PHT 56: DISPENSING & COMPOUNDING

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	3
Hours:	2 lecture, 3 laboratory per week (60 total per quarter)
Prerequisite:	PHT 50.
Advisory:	Not open to students with credit in PHT 56A.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable
Formerly:	PHT 56A

Student Learning Outcomes

- Interpret, evaluate and prepare non-sterile solid and liquid pharmaceutical dosage forms for oral use utilizing prescription orders.
- Document and maintain records of pharmaceutical compounding,dispensing,storage and packaging.

Description

General preparation of non-sterile solid, semi-solid, and liquid pharmaceutical dosage forms for enteral and parenteral drug dosage routes. Practical experience in the manipulative and record keeping functions associated with the compounding and dispensing of prescriptions. Study of dosage forms, advantages and disadvantages, uses, storage and packaging of pharmaceutical products. Intended for students in the Pharmacy Technician Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:
A. Correctly use common pharmaceutical measuring, weighing and compounding devices.
B. Demonstrate skill in the use of common equipment and in basic compounding techniques.
C. Demonstrate a working knowledge of the metric, apothecary, avoirdupois and household systems to count and measure.
D. Identify and differentiate between various solid, semi-solid and liquid dosage forms for enteral and parenteral use and be able to characterize the advantages and disadvantages of each.
E. Identify the different storage requirements and safety considerations of various classifications of pharmaceuticals and basic compounding ingredients.
F. Select proper containers for packaging and dispensing of compounded preparations.
G. Properly compound, label and document compounded products.

Course Content

A. Equipment used in basic non-sterile compounding (Lec, Lab)
1. Digital balances
2. Volumetric glassware
3. Mortars and pestles
4. Tools used in weighing, measuring and preparing compounds
B. Demonstrate skill in compounding techniques (Lec, Lab)
1. Various types of comminution
2. Geometric dilution
3. Levigation
4. Spatulation
5. Molding
6. Lab: techniques will be introduced via both hands-on and video demonstrations
C. Review basic measuring systems (Lec, Lab)
1. Metric
2. Apothecary
3. Avoirdupois
4. Household
D. Identify and differentiate between different dosage forms for enteral and parenteral routes (Lec)
1. Terminology
2. Basic guidelines for enteral and parenteral dosage forms
3. Advantages, disadvantages and uses of various routes and forms
E. Identify the different storage requirements and safety requirements for pharmaceuticals and basic compounding ingredients (Lec, Lab)
1. Beyond-use dating
a. Definition
b. USP 795 guidelines
1) Solid formulations
2) Non-aqueous liquid and semi-solid formulations
3) Aqueous liquid and semi-solid formulations
2. Acid, base and neutral solutions
3. Organic solvents
F. Selection of proper containers for packaging and dispensing (Lec, Lab)

1. Size selection
2. Physical compatibility requirements
3. Patient labels and auxiliary label
4. Professional appearance
G. Properly compound, label and document products (Lec, Lab)
1. Oral dosage forms
a. Powders
b. Capsules
c. Solutions
d. Troches
e. Suspensions
f. Syrups
2. Topical dosage forms
a. Lotions
b. Powders
c. Balms
d. Ointments
e. Suppositories
f. Pastes
g. Solutions
3. Transdermal dosage formulation

Lab Content

A. Extemporaneous compounding and packaging of: solutions, lotions, balms, ointments, pastes, powders, suppositories, troches and transdermal products.
B. Practical dispensing skills focused on patient profiles, product identification, labeling, auxiliary labeling and packaging of compounded pharmaceuticals.

Special Facilities and/or Equipment

A. Dispensing equipment, compounding equipment, weighing and measuring devices, dispensing containers, labels and auxiliary labels.
B. Classroom library with generalized and specialized references for non-sterile compounding.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Objective exams
Lab practical exams
Quizzes
Laboratory reports
Oral presentation on commercially available transdermal delivery systems

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture presentations and classroom discussion
Small team/group sessions to discuss laboratory compounding/ dispensing concepts

Representative Text(s) and Other Materials

American Pharmacists Association. The Pharmacy Technician, 7th ed.. 2020.

Ballington, Don, and Robert Anderson. Pharmacy Practice for Technicians, 6th ed.. 2017.

Wilson, Billie A., Margaret T. Shannon, and Kelly Shields. Nurse's Drug Guide 2019. 2019.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

A. Weekly reading assignments from text, lecture notes and outside sources.
B. Review of lecture handouts and relevant reading material.
C. Pre-lab and post lab assignments.
D. Laboratory reports.

Discipline(s)

Pharmacy Technology