**PHARMACY TECHNICIAN (PHT)**

47.5 quarter credit units/ 720 clock hours/ 36 weeks

**Course Objective:**

This course provides students with the basic knowledge and skills that will qualify them to work as entry-level Pharmacy Technicians in retail and hospital facilities. Upon successful completion of the training, the graduate will be able to identify and understand drug nomenclature, dosage forms, routes of administration, and abbreviations used in pharmacy; identify the most common medications by their trade and generic names; perform conversions and/or calculations of weights and measures; understand Federal and California pharmacy laws; understand basic pharmacology; perform pharmacy operations of the Drug Distribution system, and be able to perform sterile product preparation. At the successful completion of the program, the student will be eligible to apply for licensure as a Pharmacy Technician in the State of California, will be awarded a diploma, and will qualify for the Pharmacy Technician Certified Board (PTCB) exam.

Upon successful completion of the program, graduates may obtain employment as:

- Pharmacy Technician (CIP # 51.0805; O-NET # 29-2052.00)

<table>
<thead>
<tr>
<th>Term #</th>
<th>Module Title</th>
<th>Week #</th>
<th>Clock Hours</th>
<th>Quarter Credit Units*</th>
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<tr>
<td>I</td>
<td>General Concepts of Pharmacy</td>
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<td>II</td>
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<tr>
<td>VI</td>
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<td>VII</td>
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Note: one clock hour is defined as a 60-minute span of time in which 50 minutes is devoted to actual class instruction, with the remaining portion designated as a break.

For information on graduation rates, median debt of graduates completing this program or other important information, visit: [http://cbd.edu/pharmacy-technician.html](http://cbd.edu/pharmacy-technician.html)
## Course Syllabus:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Lecture</th>
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<td>PHT 400</td>
<td>Pharmacology of Endocrine System</td>
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<td>PHT 401</td>
<td>Pharmacology of Skin Diseases and Over The Counter medications</td>
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**TOTAL** 350 210 160 720
PHT Course Descriptions:

MODULE I  PHT 100 GENERAL CONCEPTS OF PHARMACY

Prerequisites: Admission to the Pharmacy Technician Program. ASSET ACT Pre-Enrollment Exam with the following scores: Writing, Reading and Numerical Skills minimum Score 41.
Total clock hours: 40
Quarter Credit Units: 3.5*
This course introduces the student to the practice of pharmacy both from a theoretical and practical stand point. Included are instruction in the storage, filling, documentation and interpretation of written prescriptions. Retail and Hospital pharmacy is differentiated as to practice and expectations. The laws dealing with the Controlled Substance Act are discussed and explained. This module differentiates the routes of drug administration. Special consideration is given to the aseptic preparation of IV solutions with storage and documentation emphasized.

MODULE I  PHT 101 FEDERAL & STATE PHARMACY LAWS & PHARMACEUTICAL PROCEDURES

Prerequisites: PHT 100
Total clock hours: 20
Quarter Credit Units: 1.5*
This course reviews the various Federal and State laws. It covers the history of these laws, controlled substances, standards and ethics, and the liability of the pharmacy, pharmacist and pharmacy technician in regard to this law. Other topics covered include who can have access to prescription files and how the DEA controls drugs of abuse.

MODULE II  PHT 200 PHARMACOLOGY OF CARDIOVASCULAR SYSTEM

Prerequisites: PHT 100-101
Total clock hours: 20
Quarter Credit Units: 1.5*
This course begins with an overview of the anatomy of the heart and cardiac conduction system. It also includes conditions affecting the cardiovascular system, treatment, and medications. Students learn different classes of cardio medications, as well as their therapeutic effect and side effects.

MODULE II  PHT 201 PHARMACOLOGY OF THE CENTRAL NERVOUS SYSTEM (CNS) AND PERIPHERAL NERVOUS SYSTEM (PNS)

Prerequisites: PHT 100-200
Total clock hours: 20
Quarter Credit Units: 1.5*
This course covers drugs that affect the central nervous system (brain and spinal cord) and how they are used therapeutically to mitigate and treat CNS disorders. This course describes how peripheral nerves (outside the CNS) communicate with our CNS and internal organs. It describes how the PNS is divided into two parts, the voluntary and involuntary nervous system, and how the parasympathetic and sympathetic branches drive each.
MODULE II  PHT 202 PSYCHOPHARMACOLOGY

**Prerequisites:** PHT 100-201

*Total clock hours: 20*  
*Quarter Credit Units: 1.5*

This course covers knowledge of the brain and its complexities. It covers such topics as emotional health; nondrug treatments and medication therapy focusing on antipsychotic agents; antidepressants; sedative and hypnotic agents; and other miscellaneous antianxiety agents.

MODULE III  PHT 300 PHARMACY STOCK AND BILLING

**Prerequisites:** PHT 100-202

*Total clock hours: 20*  
*Quarter Credit Units: 1.5*

This course introduces students to the primary types of insurance companies and how they manage drug coverage. They learn the difference between Medicaid and Medicare programs. Students learn what drug recalls are and why drugs are returned to the distributor. They learn what the pharmacy billing procedure is, what third-party billing is, and what formulary drugs are.

MODULE III  PHT 301 CANCER AND ONCOLOGY AGENTS

**Prerequisites:** PHT 100-300

*Total clock hours: 20*  
*Quarter Credit Units: 1.5*

This course covers common types of cancer and what causes cancer. Students are introduced to oncology terms. They also learn what nuclear medicine is. Course includes chemotherapy agents and their most common side effects. Students learn what medications are prescribed for the side effects of chemotherapy.

MODULE III  PHT 302 REPACKING AND COMPOUNDING

**Prerequisites:** PHT 100-301

*Total clock hours: 20*  
*Quarter Credit Units: 1.5*

This course introduces students to compounding of nonsterile products in outpatient pharmacy. Students learn and practice with equipment used in a compounding pharmacy. They learn the proper procedure of compounding as well. Students also learn the main reasons for repackaging medications and how to calculate expiration dates for repackaged meds. The course also covers special terms and definitions.

MODULE IV  PHT 400 PHARMACOLOGY OF ENDOCRINE SYSTEM

**Prerequisite:** PHT 100-302

*Total clock hours: 20*  
*Quarter Credit Units: 1.5*

This course covers the major function of the endocrine system and the medications related to hormones. Students learn different health conditions that require a hormone treatment. Course includes a discussion of hormones, two types of diabetes, and other conditions of endocrine system.
MODULE IV  PHT 401 PHARMACOLOGY OF SKIN DISEASES & OVER THE COUNTER MEDICATIONS

**Prerequisite:** PHT 100-400

*Total clock hours: 20  Quarter Credit Units: 1.5*

This course covers the various maladies associated with our largest organ, the skin. Emphasis is put on the drugs that are used in the treatment and healing of dermatological conditions. Also students learn the most common over-the-counter medications and conditions treated with OTC medications.

MODULE IV  PHT 402 PHARMACOLOGY OF THE INFECTIOUS DISEASE

**Prerequisite:** PHT 100-401

*Total clock hours: 20  Quarter Credit Units: 1.5*

The scope of this course covers major infectious diseases, both contagious and non-contagious. Diseases that are endemic and epidemic are covered, with special emphasis on the antibiotics and antiviral drugs that are prescribed. MRSA and other emerging forms of resistant infection are discussed.

MODULE V  PHT 500 PHARMACOLOGY OF REPRODUCTIVE SYSTEM

**Prerequisite:** PHT 100-500

*Total clock hours: 20  Quarter Credit Units: 1.5*

This course covers the major function of the reproductive system and the medications related to male and female hormones. Students learn different health conditions that require a hormone treatment. The course also covers contraceptives and sexually transmitted diseases.

MODULE V  PHT 501 HOSPITAL PHARMACY AND STERILE PRODUCTS

**Prerequisite:** PHT 100-500

*Total clock hours: 40  Quarter Credit Units: 3.0*

The course covers the most common tasks performed by the hospital pharmacy technician. It clarifies the difference between pharmacy stock and central supply stock. This course provides the student with an understanding of how sterile products used for parenteral administration must be prepared in an aseptic environment. Use of the laminar flow hood and exact aseptic technique are demonstrated and practiced. Students learn that infections in institutions (nosoicomol) are becoming more frequent and problematic while preparing IV’s.

MODULE VI  PHT 600 PHARMACOLOGY OF RESPIRATORY SYSTEM

**Prerequisite:** PHT 100-501

*Total clock hours: 20  Quarter Credit Units: 1.5*

The respiratory course concentrates on the drugs used for treatment of asthma and COPD. Emphasis is placed on the drugs that cause pulmonary dilation without cardiac side effects, such as the new Beta-2 specific agonist drugs. The effects of first and secondhand smoke are discussed. Molecular oxygen as a legend drug is discussed. Upper respiratory infections and allergies such as rhinitis and the rhinovirus (common cold) are discussed, as well as the drugs, both OTC and legend, that are used.
MODULE VI  PHT 601 PHARMACOLOGY OF THE (GI) GASTROINTESTINAL TRACT

**Prerequisite:** PHT 100-600  
*Total clock hours: 20*  
*Quarter Credit Units: 1.5*  
This course explains the pharmacology of drugs used in the treatment of GERD and peptic ulcer disease. It also includes drugs for emesis, nausea, vertigo, gastro stasis, and diarrhea. Over-the-counter maladies are included in this course’s lectures and discussions.

MODULE VI  PHT 602 PHARMACOLOGY OF URINARY SYSTEM

**Prerequisite:** PHT 100-601  
*Total clock hours: 20*  
*Quarter Credit Units: 1.5*  
This course discusses various topics regarding the urinary system and the drugs used for the treatment of same. Other topics include diuretics and how they affect renal dynamics along with the impact of sodium and potassium ion. Antianemic and antihypertensive drugs are also discussed as to how they impact the renal and, peripherally, the cardiac hemodynamic system. Nutrition and TPN therapy is also introduced as to how they impact the renal and vascular system in health and disease.

MODULE VII  PHT 700 ANTI-INFLAMMATORY AND ANTIHISTAMINE DRUGS

**Prerequisite:** PHT 100-602  
*Total clock hours: 20*  
*Quarter Credit Units: 1.5*  
This course covers the symptoms of inflammation and allergy. Students learn the major inflammation conditions as well as treatment of them. They learn the difference between steroidal and nonsteroidal anti-inflammatory agents, their drug actions and side effects. The course also covers symptoms of asthma and classification of drugs used to treat asthma.

MODULE VII  PHT 701 CPR AND FIRST AID

**Prerequisite:** PHT 100-700  
*Total clock hours: 20*  
*Quarter Credit Units: 1.5*  
Completing this course enables the student to become certified by the American Heart Association in First Aid and CPR. Cards of validation are issued to each student that completes this course. A certified instructor trains students to perform First Aid and CPR using a hands on approach.

MODULE VII  PHT 702 CAREER DEVELOPMENT

**Prerequisite:** PHT 100-701  
*Total clock hours: 20*  
*Quarter Credit Units: 1.5*  
The objective of this course is to assist the student in developing the skills and tools for career planning. Actual employment is the goal of this exposure. The objectives include the assessment of the student’s own skills and application of these skills in a competitive market environment. The student comes to understand the dress, attitude, and interview skills necessary to stand out from the “crowd” and succeed in being hired for a desired job.
PHARMACY CALCULATION (integrated throughout courses)

**Prerequisite:** PHT 100-702  
*Total clock hours: 140*  
*Quarter Credit Units: 10.5*

This course is designed to teach the essential mathematical concepts and skills used on the job by a pharmacy technician. Basic skills in mathematics are required for understanding and performing drug dose calculations and drug preparation, and this comprehensive course offers expanded coverage of basic skill reviews on fractions and percentages. The course includes intensive practice in pharmacy math calculations, conversions, measurements, and applications of equations including calculations required for the usual dosages and solution preparations.

MODULE VIII  PHT 800 EXTERNSHIP

**Prerequisite:** PHT 100-702  
*Total clock hours: 160*  
*Quarter Credit Units: 5.0*

The extern is “immersed” in a real pharmacy working environment. This environment may be a hospital or a retail environment based on the availability of a site and the preference of the extern for that type of practice. In this “real world” environment the student learns to deal with the day-to-day events in the “pharmacy world.” Here the student gains invaluable experience and confidence in his/her professional and interpersonal ability.

* A quarter credit is defined as one credit for every ten (10) hours of lecture, one credit for every twenty (20) hours of lab, and one credit for every thirty (30) hours of externship (or internship).