

**DH 75 Course Outline as of Fall 2023****CATALOG INFORMATION**

Dept and Nbr: DH 75

Title: PHARM FOR THE DENTAL HYG

Full Title: Pharmacology for the Dental Hygienist

Last Reviewed: 11/28/2022

| Units   |      | Course Hours per Week |      | Nbr of Weeks | Course Hours Total |       |
|---------|------|-----------------------|------|--------------|--------------------|-------|
| Maximum | 2.00 | Lecture Scheduled     | 2.00 | 17.5         | Lecture Scheduled  | 35.00 |
| Minimum | 2.00 | Lab Scheduled         | 0    | 17.5         | Lab Scheduled      | 0     |
|         |      | Contact DHR           | 0    |              | Contact DHR        | 0     |
|         |      | Contact Total         | 2.00 |              | Contact Total      | 35.00 |
|         |      | Non-contact DHR       | 0    |              | Non-contact DHR    | 0     |

Total Out of Class Hours: 70.00

Total Student Learning Hours: 105.00

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

Students will learn the general principles of applied pharmacology, including drug action, interaction, adverse reactions, and prescription writing. Drugs for management of medical diseases and conditions are examined as they affect the clinical practice of dental hygiene and how they may alter dental treatment.

**Prerequisites/Corequisites:**

Course Completion of DH 71A

**Recommended Preparation:****Limits on Enrollment:**

Acceptance into Allied Dental Program

**Schedule of Classes Information:**

Description: Students will learn the general principles of applied pharmacology, including drug action, interaction, adverse reactions, and prescription writing. Drugs for management of medical diseases and conditions are examined as they affect the clinical practice of dental hygiene and how they may alter dental treatment. (Grade Only)

Prerequisites/Corequisites: Course Completion of DH 71A

Recommended:

Limits on Enrollment: Acceptance into Allied Dental Program

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

|                      |                      |                      |           |
|----------------------|----------------------|----------------------|-----------|
| <b>AS Degree:</b>    | <b>Area</b>          | Effective:           | Inactive: |
| <b>CSU GE:</b>       | <b>Transfer Area</b> | Effective:           | Inactive: |
| <b>IGETC:</b>        | <b>Transfer Area</b> | Effective:           | Inactive: |
| <b>CSU Transfer:</b> | Transferable         | Effective: Fall 1999 | Inactive: |
| <b>UC Transfer:</b>  |                      | Effective:           | Inactive: |

**CID:**

**Certificate/Major Applicable:**

Major Applicable Course

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Describe the general principles of pharmacology including routes of administration, pharmacodynamics, and pharmacokinetics.
2. Differentiate the classification of drugs; identifying use, action, contraindications and recognize systemic and oral manifestations associated with their use.

### **Objectives:**

At the conclusion of this course, the student should be able to:

1. Define and describe the mechanism of action and therapeutic effect of each class of drugs.
2. Evaluate new therapeutic agents utilizing pharmacological principles.
3. Discuss the dental implications of each drug classification and how these implications affect and modify dental hygiene care.
4. List factors that influence the pharmacokinetics of drugs.
5. Describe adverse reactions and general methods of toxicity prevention.
6. Describe the mechanism and classification of drug interactions.
7. List sources of drug information and demonstrate the use of these sources.
8. List routes of drug administration.
9. Identify and define the parts of a prescription.
10. List common abbreviations, nomenclature and measurement systems used in prescription writing.
11. Identify the regulatory agencies and laws pertaining to prescribing and use of drugs.
12. Describe the dental implications of drug abuse and the possible modifications to patient management.
13. Recognize and describe the management of medical emergency situations resulting from the administration and/or use of drugs.
14. Describe common oral conditions and list the medications used to treat these conditions.
15. List common medications and the usual dosage forms used in dentistry.

16. Provide appropriate instructions for compliance to patient taking common medications used in dentistry.
17. List the forms of medications and the usual dosage form used in dentistry.
18. Discuss medications regarding the pregnant or lactating patient.

## **Topics and Scope:**

### **I. General Principles**

- A. Pharmacology and the dental hygiene process of care
- B. Sources of drug information
- C. Terminology
- D. State and Federal regulation and classification of drugs
- E. Food and Drug Administration (FDA) pregnancy categories of drug
- F. Prescription writing
- G. Prescription versus nonprescription Drugs

### **II. Fundamentals of Drug Action**

- A. Routes of drug administration
- B. Pharmacokinetics
- C. Pharmacodynamics
- D. Drug interactions

### **III. Autonomic Nervous System Drugs**

- A. Functions of the autonomic nervous system
- B. Sympathomimetic drugs
- C. Adrenergic sympathetic agonist
- D. Adrenergic receptor antagonists
- E. Drugs affecting cholinergic transmission

### **IV. Local Anesthetics**

- A. Routes of administration
- B. Ester type local anesthetic
- C. Amide type local anesthetic
- D. Vasoconstrictors in local anesthetics
- E. Non-Amide and Non-Ester local anesthetics

### **V. Sedation and General Anesthetics**

- A. Routes and types of administration
- B. Moderated sedation in the dental office
- C. Nitrous Oxide sedation

### **VI. Drugs for Pain Control**

- A. Neurophysiology of pain
- B. Nonnarcotic analgesic
- C. Opioid analgesics

### **VII. Antimicrobial Agents**

- A. Antibiotics
- B. Antivirals
- C. Antifungals
- D. Antiparasitic

### **VIII. Arthritis Drugs**

- A. Non-Steroidal Anti-inflammatory Drugs (NSAIDS)
- B. Non-NSAIDS

### **IX. Cardiovascular Drugs**

- A. Hypertension
- B. Angina pectoris
- C. Heart failure

- D. Arrhythmias
- E. Epinephrine in cardiac patients
- F. Lipid lowering drugs
- G. Thrombolytic drugs
- X. Gastrointestinal Drugs
  - A. Laxatives
  - B. Antisecretory
  - C. Antispasmodic
  - D. Antacids
  - E. Antidiarrheal
  - F. Appetite stimulants
- XI. Respiratory Drugs
  - A. Asthma
  - B. Chronic Obstructive Pulmonary Disease (COPD)
  - C. Allergies
  - D. Antihistamines
  - E. Glucocorticoids
- XII. Neurological Drugs
  - A. Anti-seizure
  - B. Parkinson's disease
  - C. Alzheimer's disease
- XIII. Psychotherapeutic Drugs
  - A. Antipsychotic drugs
  - B. Mood disorders
  - C. Anxiolytics (anti-anxiety) agents
  - D. Sedative and hypnotic drugs
  - E. Attention-deficit and hyperactivity disorder (ADHD)
- XIV. Endocrine and Hormonal Drugs
  - A. Diabetes mellitus
  - B. Thyroid Drugs
  - C. Adrenal (steroid) hormones
  - D. Sex hormones and contraceptives
  - E. Bisphosphonates and osteoporosis
- XV. Herbal and Natural Remedies
  - A. Homeopathy and natural products
  - B. Vitamins and minerals

### **Assignment:**

Reading assignments (20-30 pages per week)  
Drug reference report (1)  
Article abstract report (1)  
Quizzes (8-10)  
Examinations (midterm and final)

### **Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

|   |                                |
|---|--------------------------------|
| Article abstract report   | Writing<br>5 - 10%             |
| <b>Problem Solving:</b> Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills. |                                |
| Drug reference report   | Problem solving<br>20 - 30%    |
| <b>Skill Demonstrations:</b> All skill-based and physical demonstrations used for assessment purposes including skill performance exams.              |                                |
| None  | Skill Demonstrations<br>0 - 0% |
| <b>Exams:</b> All forms of formal testing, other than skill performance exams.  |                                |
| Quizzes; examinations   | Exams<br>65 - 75%              |
| <b>Other:</b> Includes any assessment tools that do not logically fit into the above categories.  |                                |
| None  | Other Category<br>0 - 0%       |

### **Representative Textbooks and Materials:**

Applied Pharmacology for the Dental Hygienist. 8th Ed. Bablenis Haveles, Elena. Elsevier. 2020.

Drug Information Handbook for Dentistry (available online through SRJC library)

Instructor prepared materials