Pharmacology for Medical Careers

(A Pharmacy Technician Training Program)

ACTIVITY/COURSE CODE 5570

COURSE DESCRIPTION:

Pharmacology for Medical Careers is a program designed to inform senior level students about pharmacology in the medical field, and to train pharmacy technicians for success in this career. At the high school level, students are exposed to pharmacy careers and benefit from pharmacology, math, and science standards included in this course. Teachers are encouraged to arrange student work-based learning opportunities in pharmacies for practical experience. The cost of the program is $299 per student per year.

PassAssured's Student Version is a 240 hour course. The program has enhanced curriculum that includes additional units on the top 300 drugs, Roman numerals, abbreviations, sig (instructions to patients), and medication matching.
The PassAssured program prepares students for a career as a pharmacy technician and other health careers plus provides an opportunity for national credentials. For state certified pharmacy technician requirements in South Carolina, visit
http://www.llr.state.sc.us/pol/pharmacy/PFORMS/Pharmacy%20Technician%20State%20Certification%20Requirements.pdf

PassAssured's program is totally online. Applications offer easy-to-follow audio, video, and graphic presentations. The program prepares students to sit for the Pharmacy Technician Certification Board (PTCB) examination or the examination offered by the National Healthcareer Association (ExCPT).

The interactive multimedia training uses Internet access, online testing, scoring, and monitoring. Teachers can monitor students' progress via the Internet. Students are able to work at their own pace. Teachers can determine when exams are taken. The course may be taught as embedded content in Health Science Clinical, as a stand-alone course, or as an independent study. More information can be found at www.passassured.com .

GENERAL REQUIREMENTS:

This course is only for students in grade 12 who are scheduled to graduate at the conclusion of the year in which training is begun.

RECOMMENDED PREREQUISITE (S):

Students must be a three unit completer in any pathway to enroll in this course OR students must have taken the two required foundational courses in any health science pathway plus Medical Terminology or Health Science 3 to enroll in this course.

Credit: **1 or 2 unit(s)**

EDUCATOR'S LESSON PLAN
PassAssured's Pharmacy Technician Training Program
(Pharmacology for Medical Careers)

Orientation

Orientation provides an overview of how to use the PassAssured program. It also introduces the student to basic terms and definitions. This section discusses the national exams and their founding organizations. Re-certification details are provided with easy to follow steps for maintaining certification. Each subsection is supplemented with a Windows Learn File accessible at any time from the audio drive

Section Level -Student Activity

The student will complete each subsection of the Orientation Section. The three subsections are: Introduction to PassAssured, Certification, Licensure, and Registration, and The Exams and Recertification.

Students should watch/review the last 2 subsections videos of Orientation a minimum of three times each.

Section Level - Assessment

Student will successfully complete the three sub-section quizzes and will score 80% or above on the Orientation section exam. Student will utilize PassAssured's Student Learning Center for testing.

Sub-Sections

Introduction to PassAssured

The introduction section briefly instructs the student on how to navigate through the PassAssured program.

Sub-Section Level – Student Activity

Student will complete' Introduction to PassAssured' study presentation.

Sub-Section Level – Assessment

Successfully complete 'Introduction to PassAssured's pop quiz.

Certification, Licensure, Registration

This introduction section introduces basic definitions the student will need to know. Definitions of these basic terms are a must.

Sub-Section Level – Student Activity

Student will complete 'Certification, Licensure, Registration' study presentation.

Students should repeat this subsection video a minimum of three times.

Sub-Section Level – Assessment

Successfully complete 'Certification, Licensure, Registration' pop quiz.

The Exams and Recertification

This section discusses the two national exams, the ExCPT and the PTCB. The requirements to sit for the exams, test structures, time allowed for exams and broad topic content are reviewed. Recertification requirements are also discussed in this sub-section.

Sub-Section Level – Student Activity

Student will complete 'The Exams and Recertification' study presentation.

Sub-Section Level – Assessment

Successfully complete 'The Exams and Recertification' pop quiz.

Federal Law

Federal Law focuses on legislation that affects the Pharmacy Industry. From Food and Drug Administration laws to the Poison Prevention Act, Federal Laws that have guided Pharmacy are presented. The method used in determining a valid DEA# is studied. The section does not cover state and local laws. (State and local laws vary greatly, thus, providing this material in this product is not practical.) The national exams only cover Federal Law.

Section Level -Student Activity

The student will complete six subsections of the Federal Law section. This includes: Pharmacy Law and Time, Federal Law and Drugs', Rules for Controlled Substances, DEA Number Verification, Schedule II Drugs, and Investigational Drugs'

Students should watch/review the 6 subsection videos a minimum of three times each.

Section Level - Assessment

Student will successfully complete the six sub-section quizzes and will score 80% or above on the Federal Law Section Test. Student will utilize PassAssured's Student Learning Center for the testing system.

Sub-Sections

Pharmacy Law and Time

This section discusses different laws and legislation that affect the Pharmacy Industry, when they were enacted and their importance.

Sub-Section Level – Student Activity

Student will complete 'Pharmacy Law and Time' study presentation.

Students should repeat this subsection video a minimum of three times.

Sub-Section Level – Assessment

Successfully complete 'Pharmacy Law and Time' pop quiz. This subsection quiz should be taken three times.

Federal Law and Drugs

This section discusses the importance of the Controlled Substance Act of 1970. This section shows how this act regulated the manufacturing, distribution and dispensing of controlled substances based on abuse potential.

Sub-Section Level – Student Activity

Student will complete '*Federal Law and Drugs*' study presentation.

Students should repeat this subsection video a minimum of three times.

Sub-Section Level – Assessment

Successfully complete '*Federal Law and Drugs*' pop quiz. This subsection quiz should be taken three times.

Rules for Controlled Substances

This section outlines filing procedures, maintaining records according to State and Federal Laws, and drug substitution requirements.

Sub-Section Level – Student Activity

Student will complete '*Rules for Controlled Substance Prescriptions*' study presentation.

Students should repeat this subsection video a minimum of three times.

Sub-Section Level – Assessment

*Successfully complete '*Rules for Controlled Substance Prescriptions*' pop quiz.* This subsection quiz should be taken three times.

Sub-Section Level – Time Frame

Watching and reviewing this subsection video and taking the quiz three times.

DEA Number Verification

Illustrates how a Doctor's DEA Number is determined and its purpose. An interactive display gives the student instructions on how to determine if a DEA Number is valid.

Sub-Section Level – Student Activity

Student will complete *'DEA Number Verification*' study presentation.

Students should watch and review this subsection video a minimum of three times.

Sub-Section Level – Assessment

Successfully complete *'DEA Number Verification* pop quiz. . This subsection quiz should be taken three times.

Sub-Section Level – Time Frame

Watching and reviewing this subsection video and taking the quiz three times should take a total of 40 minutes.

Schedule II Drugs

This section discusses storage requirements for Schedule II Drugs.

Sub-Section Level – Student Activity

Student will complete '*Schedule II Drugs'* study presentation.

Students should watch and review this subsection video a minimum of three times.

Sub-Section Level – Assessment

Successfully complete *'Schedule II Drugs'* pop quiz. This subsection quiz should be taken three times.

Investigational Drugs

This section defines the four phases of Investigational Drugs.

Sub-Section Level – Student Activity

Student will complete '*Investigational Drugs*' study presentation.

Students should watch and review this subsection video a minimum of three times.

Sub-Section Level – Assessment

Successfully complete 'Investigational Drugs' Prescriptions' pop quiz. This subsection quiz should be taken three times.

Medical Review

Medical Review introduces the Pharmacy Technician to Pharmacology. The study guide focuses on maintaining the proper instructional level suited for a Pharmacy Technician. The varied types of drugs, prescription types, medication dosage forms, and medical devices are discussed. Drug interaction on the human body's major systems such as the central nervous system, peripheral nervous system, cardiovascular system and other systems of the human body is introduced. The study concentrates on commonly used drug classes that would be of most concern for the Pharmacy Technician

Section Level -Student Activity

The student will complete ten subsections of the Medical Review Section. This includes: Doses and Terminology, Central Nervous System, Peripheral Nervous System, Hormones, Cardiovascular Drugs, Renal Drugs, Anti-Infectant Drugs, Cancer Chemotherapy Drugs, Blood and Blood Formation, and Vitamins.

Students should watch and review the 10 subsections videos in Medication Review for a minimum of three times.

Section Level - Assessment

Student will successfully complete the ten sub-section quizzes and will score 80% or above on the Medical Review section exam. Student will utilize PassAssured's Student Learning Center for testing.

Sub-Sections

Doses and Terminology

Discusses the different terms used in pharmacology. In-depth review of the different types of medication dosages, such as, tablets, caplets, liquids, creams, emulsions, etc. Also describes the different types of administration devices for certain medications and dosages.

Sub-Section Level – Student Activity

Student will complete 'Doses and Terminology' study presentation.

Students should repeat this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Doses and Terminology' pop quiz. This subsection quiz should be taken three times.

Central Nervous System

This section reviews drugs which affect the Central Nervous System. Drug interactions and the mechanism of action for CNS drugs are reviewed. Components of the central nervous system are briefly discussed.

Sub-Section Level – Student Activity

Student will complete 'Central Nervous System'' study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Central Nervous System' pop quiz. This subsection quiz should be taken three times

Peripheral Nervous System

This section is a medication review of drugs which affect the Peripheral Nervous System. Drug interactions, mechanism of action and manufacturer named drugs are reviewed. Components of the Peripheral Nervous System are briefly reviewed.

Sub-Section Level – Student Activity

Student will complete '*Peripheral Nervous System*' study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete '*Peripheral Nervous System*' pop quiz. This subsection quiz should be taken three times.

Hormones

A medication review of drugs classified as hormones. This agent significantly influences emotions and a person's quality of life. Drug interactions, mechanism of action and manufacturer named drugs are reviewed. Reviews of various hormonal drugs and uses of each are reviewed. Local and systemic hormone uses are studied. All of the male and female hormones are discussed.

Sub-Section Level – Student Activity

Student will complete *'Hormones'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Hormones' *pop quiz.* This subsection quiz should be taken three times.

Cardiovascular Drugs

This section is a medication review of drugs that affect the Cardiovascular System. Basic definitions of terms used in cardiovascular treatment are studied. Drug interactions, mechanism of action and manufacturer named drugs are reviewed. Components of the Cardiovascular System are briefly studied. The student will study the differences between various drugs used to treat cardiovascular illnesses.

Sub-Section Level – Student Activity

Student will complete *'Cardiovascular Drugs'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Cardiovascular Drugs' *pop quiz.* This subsection quiz should be taken three times.

Renal Drugs

This section is a medication review of drugs which affect the Renal System. A review of basic definitions referencing the renal system is discussed. Drug interactions, mechanism of action and manufacturer named drugs are reviewed. Components of the Renal System are briefly reviewed.

Sub-Section Level – Student Activity

Student will complete '*Renal Drugs*' study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete '*Renal Drugs' Prescriptions*' pop quiz. This subsection quiz should be taken three times.

Anti-Infectant Drugs

A medication review of drugs classified as Anti-Infectant Drugs. Drugs interactions, mechanism of action and manufacturer named drugs are reviewed. Anti-Infectant drug classes and typical treatment regimes are discussed. Therapeutic classes used in the treatment of infections are reviewed.

Sub-Section Level – Student Activity

Student will complete *'Anti-Infectant Drugs"* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Anti-Infectant Drugs' *pop quiz.* This subsection quiz should be taken three times.

Cancer Chemotherapy Drugs

A medication review of drugs classified as Chemotherapy drugs. Drug interactions, mechanism of action and manufacturer named drugs are reviewed. Therapeutic classes used in the treatment of cancer are detailed. Personnel safety and safe handling procedures for these dangerous agents are reviewed.

Sub-Section Level – Student Activity

Student will complete '*Cancer Chemotherapy Drugs'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete '*Cancer Chemotherapy Drugs'* pop quiz. This subsection quiz should be taken three times.

Blood and Blood Formation

A medication review of blood and blood formation drugs is done. Drug interactions, mechanism of action and manufacturer named drugs are reviewed. Basic definition referencing to blood and blood formation abnormalities are given.

Sub-Section Level – Student Activity

Student will complete '*Blood and Blood Formation'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Blood and Blood Formation' *pop quiz.* This subsection quiz should be taken three times.

Vitamins

A medication review of Vitamins is done. Drug interactions, mechanism of action and manufacturer named drugs are reviewed. Fat-soluble and water-soluble vitamins are discussed. A study acronym is illustrated to assist the student in remembering which vitamins are fat-soluble. Herbal products and homeopathy are briefly discussed as well.

Sub-Section Level – Student Activity

Student will complete *'Vitamins'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Vitamins' *pop quiz.* This subsection quiz should be taken three times.

Aseptic Techniques

Aseptic Techniques gives the student a 'bird's eye' view of preparation procedures for parenteral products. Pictures taken during actual preparation of various sterile products are used to illustrate a particular topic. Laminar airflow and Horizontal airflow hoods are covered with pictures and diagrams. Devices used in the preparation of sterile products are illustrated. The study topic provides the basics of Aseptic Techniques with emphasis toward possible testing topics. USP 797 sterile preparation and procedures are covered in this section.

Section Level -Student Activity

The student will complete eight subsections of the Aseptic Technique section. This includes: Definitions, Syringes, Parenteral, Techniques of Sterile Compounding, Solutions, Parenteral Antineoplastic Agents, Stability Considerations for Parenteral Products, and USP 797.

Students should watch and review this subsection video of three times.

Section Level – Assessment

Student will successfully complete the eight sub-section quizzes and will score 80% or above on the Aseptic Technique Section Test. Student will utilize PassAssured's Student Learning Center for testing.

Sub-Sections

Definitions

The definitions module explores basic terminology and environmental contamination concerns in performing aseptic techniques procedures. Laminar airflow hoods, air filtration systems and inspection requirements are highlighted. A review of vertical airflow hoods, or biological safety cabinets, is included and uses for each type of hood are given.

Sub-Section Level – Student Activity

Student will complete *'Definitions'* study presentation. Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete '*Definitions*' pop quiz. This subsection quiz should be taken three times.

Syringes

The components of a syringe are illustrated and reviewed. Various types of syringes are graphically illustrated. The components of a needle assembly and how the size or gauge of a needle is determined are graphically illustrated.

Sub-Section Level – Student Activity

Student will complete *'Syringes'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Syringes' *pop quiz.* This subsection quiz should be taken three times.

Parenteral

A high level review of various injection types is reviewed. The uses of parenteral routes and the four most widely used parenteral routes are discussed. Intravenous injection types and widely used parenteral fluids are illustrated. The module prepares the student for review of sterile compounding.

Sub-Section Level – Student Activity

Student will complete '*Parenteral* ' study presentation. *Students should watch and review this subsection video three times.*

Sub-Section Level – Assessment

Successfully complete '*Parenteral* ' pop quiz. This subsection quiz should be taken three times.

Techniques of Sterile Compounding

A review of sterile compounding procedures provides a broad 'overview' of skills needed to perform sterile compounding. Tips in avoiding contamination while using a laminar airflow hood and various procedures that assure successful sterile product mixing, are provided. Examples of filling a syringe, breaking an ampule, reconstituting a sterile powder, injecting liquids into a plastic IV bag, introducing liquids into a glass intravenous bottle, and many more needed aseptic techniques are reviewed.

Sub-Section Level – Student Activity

Student will complete *'Techniques of Sterile Compounding'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete "Techniques of Sterile Compounding' ' *pop quiz.* This subsection quiz should be taken three times.

Solutions

The Solution section reviews the uses of various solutions used in Pharmacy. Irrigation solutions, parenteral solutions, and TPNs are highlighted.

Sub-Section Level – Student Activity

Student will complete *'Solutions' study* presentation.

Students should watch and review the video three times.

Sub-Section Level – Assessment

Successfully complete 'Solutions' *pop quiz.* This subsection quiz should be taken three times.

Parenteral Antineoplastic Agents

A general overview of preparation, and the safe handling of Antineoplastic agents used in the treatment of cancer is provided. Emphasis on personnel safety and safety procedures for handling these dangerous agents are discussed.

Sub-Section Level – Student Activity

Student will complete '*Parenteral Antineoplastic Agents* ' study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete '*Parenteral Antineoplastic Agents ' Prescriptions*' pop quiz. This subsection quiz should be taken three times.

Stability Considerations for Parenteral Products

Parenteral Products have special stability concerns. Stability considerations, as well as information on various types of reference material are given. The steps of a Parenteral Admixture Order are illustrated. Details from receiving the order to delivering to the patient are discussed.

Sub-Section Level – Student Activity

Student will complete *'Stability Considerations for Parenteral Products "* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete "Stability Considerations for Parenteral Products' *pop quiz.* This subsection quiz should be taken three times.

USP 797

The United States Pharmacopeia is a non-government, non-profit organization designed to create standards on patient safety, healthcare information, and verification of products. The purpose of the U.S.P. 797 is to set the standard for the compounding of sterile products as well as to prevent harm and death to patients. Standard operating procedures, compounded sterile preparation, microbial contamination risk levels, storage and beyond use dating, hazardous drug preparation, environmental quality control, and quality assurance are some of the topics discussed in this section.

Sub-Section Level – Student Activity

Student will complete *'USP 797'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'USP 797' *pop quiz.* This subsection quiz should be taken three times.

Calculations

Pharmacy calculations are an essential function of the Pharmacy Technician. The PTTP's calculation section provides a refresher path through the aspects of Pharmacy mathematics. Many of our example calculations are done using different methods, thus, providing the student a choice for calculating Pharmacy math problems that best suits the individual's needs. Our calculation section provides an excellent tool for learning Pharmacy math. Our calculations are performed 'in motion', with a timed audio presentation.

Section Level -Student Activity

The student will complete eleven subsections of the Calculations section. This includes: Metric Measurements, Abbreviations, Roman Numerals, 'Fractions, Decimals & Percent', Temperature Conversions, Ratio Proportions, 'Quantities, Dilutions, &Concentrations', Dosage Regimen, IV Flow Rates, Powder Volumes, and Pricing.

Students should watch and review the Calculations 11 subsection videos three times.

Section Level – Assessment

Student will successfully complete the eleven sub-section quizzes and will score 80% or above on the Calculations section exam. Student will utilize PassAssured's Student Learning Center for testing.

Sub-Sections

Metric System

Audio, charts, graphic illustrations and text help files are used to provide the student with knowledge and reference tables for use in performing various conversions. The units of measurement for the Metric, Avoirdupois, and Apothecary systems are discussed.

Sub-Section Level – Student Activity

Student will complete *'Metric Measurements'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Metric Measurements' *pop quiz.* This subsection quiz should be taken three times.

Abbreviations

The Pharmacy Industry exists in a world of abbreviations. Abbreviation uses in prescriptions are covered in detail. Emphases on abbreviations that have historically been misinterpreted are discussed. Reference listing of Pharmacy abbreviations is included.

Sub-Section Level – Student Activity

Student will complete *'Abbreviations'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

*Successfully complete **'Abbreviations'** pop quiz.* This subsection quiz should be taken three times.

Roman Numerals

The eight primary Roman Numerals are illustrated, with emphasis on 'rules' for adding and subtracting. Roman Numerals are widely used in Pharmacy.

Sub-Section Level – Student Activity

Student will complete '*Roman Numerals*' study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete '*Roman Numerals*' pop quiz. This subsection quiz should be taken three times.

Fractions, Decimals, & Percent

This review provides the basics of fractions, decimals and percent. The intensive use of 'motion graphics' support the audio driven lesson. A good understanding of this section will provide the student a basis for the remaining calculations topics.

Sub-Section Level – Student Activity

Student will complete *'Fractions, Decimals, & Percent'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete "Fractions, Decimals, & Percent' *pop quiz.* This subsection quiz should be taken three times.

Temperature Conversions

Two widely used methods for Fahrenheit – Centigrade temperature conversions are illustrated. The audio driven lesson uses *'graphics in motion'* to provide clearly explained examples of typical pharmacy temperature conversions.

Sub-Section Level – Student Activity

Student will complete *'Temperature Conversions'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Temperature Conversions' *pop quiz.* This subsection quiz should be taken three times.

Ratio Proportions

Ratio proportion relationships are used to provide a means for reducing or enlarging chemical mixtures used in pharmacy. Determining the proper amount of solution to mix with drug active ingredients is covered.

Sub-Section Level – Student Activity

Student will complete '*Ratio Proportions*' study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete '*Ratio Proportions' Prescriptions*' pop quiz. This subsection quiz should be taken three times.

Quantities, Dilutions, & Concentrations

Quantities, dilutions, & concentrations provide a review of unit of measurement for drug and expressions of quantity and concentration for drugs in drug products. Illustrations are discussed for the different methods for determining quantities of ingredients and concentration of drugs when preparing or dispensing drug products.

Sub-Section Level – Student Activity

Student will complete *'Quantities, Dilutions, &Concentrations'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Quantities, Dilutions, &Concentrations' *pop quiz.* This subsection quiz should be taken three times.

Dose and Dose Regimen

A review of methods of expressing doses and dosage regimens is given. The student will learn to calculate the amount of drug product to dispense, or the number of days' supply from a dosage regimen. In addition, methods to calculate doses for pediatric patients are provided.

Sub-Section Level – Student Activity

Student will complete '*Dosage Regimen'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete '*Dosage Regimen'* pop quiz. This subsection quiz should be taken three times.

Calculation of IV Flow Rates

The student will learn to determine the flow rate of an IV solution when given the total volume, total time of administration, and the drops delivered per ml by the administration set.

Sub-Section Level – Student Activity

Student will complete *'IV Flow Rates'* study presentation.

Students should watch and review the video three times.

Sub-Section Level – Assessment

Successfully complete 'IV Flow Rates' *pop quiz.* This subsection quiz should be taken three times.

Powder Volumes

Discussions of powder volume concept are given. Learn how to calculate powder volume and how to use this information in reconstituting dry powders for suspension or solution.

Sub-Section Level – Student Activity

Student will complete *'Powder Volumes'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Powder Volumes' *pop quiz.* This subsection quiz should be taken three times.

Pricing

Pricing methods support the needs of the pharmacy as a business enterprise. Our study guide will provide a review of various pricing methods used in retail pharmacy.

Sub-Section Level – Student Activity

Student will complete *'Pricing' study* presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Pricing' *pop quiz.* This quiz should be taken three times.

Pharmacy Operations

Pharmacy Operations is the core of the Pharmacy Technicians responsibilities. Day to day operations, interfacing with customers, maintaining patient records, and assuring the Pharmacy meets all State, Federal and local requirements are covered. Managing proper inventory control is vital in assuring continuing success of the Pharmacy business. An overview of insurance claims and "Third Party" reimbursement is provided. Medication safety is a priority in dispensing medication to patients. Learning how to give appropriate change in covered in the Cash Register sub-section.

Section Level -Student Activity

The student will complete seven subsections of the Pharmacy Operations section. This includes: Basic Facts in Pharmacy, Assisting the Pharmacist, General Prescription Duties, Medication Distribution and Inventory Control, Third Party Reimbursement, Medication Safety, and Cash Register. Students should watch and review the 7 Subsection videos in Pharmacy Operations three times.

Section Level - Assessment

Student will successfully complete the seven sub-section quizzes and will score 80% or above on the Pharmacy Operations section exam. Student will utilize PassAssured's Student Learning Center for testing. The student should take all 7 subsection quizzes in Pharmacy Operations three times each.

Sub-Sections

Basic Facts in Pharmacy

The Pharmacy Technician will need to be familiar with drug nomenclature. The three names given to each drug is reviewed. NDC codes, mnemonic codes, and the importance of understanding different expiration date formats are discussed and illustrated. The various drug containers are illustrated. The different types of container closures and uses for each are reviewed. Auxiliary labels affixed to prescription bottles are reviewed.

Sub-Section Level – Student Activity

Student will complete *' Basic Facts in Pharmacy'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete ' Basic Facts in Pharmacy' *pop quiz.* This subsection quiz should be taken three times.

Assisting the Pharmacist

Acceptable medication prescribers are reviewed. Mailing prescription requirements, patient confidentiality, assisting the pharmacist, immunizations, The Combat Methamphetamine Epidemic Act of 2005, and how prescriptions can be transmitted to a Pharmacy and requirements for certain classes of drugs is discussed. The required information on a prescription and the process for patient refills is given.

Sub-Section Level – Student Activity

Student will complete *'Assisting the Pharmacist*' study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Assisting the Pharmacist' *pop quiz.* This subsection quiz should be taken three times.

General Prescription Duties

Maintaining an accurate patient profile is crucial in providing medication to a patient. A well-maintained patient profile can prevent improper dispensing of medication and adverse effects for medication. Details of what should be collected for a proper patient profile are illustrated. Brand versus generic, formularies, inventory control, measuring and counting techniques, compounding and the different classes of balances, medication errors, and the step by step process of filling a prescription in a pharmacy are discussed.

Sub-Section Level – Student Activity

Student will complete *'General Prescription Duties'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'General Prescription Duties' *pop quiz.* This subsection quiz should be taken three times.

Medication Distribution and Inventory Control

Definitions of key terms used in inventory management are provided. Ordering techniques and the proper receiving process of ordered items is reviewed. Expired or discontinued stock processes and drug recall issues are illustrated. Point of Sale Management Systems, electronic prescribing, electronic medication administration record, and theft and drug diversion are discussed also.

Sub-Section Level – Student Activity

Student will complete *'Medication Distribution and Inventory Control'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Medication Distribution and Inventory Control' *pop quiz.* This subsection quiz should be taken three times.

Third Party Reimbursement

Knowledge of "Third Party" reimbursement is an 'ever changing' environment. A general overview of processes used for reimbursement and different payment plans currently offered is illustrated. Formularies, generics, DAW codes, Affordable Care Act, Medicare, and Medicaid are reviewed.

Sub-Section Level – Student Activity

Student will complete '*Third Party Reimbursement*' study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete '*Third Party Reimbursement*' *Prescriptions*' pop quiz. This subsection quiz should be taken three times.

Medication Safety

Medication errors are covered in depth. Prevention strategies, causes of medication errors and where and why they occur, sound-alike and look-alike medications, Tall Man lettering, reporting medication errors to Medwatch and MERP, 5 rights of medication administration, e-prescribing, HITECH Act, iPLEDGE and other medication safety programs,

Sub-Section Level – Student Activity

Student will complete *'Medication Safety'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Medication Safety' *pop quiz.* This subsection quiz should be taken three times.

Cash Register

The use of the cash register is vital to Customer Service in the pharmacy. The student will learn the accurate way of calculating how to give change.

Sub-Section Level – Student Activity

Student will complete *'Cash Register'* study presentation.

Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete 'Cash Register' *pop quiz.* This subsection quiz should be taken three times.

Study Aids

The Study Aids are an excellent way of teaching while having fun! The Study Aids were designed as an enhancement to the Medication Review Section. This part of the program will enable the student to become familiar with over 300 drugs widely used in the market place. The Study Aids consist of flash cards and are created to allow the student to recognize and pronounce the medications reviewed all while having fun 'playing'

games. The games include “Flashcards –Top 300 Drugs; “Rx Match”, “Med ID”, “Memory Match” and “Study Table”, “Sigs”; “Roman Numerals”; “Abbreviations” and “Virtual Rx” , drug name pronunciations as well as visual recognition of all medications reviewed are included. Educators must grant permissions for all or part of the Study Aids Testing (it is not the default of the program to allow student access for this section).

Section Level - Assessment

Student will successfully complete the five sub-section flash cards/games and will score 80% or above on the Top 300 Drugs section test. Students will utilize PassAssured's Student Learning Center for testing.

Students should successfully complete the flash cards/games three times and take the test three times.

Sub-sections

Top 300 Drugs

Flash Cards

Students will discover more than 300 drugs used in the marketplace and review the brand verses generic, drug classes, therapeutic classifications and drug uses within this portion of flash cards. Tests are also available for this module.

Sub-Section Level – Assessment

Successfully complete “Top 300 Drugs Flash Cards” three times for a total of 5 hours and *test three times*.

Rx Match

Students will be able to view pictures of brand named drugs and match them to the appropriate named vial. This game also has picture recognition and sound pronunciations.

Sub-Section Level – Assessment

Successfully complete “Top 300 Drugs Rx Match” *three times and test three times*.

Med ID

Students will use a ‘pill counter’ with various brand named drugs and ‘slide’ the applicable answer to the associated drug listed on the left margin.

Sub-Section Level – Assessment

Successfully complete “Top 300 Drugs Med ID” three times and test three times.

Memory Match

Using the old school ‘Concentration Game’ students will need to turn over two matching cards with brand/generic drugs printed on them or match the appropriate pictures of brand named drugs to the name of the drug.

Sub-Section Level – Assessment

Successfully complete “Top 300 Drugs Memory Match” three times and test three times.

Study Table

Within the “Study Table” all pertinent information regarding the Top 300 Drugs will be formatted that any part can be ‘covered’ in order to study the brand vs generic as well as the drug classes, therapeutic classifications and drug uses. Pictures of brand drugs are shown as well as brand and generic pronunciations are available. The user controls whether the information is viewable or hidden.

Sub-Section Level – Assessment

Successfully complete “Study Table” three times and test three times.

SIGS

Flash Cards

Flash cards appear with a SIG or abbreviated directions that should be matched to the correct translation in English. (Or vice versa)

Sub-Section Level – Assessment

Successfully complete “SIGS Flash Cards” three times and testing three times.

Roman Numerals

Flash Cards

Flash cards appear with a Cardinal (English) number or a Roman Numeral that are matched to the correct translation of the number or numeral. A short quiz follows.

Sub-Section Level – Assessment

Successfully complete “Roman Numerals Flash Cards” three times and test three times.

Abbreviations

Flash Cards

Flash cards appear with pharmaceutical abbreviations that are matched to the correct translation in English. (Or vice versa) A short quiz follows.

Sub-Section Level – Assessment

Successfully complete “Abbreviations Flash Cards” *Prescriptions*' three times and test three times

Flash Cards

Flash cards with prescriptions enable the student to “dissect” all parts of the script and answer questions that correlate with information that appears on the prescription. A short quiz follows.

Sub-Section Level – Assessment

Successfully complete the *“Virtual Rx*' subsection three times and test three times.

Virtual Cash Register

Cash Registers are a vital part of the customer service in the pharmacy. All technicians must know how to correctly give change to customers for cash sales.

Sub-Section Level – Assessment

Complete “Cash Register” *quiz before you can unlock the Virtual Cash Register*. Complete the Virtual Cash Register Section three times.

Interview

Students will understand the important preparations, considerations and attributes to a successful interview.

A short quiz follows.

Sub-Section Level- Student Activity

Student will complete ‘The Interview’ study presentation. Students should watch and review this subsection video three times.

Sub-Section Level – Assessment

Successfully complete “The Interview” pop quiz. This subsection quiz should be taken 3 times.

Effective Communication

Students realize the effectiveness on proper communications between customer/patient and the Pharmacy Technician. With appropriate communication, correct questions are asked and issues as well as orders are efficiently processed as well as misunderstandings and errors are avoided. A short quiz follows.

Sub-Section Level – Student Activity

Student will complete ‘Effective Communication’ study presentation. Students should watch and review this video three times.

Sub-Section Assessment

Successfully complete “Effective Communication” *pop quiz*. Repeat this scenario three times.

HIPAA Regulations

Understanding the confidentiality for all patients and customers should be one of the highest priorities in the medical field! Privacy Rules and laws that are standards in the pharmacy industry are discussed. A short quiz follows.

Sub-Section Level – Assessment

Successfully complete “HIPAA Regulations” test. Repeat this subsection three times.

Tutored Exam

Tutored Exams are available using the Student Learning Center’s web interface. When the educator has granted the student access to a particular Tutored Exam, the student will gain web access to the testing

system. The Tutored Exam is a timed indicated test, with feedback to enhance the student's learning exercise. The test timers are halted when a feedback screen is displayed. When the three-hour time limit has expired, a warning will appear, indicating to the student that the three-hour time limit has been reached. However, the Tutored Exams will allow the student to complete the test, even if the three-hour time limit has expired. Each question provides full feedback, a visual 'STOP Light', and full text feedback. If an answer to a question is correctly selected, feedback is given supporting the correct answer. If an incorrect answer is selected, feedback is given offering the student additional information to formulate the correct answer.

Actions:

Student should practice the Tutored Exam out of class – Unlimited.

Educator should proctor 2 hours of classroom time for each Tutored Exam.

Upon completion, educator and student should review success of test and refer back to portions of program where students' were weak. Repeat taking Tutored Exam a minimum of three times for a total of 6 hours.

Final Exam

All Final Exams are available using the Student Learning Center's web interface. When the educator has granted the student access to a particular Final Exam, the student will gain web access to the testing system. The Final Exam is designed to mimic the national exams. Aspects of an actual exam setting are applied. The Final Exam offers the student no feedback. When a possible answer is selected, the next question is displayed. The 'Real Time" scoring thermometer is not indicated while the exam is in progress. The student may quit and resume a practice exam. The educator controls conditions concerning access to Final Exams. The timer will resume during any subsequent test sittings. The score will be based on the number of questions answered correctly, verses the total number of questions (125), within the three-hour time limit.

Actions:

Educator should proctor 2 hours of classroom time for a Final Exam.

Upon completion, educator and student should review success of test and refer back to portions of program where students' were weak. Repeat taking Final Exam a minimum of three times for a total of 6 hours.

Exit Exam

The Exit Exam is available by using the Student Learning Center's web interface. When the educator has granted the student access to the Exit Exam, the student will gain web access to the testing system. The Exit Exam was created with a completely different set of testing question database. It is designed to mimic the national exams. Aspects of an actual exam setting are applied. The Exit Exam offers the student no feedback. When a possible answer is selected, the next question is displayed. The 'Real Time" scoring thermometer is not indicated while the Exit Exam is in progress. The student may not quit and resume the exit exam. The Exit Exam must be completed once started. If the Exit Exam is started and stopped the user will be locked out and you must call the PassAssured's office in order for the exam to be reset. The Exit Exam must be proctored. The score will be based on the number of questions answered correctly verses the total number of questions (125), within the three-hour time limit.

Actions:

Educator must proctor this exam and allocate 3 hours of classroom time for the Exit Exam.

The successful completion of the Exit Exam completes the course.