

**DH 75 Course Outline as of Fall 2014****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:**

The clinical usage of the therapeutic agents used in the practice of dentistry. The indications, dosage, methods of administration, contraindications and side effects of these agents will be studied to give the student hygienist a foundation in the physical manifestations to be expected in drug administration.

**Prerequisites/Corequisites:**

Course Completion of DH 71A

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

Acceptance into Allied Dental Program

**Schedule of Classes Information:**

Description: The clinical usage of the therapeutic agents used in the practice of dentistry. The indications, dosage, methods of administration, contraindications and side effects of these agents will be studied to give the student hygienist a foundation in the physical manifestations to be expected in drug administration. (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**

### **Outcomes and Objectives:**

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 the sources of drug information and demonstrate the use of these sources.
8. List the 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:**

1. General Principles

- A. Pharmacology for the dental hygienist
- B. Critical review of drug information
- C. Sources of drug information
- D. Drug related web and software based information sources
- E. Drug nomenclature
- F. State and Federal regulation
- 2. Prescription Writing
  - A. Metric and traditional system
  - B. Abbreviations
  - C. Parts of the prescription
  - D. Drug regulation
  - E. Drug abusers/abuse potential
- 3. Characterization of Drug Action
  - A. Biochemical actions
  - B. Physiologic effects
  - C. Organ system effects
  - D. Dose-effect curve
  - 1. Potency
  - 2. Efficacy
- 4. Mechanism of Drug Action
  - A. Nerve transmission
  - B. Receptors
- 5. Drug Administration and Dosage
  - A. Routes of drug administration
    - 1. Enteral
    - 2. Oral
    - 3. Rectal
  - B. Dosage forms
    - 1. Forms available
    - 2. Usual dosage forms in dentistry
- 6. Pharmacokinetics
  - A. Passage across body membranes
  - B. Absorption
  - C. Distribution
  - D. Half-Life
  - E. Blood-brain barrier
  - F. Redistribution
  - G. Metabolism (biotransformation)
  - H. Excretion
  - I. Factors that alter drug effects
    - 1. Adult and pediatric dosage calculation
    - 2. Age
    - 3. Disease states
- 7. Adverse Reactions
  - A. Definitions and classifications
  - B. Clinical manifestation of adverse reactions
  - C. Local effect
  - D. Drug interactions
  - E. Allergic reactions
  - F. Idiosyncrasy
  - G. Toxicological evaluation
- 8. Medical Emergencies and Pharmacology in the Dental Office

- A. Emergency kit
  - 1. Equipment
  - 2. Specific drugs and clinical uses
- B. Emergency management policies and protocol
- 9. Pharmacology and the Peripheral Nervous System
  - A. Sympathetic and parasympathetic autonomic nervous system review
  - B. Adrenergic and anti-adrenergic drugs
  - C. Cholinergic and anti-cholinergic drugs
  - D. Ganglionic drugs
  - E. Neuromuscular blocking drugs
  - F. Dental implications
- 10. Pharmacology and the Central Nervous System
  - A. Anticonvulsant drugs
  - B. Drug interactions
  - C. General anesthetics
  - D. Ethanol
  - E. Dental implications
- 11. Psychotherapeutic Pharmacology
  - A. Antipsychotic drugs
  - B. Antidepressive drugs
  - C. Antianxiety agents
  - D. Dental implications
- 12. Pharmacology and Pain Control
  - A. Opioid (narcotic) analgesics
    - 1. Sedative-hypnotic agents
    - 2. Acute narcotic poisoning
    - 3. Narcotic antagonists
  - B. Non-Opioid (non-narcotic) analgesic
    - 1. Salicylates
    - 2. Non-steroidal anti-inflammatory
    - 3. Acetaminophen
    - 4. Local anesthetics
  - C. Dental implications
- 13. Pharmacology of Heart Medications
  - A. Cardiac glycosides
  - B. Treatment of congestive heart failure (CHF)
  - C. Cardiac function
  - D. Vasodilator therapy
  - E. Antiarrhythmic and antianginal drugs
  - F. Dental implications
- 14. Pharmacology and the Vascular and Renal system
  - A. Diuretics
  - B. Electrolytes
  - C. Antihypertensive drugs (centrally and peripherally acting)
  - D. Anticoagulants and coagulants
  - E. Antihyperlipidemic agents
  - F. Dental implications
- 15. Pharmacology and the Respiratory System
  - A. Antiallergic and antihistaminic drugs
  - B. Bronchodilators
  - C. Anti-inflammatory drugs
  - D. Treatment of asthma

- E.Dental implications
- 16. Pharmacology and the Gastro-Intestinal Tract
  - A.Antiulcer therapy
  - B.Antidiarrheals
  - C.Laxatives and cathartics
  - D. Dental implications
- 17. Pharmacology and the Endocrine System
  - A.Adrenocorticosteroids
  - B.Hormones
  - C.Diabetes therapy
  - D.Oral contraceptives
  - E.Thyroid drugs
  - F.Dental implications
- 18. Pharmacology and Infectious Disease
  - A.Antibiotic therapy
  - B.Antibiotic prophylaxis
  - C.Antimicrobial agents
  - D.Antifungal agents
  - E.Antiviral and antiprotozoal drugs
  - F.Antiseptics and disinfectants
  - G.Dental implications
- 19. Antineoplastic agents and Dental Implications
- 20. Pharmacology and the Immune System
  - A.Aids/HIV
  - B.Immunopharmacology
  - C.Anti-inflammatory agents
  - D. Dental implications
- 21. Herbs, Homeopathy, Alternative Medicine and OTC's
  - A.Vitamins and minerals
  - B.Herbal treatments
  - C.Homeopathic treatment
  - D.Biological basis for alternative therapies
  - E.Over-the-counter (OTC) medications
  - F.Oral health care products
  - G.Dental implications
- 22. Common Drugs used in Dentistry
- 23. Common Oral Conditions and Medications used in their Treatment
- 24. Pharmacology and Pregnancy
  - A.Fetal development
  - B.Lactation

### **Assignment:**

Reading assignments 20-30 pages per week  
1 drug reference material assignment  
8-10 quizzes, 1 midterm and 1 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.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Drug reference material assignment

Problem solving  
25 - 35%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations  
0 - 0%

**Exams:** All forms of formal testing, other than skill performance exams.

Quizzes, midterm and final

Exams  
65 - 75%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

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

Oral Pharmacology for the Dental Hygienist, M. Weinberg, C. Westphal-Theile, J. Burke Fine.  
2nd Edition, 2012, Pearson  
Instructor prepared materials