

Pharmacology 2021-2022

At a Glance - Lamar CISD

Ongoing Skills Imbedded All Year	Professional Standards/Employability Skills/Technical Skills		
	<ul style="list-style-type: none"> • Top 300 most prescribed drugs • Calculations • Medical Abbreviations (SIG codes) • Pharmacy-specific Medical Terminology • Drug classification prefixes and suffixes • Laws and enforcement • Professional communications • Dosage Forms • Safety and wellness • Infection Control and Aseptic Technique 		
Ongoing Ways to Show	<ul style="list-style-type: none"> • Interactive Notebook (digital or physical)- Drug Information done every day and tested weekly • Games • Practical Skills Lab Stations • Scenario Role Play 		
Grading Period	Unit Name	Estimated Time Frame	TEKS
Grading Period 1 8/23-10/1 28 Days	Course Introduction	5 Days	
	<p>Course Overview, Certification, and Licensure. Enrollment in online PTCB Prep program (PassAssured, Pharmaseer, etc.) Introduction to program and content</p> <p>(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.</p> <p>(2) The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.</p> <p>(3) The Pharmacology course is designed to study how natural and synthetic chemical agents such as drugs affect biological systems. Knowledge of the properties of therapeutic agents is vital in providing quality health care. It is an ever-changing, growing body of information that continually demands greater amounts of time and education from health care workers.</p> <p>(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.</p> <p>(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.</p> <p>* NOTE: ENSURE that students understand the rigor of this course and the difficulty of the national certification exam.</p>		
	Federal Law	12 Days	4A, 4B, 4C, 4D, 4E
<p>PT 4(A) The student will describe the legal terms and consequences associated with prescription errors.</p> <p>PT 4(B) The student will differentiate between negligence, product liability, contributory negligence, and regulatory law.</p> <p>PT 4(C) The student will evaluate the effect of medication errors related to the pharmacy and the industry.</p> <p>PT 4(D) The student will discuss the elements of a lawsuit.</p> <p>PT 4(E) The student will define professional liability.</p> <ul style="list-style-type: none"> • 6 PassAssured Days/ 6 lab or practice days= 12 days • Pharmacy Laws – Discusses different laws & legislation that affect the pharmacy industry. • Federal Law & Drugs – Discusses the importance of the Controlled Substance Act of 1970 & shows how this act regulated the manufacturing, distribution & dispensing of controlled substances. • Rules for Controlled Substance Prescriptions – outlines filing procedures, maintaining records according to State & Federal Laws, & drug substitution requirements. • DEA Number Verification – Illustrates how a Doctor's DEA Number is determined & its purpose. • Schedule II Drugs – discusses storage requirements for Schedule II Drugs. • Investigational Drugs – defines the 4 phases of Investigational Drugs. 			

	Medication Review - by System	11 Days	2A, 2B, 2C, 2D, 2E 3A, 3B, 3C, 5A, 5B, 7C
Grading Period 2 10/4-11/5 25 Days	<p>PT 2(A) The student will define pharmacology and its major subdivisions, including pharmacodynamics, pharmacokinetics, and pharmacotherapeutics.</p> <p>PT 2(B) The student will explain the difference between therapeutic effects, side effects, and toxic effects.</p> <p>PT 2(C) The student will identify a drug receptor in the human body.</p> <p>PT 2(D) The student will trace the interaction and antagonist receptors.</p> <p>PT 2(E) The student will explain the relationship among drug dosage, drug response, and time.</p> <p>PT 3(A) The student will identify career pathways related to pharmacology.</p> <p>PT 3(B) The student will define the role of the pharmacy team.</p> <p>PT 3(C) The student will research and describe emerging pharmacy career opportunities.</p> <p>PT 5(A) The student will identify the various routes of drug medication.</p> <p>PT 5(B) The student will differentiate among the various classes of drugs.</p> <p>PT 7(C) The student will list examples of drugs in each dosage form.</p> <p>8 Pass Assured Days + 3 Lab Practice Days = 11 days</p> <p>Doses & Terminology – discusses the different terms used in pharmacology & provides an in-depth review of the different types of medication dosages.</p> <p>Central Nervous System – A medication review of drug interactions & the mechanism of action on the Central Nervous System.</p> <p>Peripheral Nervous System – a medication review of drug interactions which affect the Peripheral Nervous System.</p> <p>Hormones – A medication review of drugs classified as hormones.</p> <p>Cardiovascular Drugs – a medication review of drugs that affect the cardiovascular system.</p> <p>Renal Drugs – a medication review of drugs which affect the renal system & a basic review of renal definitions.</p> <p>Cancer Chemotherapy Drugs – a medication review of drugs classified as chemotherapy drugs & the therapeutic classes used in the treatment of cancer.</p> <p>Blood & Blood Formation - a medication review of blood & blood formation drugs & drug interactions.</p> <p>Vitamins – a medication review of vitamins & their drug interactions.</p>		
	Aseptic Technique	20 Days	7A, 7B, 7C, 7D, 8A, 8B, 8C, 9A, 9B, 9C, 9D, 9E
	<p>PT 7(A) The student will differentiate between solid, semi-solid, and liquid dosage forms.</p> <p>PT 7(B) The student will name forms in which drugs are manufactured, including their subcategories.</p> <p>PT 7(C) The student will list examples of drugs in each dosage form.</p> <p>PT 7(D) The student will define medical terms associated with drug forms</p> <p>PT 8(A) The student will identify technology components used in the pharmacy.</p> <p>PT 8(B) The student will describe how technology applications improve efficiency in the pharmacy.</p> <p>PT 8(C) The student will analyze the use of technology in the pharmacy.</p> <p>Aseptic Technique</p> <p>PT 9(A) The student will employ safety standards.</p> <p>PT 9(B) The student will interpret rules associated with pharmacy standards.</p> <p>PT 9(C) The student will examine unsafe practices.</p> <p>PT 9(D) The student will observe safe procedures in the administration of client care.</p> <p>PT 9(E) The student will demonstrate these safe procedures in the clinical setting.</p> <p>10 Pass Assured days/8 lab days/2 exam days=20</p> <ul style="list-style-type: none"> • Definitions – explores basic terminology & environmental contamination concerns in performing aseptic technique procedures. • Syringes – explores the various types of syringes, needle assembly, & how to size the needle. Parenteral – a review of various injection types, & the 4 most widely used parenteral routes used. • Techniques of Sterile Compounding – a review of sterile compounding procedures provide a broad overview of skills needed to perform sterile compounding. • Solutions – Irrigation solutions, parenteral solutions & TPNs are examined. • Parenteral Antineoplastic Agents – a general overview of preparation & the safe handling of antineoplastic agents used in the treatment of cancer. • Stability Considerations for Parenteral Products – steps of parenteral admixture order for receiving the order to delivering to the patient are discussed. <p>Personal Presentation- Job Seeking Skills and Resume Writing</p> <p>PT 1(A) The student will demonstrate verbal and non-verbal communication in a clear, concise, and effective manner.</p> <p>PT 1(B) The student will demonstrate adaptability skills such as problem solving and creative thinking.</p> <p>PT 1(C) The student will develop a career plan.</p> <p>Interview</p> <p>PT 1(D) The student will employ teamwork.</p> <p>PT 1(E) The student will create a job-specific resume.</p> <p>PT 1(F) The student will appraise the characteristics desired by employers.</p>		

Grading Period 3 11/8-12/17 25 Days	Pharmacy Calculations	25 Days	5C, 5D, 6A, 6B, 6C
	<p>PT 5(C) The student will properly use common terms associated with pharmacology. PT 5(D) The student will analyze unfamiliar terms using the knowledge of word roots, suffixes, and prefixes. PT 6(A) The student will analyze medication calculations, including metric, apothecary, and household systems PT 6(B) The student will convert a measurement expressed in one standard unit within a system to a measurement expressed in another unit within the same system. PT 6(C) The student will convert a measurement expressed in one system to a unit of the same measurement in a different system. 15 PassAssured Days/8 lab or practice days/2 exam days/1 midterm or semester exam day= 25 days</p> <ul style="list-style-type: none"> • Metric Measurements – the units of measurement for the Metric, Avoirdupois, & Apothecary system. • Abbreviations – study the abbreviations used in prescriptions and the pharmacy industry. c. Roman Numerals – the eight primary Roman Numerals are illustrated w/the emphasis on “rules” for adding & subtracting. • Fractions, Decimals & Percent – provide the student with a basic understanding of fractions, decimals & percentages. • Temperature Conversions – study of the 2 widely used methods for Fahrenheit – Centigrade temperature conversions. • Ratio Proportions – determining the proper amount of solution to mix w/drug active ingredients. Quantities, Dilutions, & Concentrations – discusses the different methods for determining quantities of ingredients & concentration of drugs when preparing or dispensing drug products. Dosage Regimen – learn to calculate the amount of drug product to dispense or the number of days’ supply from a dosage regimen. • IV Flow Rates – learn to determine the flow rate of an IV solution when given the total volume, total time of administration, & the drops delivered per ml by the administration set. • Powder Volumes – learn how to calculate powder volume & how to use this information in reconstituting dry powders for suspension or solution. • Pricing – review of various pricing methods used in retail pharmacy. 		
Grading Period 4 1/4-2/18 33 Days	Pharmacy Operations	23 Days	2G, 2H, 8A, 8B, 8C
	<p>PT 2(G) The student will describe three names by which drugs are known. PT 2(H) The student will list two common drug reference books. PT 8(A) The student will identify technology components used in the pharmacy. PT 8(B) The student will describe how technology applications improve efficiency in the pharmacy. PT 8(C) The student will analyze the use of technology in the pharmacy. 9 PassAssured Days/11 lab or practice days/3 exam days = 23 days</p> <ul style="list-style-type: none"> • Basic Facts in Pharmacy – learn the generic and trade names given to each drug, identify drug containers, & learn NDC codes, mnemonic codes, & the importance of understanding different expiration date formats. • Assisting the Pharmacist – study how prescriptions can be transmitted to a pharmacy & requirements for certain classes of drugs is discussed. • General prescription Duties – details of what should be collected for a proper patient profile is discussed along with formularies, measuring & counting techniques, compounding & the different classes of balances are reviewed. • Medication Distribution & Inventory Control – define key terms used in inventory management. Review proper ordering techniques. • Third Party Reimbursement – a general overview of processes used for reimbursement & different payment plans currently offered is discussed. 		
	3rd Party Reimbursement	10 Days	3D, 3E, 4C, 4D, 4E, 8A, 8B,8C
<p>PT 3(D) The student will analyze the impact of pharmaceuticals on the costs of health care. PT 3(E) The student will evaluate the impact of pharmaceuticals on the costs of society. PT 4(C) The student will evaluate the effect of medication errors related to the pharmacy and the industry. PT 4(D) The student will discuss the elements of a lawsuit. PT 4(E) The student will define professional liability.8(A) The student will identify technology components used in the pharmacy.8(B) PT 8(A) The student will identify technology components used in the pharmacy. PT 8(B) The student will describe how technology applications improve efficiency in the pharmacy. PT 8(C) The student will analyze the use of technology in the pharmacy. 4 PassAssured days/6 lab days = 10 days *NOTE: These are the questions most often missed on the PTCB</p>			
Grading Period 5 2/21-4/14 34 Days	Safety and Wellness	20 Days	2F, 4A, 9A, 9B, 9C, 9D, 9E
	<p>PT 2(F) The student will explain drug safety and therapeutic index. PT 4(A) The student will describe the legal terms and consequences associated with prescription errors. Aseptic Technique PT 9(A) The student will employ safety standards. PT 9(B) The student will interpret rules associated with pharmacy standards. PT 9(C) The student will examine unsafe practices. PT 9(D) The student will observe safe procedures in the administration of client care. PT 9(E) The student will demonstrate these safe procedures in the clinical setting.</p>		

	Mock Pharmacy	14 Days	9A, 9B, 9C
	PT 9(A) The student will employ safety standards. PT 9(B) The student will interpret rules associated with pharmacy standards. PT 9(C) The student will examine unsafe practices. Uses all skills, knowledge, and communication to simulate daily operations in a retail or hospital pharmacy.		
Grading Period 6 4/19-5/26 28 Days	Preparation for PTCB Exam	18 Days	9A, 9B, 9C
	PT 9(A) The student will employ safety standards. PT 9(B) The student will interpret rules associated with pharmacy standards. PT 9(C) The student will examine unsafe practices. Use all resources to include online prep, practice exams, books, manuals, labs, games, roll play, drills to ensure students are prepared to pass PTCE. This course is for Seniors, so this final grade period is over 5/13/2022		
	Take Exam at test site	1 Day	