able to :

1. **Define key terms related to Pharmaceutical terminology**
2. **State names for body structures and parts of organ systems that form root words**
3. **Know root words that relates to sense organs**
4. **Differentiate between prefixes and suffixes and give examples of each**
5. **Interpret drug classification names**
6. **Know common medical abbreviations related to medical and pharmaceutical use**

Unit 5

Prescriptions

- **A. Pharmacy abbreviations**
- **B. Prescriptions information**
- **C. The fill process**
- **D. Labels**
- **E. HIPAA**

Unit Objectives:

At the end of this unit the student will be able to:

1. **State the prescription process**
2. **Know common abbreviations**
3. **Give the elements of the prescription**
4. **Define the fill process and what factors should be considered when filling prescriptions**
5. **Tell what information is placed on the prescription label**
6. **Define HIPAA**

Unit 6

Calculations

- **A. Numbers**
- **B. Fractions**
- **C. Decimals**
- **D. Measurement**
- **E. Equations & Variables**
- **F. Ratio and Proportion**
- **G. Percents & Solutions**
- **H. Children's doses**
- **I. Calculations for business**

Unit Objectives:

At the end of this unit the student will be able to:

1. **Understand the different number forms, measurement units and mathematical operations**
2. **Define fraction and correctly convert fractions to decimals**
3. **Convert one type of measurement to another so that both amounts are equal**
4. **Differentiate between equations and variables and solve for the unknown**
5. **Know the steps for solving proportion problems**
6. **Solve percents & solution problems**
7. **Calculate children's doses by Clark's rule and body surface area formula**
8. **Calculate the retail price using the formula AWP**

Unit 7

Routes and Formulations

- **A. Oral formulations**
- **B. Sublingual & Buccal**
- **C. Rectal**
- **D. Parental Routes**
- **E. Intravenous Formulations**
- **F. Intramuscular**
- **G. Subcutaneous**
- **H. Intradermal**
- **I. Inhalation**
- **J. Dermal**
- **K. Vaginal**

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **State why some drugs are administered orally**
2. **Define sublingual and state why this route is used**
3. **Give several reasons why medications are given the rectal route**
4. **List four parenteral routes and describe each**
5. **Locate intravenous sites and state several complications**
6. **Name the different intramuscular sites and define the Z-tract injection**
7. **List several advantages and disadvantages of using the subcutaneous routes**
8. **Give the usual site(s)for intradermal injections and when they are used**
9. **State the intended system for inhalation drugs**
10. **List the three layers of the skin and list several advantages of dermal administration**
11. **List the different formulations for the vaginal route**

Unit 8

Parenterals

- **A. LVP Solutions**
- **B. SVP Solutions**
- **C. Administration Devices**
- **D. Syringes & Needles**
- **E. Filters**
- **F. Laminar Flow Hoods**
- **G. Biological Safety Cabinets**
- **H. Aseptic Technique**
- **I. Working with Vials**
- **J. Working with Ampules**

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **List parenterals routes**
2. **State the difference between LVP solutions and SVP solutions**
3. **Know administration devices and when they are use**
4. **Give the basic parts of syringes and needles**
5. **Define the types of filters and state how each works**
6. **List the types of Laminar flow hoods and gives examples of each**
7. **Give the purpose of the biological safety cabinets**
8. **State the guidelines for Aseptic Techniques**
9. **Explain how vials and ampules are used.**

Unit 9

Compounding

1. **Regulations/Considerations**
2. **Stability and Beyond-Use dates**
3. **Equipment**
4. **Liquid measurement**

5. **Selecting a liquid measuring device**
6. **Dropper**
7. **Graduate Cylinder**
8. **Single Volume Pipets**
9. **Calibrated Pipets**
10. **Syringes/Oral Syringes**
11. **Mixing Solids and Semi Solids**
12. **Compounding Principles for select forms**
    - **a. Solutions**
    - **b Suspensions**
    - **c. Flavoring**
    - **d Sweetners**
    - **e. Flavoring**
    - **f. Coloring**
    - **g. Emulsions**
    - **h. Ointments**
    - **i. Suppositories**
    - **j. Capsules**

Unit Objections:

_____ At the end of this unit the student will be able to:

1. **State several reasons why compounding is done**
2. **Understand the USP standards and state the guidelines recommended for records to be kept in the compounding area**
3. **Define Stability and Beyond-use-date**
4. **Know the type of equipment necessary for compounding**
5. **Know the appropriate techniques using a balance scale**
6. **Differentiate between volumetric vessels**
7. **Select the correct liquid measuring device**
8. **State different terms used for mixing solids and semisolids**
9. **Define key descriptive forms related to compounding**

Unit 10

Basic Biopharmaceutics

- **A. How drugs work?**
- **B. Concentration & Effect**
- **C. ADME process and diffusion**
- **D. Absorption**
- **E Distribution**
- **F. Metabolism**
- **G. Excretion**
- **H. Bioequivalence**

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **Identify how drugs are able to interact with certain receptors**
2. **Determine drug concentrations in the body's fluids**
3. **Identify the four ADME processes**
4. **Define absorption and state how the process of absorption works**
5. **State how the blood flow rates to certain organs have a major effect on distribution**
6. **State the primary site of drug metabolism in the body**
7. **Tell how most drugs and their metabolites are excreted**
8. **Define bioequivalence and FDA related types of bioequivalence**

Unit 11

Factors Affecting Drugs Activity

- **A. Human Variability**
- **B. Adverse Drug Reactions**
- **C. Drug-Drug Interactions**
  1. **Absorption**
  2. **Distribution**
  3. **Metabolism**
  4. **Excretion**
- **D. Drug-Diet Interactions**
- **E. Disease States**

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **State how age, gender, weight and genetics factors influence the differences in response to medication among people**
2. **State several common adverse drug reactions**
3. **Give several examples of drug-drug interactions**
4. **Identify the importance of administration times of drugs and food intake**
5. **Tell why drug action can be altered due to a pathological conditions**

Unit 12

Information

- **A. Information**
- **B. Common References**
- **C. Occupational Information**
- **D. Occupational Information on the Internet**
- **E. Training Programs**
- **F. Organization and Publication**
- **G. Certification Exam Preparation**
- **H. Continuing Education**
- **I. Professional Liability**

Unit Objections:

_____ At the end of this unit the student will be able to:

1. **Obtain information and become familiar with the various pharmaceutical literature**
2. **Use pharmaceutical reference information**
3. **Connect to the internet for pharmacy literature and reference information**
4. **Obtain certification requirements through PTCB**

Unit 13

Inventory Management

- **A. Inventory Management**
- **B. Inventory Systems**
- **C. Computers & Inventory**
- **D. Ordering**
- **E. Forms**
- **F. Stocking & Storing**

Unit Objectives:

_____ At the end of this unit the student will be able to:

1. **Define inventory and name the participants in the inventory environment**
2. **State the purpose of the inventory systems**
3. **Identify key computer considerations**
4. **State how orders are generated**
5. **Know how to complete the returns form**
6. **List information found on "stock bottles" and knows how drugs are stocked and packaged**

Unit 14

Financial Issues

- **A. Financial issues**
- **B. Third Party Programs**
  - **Private Health Insurance**
  - **Managed Care**
  - **Public Health Insurance**
  - **Other Programs**
- **C. Online Adjudication**
- **D. Rejected claims**

Unit Objectives:

_____ At the end of this unit the student will be able to:

1. **Know key terms related to financial issues**
2. **Recognize the different managed care programs**
3. **Give details about the online process and state several facts about Dispense As Written (DAW)**
4. **Understand how to handle paper claim rejects and resolve rejections**

Unit 15

Community Pharmacy

A. Organization
B. Customer Service
C. Processing Prescriptions
D. Preparing prescriptions
E. Final check by the pharmacy
F. Customer Pick up
G. Using a Cash Register

Unit Objectives:
At the end of this unit the student will be able to:

1. **State the responsibilities of a community or retail pharmacy and list types of community pharmacies**
2. **Know what elements are needed for good organization**
3. **Know how to respond to customers at the counter or over the telephone in a professional manner**
4. **Understand how to efficiently and accurately process prescriptions**
5. **State the steps to preparing the prescription**
6. **Prepare prescription for customer pick-up and know how to ring up prescriptions into the cash register and accept payment for them.**

Unit 16

Hospital Pharmacy

A. Hospital pharmacy
B. Key Technician
  1. Responsibilities
C. The Health Care Team
D. Hospital Pharmacy Areas
E. USP 797
F. Pharmacy Satellites
G. Organization of Medications
H. Hospital Formulary
I. Unit Dose System
J. Communication
K. Computer System
L. Medical Records
M Medication Orders
N. Order Process
O. Inventory Control
P. Sterile Products
Q. General Hospital Issues
R. Hospital Pharmacy Calculations

Unit Objectives:
_____ At the end of this unit the student will be able to:

1. **Define hospital pharmacy**
2. **List key technician responsibilities**
3. **Know the different types of health care professionals involve in the patients care**
4. **State key terms related to the hospital pharmacy area**
5. **Understand USP 797**
6. **List several examples of pharmacy satellites**
7. **State why medications are organized according to a precise system**
8. **Know key terms related to hospital formulary and common hospital IV medications**
9. **Define unit dose and list the different types of packages used for unit dose meds**
10. **Know different techniques pharmacy personnel use to interact with staff from other Units**
11. **Know what information is contained in the medical record**
12. **Understand the different types of medication orders**
13. **Differentiate between manual order processing and automated order processing**
14. **Recognize the importance of inventory control**
15. **Know key steps involved in preparing sterile products correctly**
16. **Understand the characteristics of regulatory agencies within the hospital**
17. **Perform hospital pharmacy calculations**

Unit 17

Other Environment

- **A. Mail Order Pharmacy**
- **B. Long Term Care**
- **C. Home Infusion**

Unit Objectives:
_____ At the end of this unit the student will be able to:

1. **Define mail order pharmacy**
2. **Define long-term care and list two types of functions pharmacists perform for long-term care**
3. **Understand home infusion and list several primary home infusion therapies**

PHARMACY TECHNICIAN
COURSE HOURS BREAKDOWN

Unit	Title	Hours / Page	*Text*	*Workbook*
1.	Pharmacy and Health Care	2	2	2
2.	The Pharmacy Technician	3	18	8
3.	Drug Regulation and Control	2	30	20
4.	Pharmaceutical Terminology	5	52	30
5.	Prescriptions	3	76	40
6.	Calculations	6	94	60
7.	Routes and Formulations	4	142	70
8	Parenterals	3	172	80
9.	Compounding	6	202	94
10.	Basic Biopharmaceutics	4	236	108
11.	Factors Affecting Drug Activity	3	252	118
12.	Information	3	268	124
13.	Inventory Management	3	282	130
14.	Financial Issues	3	298	136
15.	Community Pharmacy	3	316	142
16.	Hospital Pharmacy	5	334	150
17.	Other Environments	2	364	162
	Total	60		

No prerequisites needed to advance from unit to unit. Students must maintain a 80% on all exams to pass the course.

PHARMACY TECHNICIAN CLASS SCHEDULE

Week	Day	Lesson	Text Assignment	Reading Assignment
1	FRIDAY	Orientation ½ Day		Introduction Policies and Procedures Introduction to common medications Workbook: Chapter 1: Do questions on pg.7-10
2		Lecture	Chapters 1-3	Homework Due Prescriptions, Medication Orders, and Legal considerations. Workbook: Chapter 2 pg. 17-20
3		Quiz Lecture Lab: (Math)	Chapters 1-3 Chapters 4-5	Introduction to Prescription Metric System/Roman Numerals Temperature Basic Pharmacology/Dosage Forms Chapter 3 pg. 29-32 Drug cards from table 3-1 .
4		Quiz Lecture Lab: (Math)	Chapters 4-5 Chapters 7-9	Material used in Pharmacy prescriptions Gross and Net Profit Introduction to converting between systems. Anti-Infective and Immunology Medication. Chapter 4 pg. 45-52 Drug cards
5		Quiz Lecture Lab: (Math)	Chapters 7-9 Chapters 10-11	Hand-washing Prescription Conversions Cardiovascular Medications Chapter 5 pg 73-83
6		Quiz Lecture Lab (Math)	Drug Exam Chapters 12-13	Prescriptions Children's dosages Study for Midterm
7		**Midterm Exam** **Balance must be current to take the midterm exam.**	Chapters 1-11	Home-work Diabetes and Thyroid medications Chapter 6 page: 95-102 Drug cards

8		Quiz Lecture Lab: (Math)	Chapters 12-13 Chapters 14-15	Prescriptions/Day's supply Review Dosage calculations Muscular and Skeletal Medications Chapter 7, pg. 123-131 Drug cards from pgs. 123-125
				Application for State License to be completed. See the instructor
9		Quiz Lecture Lab ;(Math)	Chapters 14-15 Chapters 16-17	Exam /Prescriptions Allocations Nervous System Medication, pg. 153-161 Drug cards from pages 153-156
10		Quiz Lecture Lab	Chapters 16-17	Prescriptions Respiratory, Gastrointestinal, Eye, Ear, Nose, Mouth and Throat Medications Study for Final Exam Instructor please turns in clinical lab sheet for my signature. Mrs. Triplett

11		Final Exam		1.Teacher evaluation, exit interview 2. National exam application information

12				Certificate pick up

Class is schedule to start at 9:30pm. There will be one 15 minute break (per instructor).
All students must pass all exams with a 80% or better. If you score less than the required 80% please see your instructor as soon as possible.

- **Class calendar is subject to change without notice**
- **Student must be in uniform at all times**
- **Please see your handbook for other policies.**