

HED-51 – Pharmacy Technician Certificate Program with Clinical Externship

Professional Education Course Syllabus

Program includes National Certification & a Clinical Externship Opportunity

Course Contact Hours: 50

The Pharmacy Technician Profession

The need for Pharmacy Technicians continues to grow with demand expected to increase substantially. Technicians work under the supervision of a registered pharmacist in hospitals, home infusion pharmacies, community pharmacies and other healthcare settings. This high demand for pharmacy technicians is the result of a multitude of factors including the constant availability of new drugs, the national shortage of registered pharmacists, the establishment of certified pharmacy technicians, and the aging population. Approximately 400,000 technicians are expected to be employed in the 2020's to meet our nation's growing healthcare demands.

The Pharmacy Technician Program

This comprehensive course will prepare students to enter the pharmacy field and take the Pharmacy Technician Certification Board's PTCB exam. Course content includes pharmacy medical terminology, reading and interpreting prescriptions and defining generic and brand names drugs and much, much more! Program also includes a clinical externship at a local healthcare provider! This program will prepare students to enter the pharmacy field and to pursue certification including the Pharmacy Technician Certification Board's PTCB exam. This course covers the following key areas and topics:

- Pharmacy calculations
- Medical terminology specific to the pharmacy
- Skills to read and interpret prescriptions
- Review of the top 200 drugs
- Skills to identify drugs by generic and brand names
- Dosage calculations, I.V. flow rates, drug compounding, and dose conversions
- Dispensing of prescriptions, inventory control, and billing and reimbursement

Education and National Certifications

- Pharmacy Technicians should have or be pursuing a high school diploma or GED.
- There are no state approval and/or state requirements associated with this program.
- Students who complete this course are prepared for national certification:
 - **Pharmacy Technician Certification Board (PTCB) national technician certification exam**

Pharmacy Technician Detailed Course Information:

- The history of pharmacy and healthcare

- Pharmacy technician role and responsibilities
- Pharmacy technician certification and registration process
- Types of pharmacies including the hospital pharmacy, retail practice, long-term care practice, mail order pharmacy, home care pharmacies, and others
- Drug regulation and control
- Pharmaceutical terminology and related anatomy
- Parts of the prescription and labeling; Pharmacy calculations and math review
- Pharmacy measures and abbreviations; Routes and formulations
- Parenterals and compounding
- Basic biopharmaceutics
- Aseptic technique and the handling of sterile products
- Total Parenteral Nutrition (TPN)
- Basics of IV solutions and calculating 24-hour supply of IV solutions
- Factors affecting drug activity
- Information and pharmacy resources
- Inventory management and financial issues
- Brand names and generic drugs; Drug names and drug classes

National Certification

Students who complete the Pharmacy Technician program will be prepared to sit for the Pharmacy Technician Certification Board (PTCB) national technician certification exam. In order to work as a pharmacy technician, many states nationwide are requiring that technicians achieve national PTCB technician certification prior to working in that state. Students who complete this program are encouraged to complete the clinical externship option with their program. This comprehensive program is designed to prepare students to sit for this PTCB national certification exam. Students who complete this program can and do sit for the PTCB national certification exams and are qualified, eligible and prepared to do so.

Clinical Externship / Hands on Training / Practicum

Although not a requirement of this program, once students complete the Pharmacy Technician program they have the ability to participate in a clinical externship and/or hands on practicum so as to practice the skills necessary to perform the job requirements of a Pharmacy Technician. Students will be assisted with completing a resume and/or other requirements necessary to work in a hospital, physicians practice, clinic and/or with other healthcare organizations. All students who complete this program are eligible to participate in an externship and will be placed in a healthcare organization near their location.

Course Overview

History of Pharmacy Practice

- Lesson 1 – History of Pharmacy Practice
 - Reading Assignment: Chapter 1 (pp. 1-11)
- Lesson 2 – The Professional Pharmacy Technician
 - Reading Assignment: Chapter 2 (pp. 12-26)
- Lesson 3 – Communication and Customer Care
 - Reading Assignment: Chapter 3 (pp. 27-41)
- Lesson 4 – Pharmacy Laws and Ethics
 - Reading Assignment: Chapter 4 (pp. 42-62)
- Lesson 5 – Terminology and Abbreviations
 - Reading Assignment: Chapter 5 (pp. 63-112)

Retail Pharmacy

- Lesson 6 – Retail Pharmacy
 - Reading Assignment: Chapter 6 (pp. 113-132)
- Lesson 7 – Health-System Pharmacy
 - Reading Assignment: Chapter 7 (pp. 133-149)
- Lesson 8 – Technology in the Pharmacy
 - Reading Assignment: Chapter 8 (pp. 150-161)
- Lesson 9 – Inventory Management and Health Insurance Billing
 - Reading Assignment: Chapter 9 (pp. 162-173)
- Lesson 10 – Introduction to Compounding
 - Reading Assignment: Chapter 10 (pp. 174-188)
- Lesson 11 – Introduction to Sterile Products
 - Reading Assignment: Chapter 11 (pp. 189-204)

Basic Math Skills

- Lesson 12 – Basic Math Skills
 - Reading Assignment: Chapter 12 (pp. 205-227)
- Lesson 13 – Measurement Systems
 - Reading Assignment: Chapter 13 (pp. 228-243)
- Lesson 14 – Dosage Calculations
 - Reading Assignment: Chapter 14 (pp. 244-268)
- Lesson 15 – Concentrations and Dilutions
 - Reading Assignment: Chapter 15 (pp. 269-286)
- Lesson 16 – Allegations
 - Reading Assignment: Chapter 16 (pp. 287-303)
- Lesson 17 – Parenteral Calculations
 - Reading Assignment: Chapter 17 (pp. 304-324)

The Body and Drugs

- Lesson 18 – Dosage Formulations and Administration
 - Reading Assignment: Chapter 18 (pp. 325-347)
- Lesson 19 – The Body and Drugs
 - Reading Assignment: Chapter 19 (pp. 348-370)
- Lesson 20 – Drug Classifications
 - Reading Assignment: Chapter 20 (pp. 371-397)
- Lesson 21 – The Skin
 - Reading Assignment: Chapter 21 (pp. 398-405)
- Lesson 22 – Eyes and Ears
 - Reading Assignment: Chapter 22 (pp. 406-415)
- Lesson 23 – The Gastrointestinal System
 - Reading Assignment: Chapter 23 (pp. 416-431)
- Lesson 24 – The Musculoskeletal System
 - Reading Assignment: Chapter 24 (pp. 432-441)
- Lesson 25 – The Respiratory System
 - Reading Assignment: Chapter 25 (pp. 442-455)
- Lesson 26 – The Cardiovascular, Circulatory, and Lymph Systems
 - Reading Assignment: Chapter 26 (pp. 456-471)

- Lesson 27 – The Immune System
 - Reading Assignment: Chapter 27 (pp. 472-485)
- Lesson 28 – The Renal System
 - Reading Assignment: Chapter 28 (pp. 486-492)
- Lesson 29 – The Endocrine System
 - Reading Assignment: Chapter 29 (pp. 493-504)
- Lesson 30 – The Reproductive System
 - Reading Assignment: Chapter 30 (pp. 505-513)
- Lesson 31 – The Nervous System
 - Reading Assignment: Chapter 31 (pp. 514-525)

Special Topics

- Lesson 32 – Pediatric and Neonatal Patients
 - Reading Assignment: Chapter 32 (pp. 527-536)
- Lesson 33 – Geriatric Patients
 - Reading Assignment: Chapter 33 (pp. 537-543)
- Lesson 34 – Biopharmaceuticals
 - Reading Assignment: Chapter 34 (pp. 544-548)

Fresno Pacific University Student Learning Outcomes (FPU-SLO)

FPU-SLO 1	Student Learning Outcomes Oral Communication: Students will <i>exhibit</i> clear, engaging, and confident oral communication – in both individual and group settings – and will critically <i>evaluate</i> content and delivery components.
FPU-SLO 2	Written Communication: Students will <i>demonstrate</i> proficient written communication by <i>articulating</i> a clear focus, <i>synthesizing</i> arguments, and utilizing standard formats in order to <i>inform</i> and <i>persuade</i> others.
FPU-SLO 3	Content Knowledge: Students will <i>demonstrate</i> comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
FPU-SLO 4	Reflection: Students will <i>reflect</i> on their personal and professional growth and <i>provide evidence</i> of how such reflection is utilized to manage personal and vocational improvement.
FPU-SLO 5	Critical Thinking: Students will <i>apply</i> critical thinking competencies by <i>generating</i> probing questions, <i>recognizing</i> underlying assumptions, <i>interpreting</i> and <i>evaluating</i> relevant information, and <i>applying</i> their understandings to new situations.
FPU-SLO 6	Moral Reasoning: Students will <i>identify</i> and <i>apply</i> moral reasoning and ethical decision-making skills, and <i>articulate</i> the norms and principles underlying a Christian world-view.
FPU-SLO 7	Service: Students will <i>demonstrate</i> service and reconciliation as a way of leadership.
FPU-SLO 8	Cultural and Global Perspective: Students will <i>identify</i> personal, cultural, and global perspectives and will employ these perspectives to <i>evaluate</i> complex systems.
FPU-SLO 9	Quantitative Reasoning: Students will accurately <i>compute</i> calculations and symbolic operations and <i>explain</i> their use in a field of study.

FPU-SLO 10	Information Literacy: Students will <i>identify</i> information needed in order to fully understand a topic or task, <i>explain</i> how that information is organized, <i>identify</i> the best sources of information for a given enquiry, <i>locate</i> and critically <i>evaluate</i> sources, and accurately and effectively <i>share</i> that information.
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Continuing Education Student Learning Outcomes (CE-SLO)

CE-SLO 1	Demonstrate proficient written communication by articulating a clear focus, synthesizing arguments, and utilizing standard formats in order to inform and persuade others, and present information applicable to targeted use.
CE-SLO 2	Demonstrate comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
CE-SLO 3	Reflect on their personal and professional growth and provide evidence of how such reflection is utilized to manage personal and professional improvement.
CE-SLO 4	Apply critical thinking competencies by generating probing questions, recognizing underlying assumptions, interpreting and evaluating relevant information, and applying their understandings to the professional setting.
CE-SLO 5	Reflect on values that inspire high standards of professional and ethical behavior as they pursue excellence in applying new learning to their chosen field.
CE-SLO 6	Identify information needed in order to fully understand a topic or task, organize that information, identify the best sources of information for a given enquiry, locate and critically evaluate sources, and accurately and effectively share that information.