

LAST REVIEW: 2010 - 2011

NEXT REVIEW: 2015 - 2016

STATUS: A

COURSE TITLE: DENTAL PHARMACOLOGY

COMMON COURSE NUMBER: DEH 2300

CREDIT HOURS: 2

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS:
(Voc. Course ONLY)

Lecture: **2**

Lab: **0**

Clinic: **0**

Other: **N/A**

PREREQUISITE(S): DEH 1002, DEH 1002L, DEH 2400

COREQUISITE(S): DEH 1800, DEH 1800L

PRE/COREQUISITE(S): n/a

COURSE DESCRIPTION: This course provides an understanding of the drugs commonly encountered in the dental office. The student will gain knowledge in the origin, physical and chemical properties, modes of administration and effects upon the body system.

UNIT TITLES

1. General Principles of Pharmacology
2. Autonomic Drugs
3. Analgesics
4. General Anesthesia
5. Antianxiety Agents
6. Antimicrobial Agents
7. Cardiovascular Drugs
8. Anticonvulsants
9. Psychotherapeutic Agents
10. Corticosteroids
11. Respiratory Drugs
12. Antineoplastics

EVALUATION:

GRADING: Grades will be determined by the following:

Tests	- 45%
Class Participation	- 5%
Assignment	- 10%
Final Examination	- 40%

The student's letter grade for this course will be determined by the departmental percentage scale:

92 - 100 = A

83 - 91 = B

75 - 82 = C

66 - 74 = D

F

A final grade of "C" or higher must be achieved in all Dental Hygiene courses for continuance in the Program

Assignments include in class questions on pain medications, minor and major tranquilizers. The second assignment is the creation of a medication list. This is a computerized list of medications by category, designed to help the student learn medications.

All graded examinations and projects will be retained by the Dental Hygiene Department for the purpose of maintaining the student's academic records. The student may have access to his/her file upon request. An appointment may be necessary to do so.

Common Course Number: DEH 2300

UNITS

Unit 1 General Principles of Pharmacology

General Outcome:

- 1.0 The student shall:** The students should be able to describe sources of medications, regulatory agencies, prescription writing, and forms of administration of drugs.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 1.1 Describe the importance of pharmacology in dental hygiene.
- 1.2 List sources of drug agents.
- 1.3 Describe various governmental drug regulation agencies.
- 1.4 List the components of prescription writing.
- 1.5 Describe administration and dosage forms of drugs.
- 1.6 Define pharmacodynamics.
- 1.7 Describe potential adverse drug reactions.
- 1.8 Define and describe “ADME”
- 1.9 Describe bioavailability

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Unit 2 Autonomic Drugs

General Outcome:

2.0 The student shall: be able to discuss autonomic drugs and their affects.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1 Describe the autonomic nervous system.
- 2.2 Describe neurotransmitters.
- 2.3 List and describe cholinergic agents.
- 2.4 Describe the mechanism of action of cholinergic meds.
- 2.5 Describe the pharmacodynamics of these drugs.
- 2.6 Describe the uses and relevance of these drugs in dentistry.
- 2.7 Differentiate between cholinergic and anticholinergic medications

Common Course Number: DEH 2300

Unit 3 Analgesics

General Outcome:

- 3.0 The student shall:** be able to describe opioids and nonopioids and determine the differences of each category.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 3.1 Define nonopioid analgesics.
- 3.2 List the classifications of nonopioids.
- 3.3 Describe the pharmacological effects of these meds.
- 3.4 Describe uses and relevance of the drugs in dentistry.
- 3.5 Define opioid analgesics.
- 3.6 List the classifications of opioids.
- 3.7 Describe the mechanism of actions of opioids
- 3.8 Describe their uses and relevance in dentistry.

Common Course Number: DEH 2300

Unit 4 General Anesthetics

General Outcome:

- 4.0 The student shall:** The students should be able to describe general anesthetic agents, mechanism of action, and stages of anesthesia.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1 List the types of inhalation anesthetic agents.
- 4.2 List the types of IV anesthetic agents.
- 4.3 Describe their mechanism of action.
- 4.4 List and describe the stages and planes of anesthesia.
- 4.5 Describe potential adverse reactions.
- 4.6 Define diffusion hypoxia
- 4.7 Identify the absorption and excretion site for general anesthetics

Common Course Number: DEH 2300

Unit 5 Antianxiety Agents

General Outcome:

- 5.0 The student shall:** be able to list antianxiety agents and describe the pharmacokinetics, mechanism of action, and potential for drug interactions and abuse.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 5.1 List the chemical classifications of antianxiety agents and examples of meds in each.
- 5.2 Describe the pharmacokinetics of these agents.
- 5.3 Describe the mechanism of action of these agents.
- 5.4 List possible adverse reactions and contraindications.
- 5.5 Describe the uses and relevance of these medications in dentistry.
- 5.6 Differentiate barbiturates used to treat anxiety and those used for IV anesthesia.

Common Course Number: DEH 2300

Unit 6 Antimicrobial Agents

General Outcome:

- 6.0 The student shall:** be able to list and describe specific drugs in each category of antimicrobials and uses for each.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1 List and describe the anti-bacterial agent classifications.
- 6.2 Describe the mechanism of action of anti-bacterial drugs.
- 6.3 List and describe anti-fungal agents and give specific examples of each.
- 6.4 Describe the classifications of anti-viral agents and list specific examples of each.
- 6.5 Describe their mechanism of action.

Common Course Number: DEH 2300

Unit 7 Cardiovascular Drugs

General Outcome:

- 7.0 **The students shall:** be able to discuss the categories of cardiovascular drugs and their relevance in dentistry, and describe the mechanism of action of these medications.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 7.1 Define the difference between therapeutic and prophylactic use of cardiovascular drugs.
- 7.2 Describe 6 classifications of cardiovascular drugs and give specific examples of each.
- 7.3 Describe the pharmacological effects of these medications.
- 7.4 Determine potential adverse reactions and contraindications that can occur in patients.
- 7.5 Identify the primary electrolyte of concern when giving cardiac and diuretic medications.
- 7.6 Define hypertension, hypotension, tachycardia and bradycardia.

Common Course Number: DEH 2300

Unit 8 Anticonvulsant Agents

General Outcome:

- 8.0 The students shall:** be able to describe the uses and biological effects of anticonvulsant medications.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 8.1 Define seizure.
- 8.2 Describe the various types of seizures.
- 8.3 Describe the classifications of anticonvulsant agents.
- 8.4 Discuss the pharmacokinetics of these medications.
- 8.5 Describe the mechanism of action of these drugs.

Common Course Number: DEH 2300

Unit 9 Psychotherapeutic Agents

General Outcome:

- 9.0 The students shall:** be able to describe various psychotherapeutic medications, specific drug agents, and method of action.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 9.1 Describe psychiatric disorders.
- 9.2 List specific antidepressant agents.
- 9.3 Describe MAOIs.
- 9.4 Describe the mechanism of action of these drugs.
- 9.5 Differentiate between minor and major tranquilizers.

Common Course Number: DEH 2300

Unit 10 Adrenocorticosteroids

General Outcome:

- 10.0 The students shall:** be able to describe uses of corticosteroids, give specific examples of meds, and describe mechanism of action.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 10.1 Describe uses and relevance of adrenocorticosteroids to the body.
- 10.2 Describe the mechanism of release in the body.
- 10.3 Describe classifications of corticosteroids.
- 10.4 List specific routes of administration and dosages.
- 10.5 Describe the mechanism of action of these meds.
- 10.6 Define the term autocoid. Explain the role of autocoids in the body.

Common Course Number: DEH 2300

Unit 11 Respiratory

General Outcome:

- 11.0 The student shall:** The students should be able to discuss the categories of respiratory drugs and their relevance in dentistry, and describe the mechanism of action of these medications.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 11.1 Differentiate between common respiratory diseases.
- 11.2 List and describe the classes of medications prescribed for respiratory conditions.
- 11.3 Describe the “metered dose” inhalers and dosage associated with these medications.
- 11.4 Discuss the mechanism of action of various respiratory medications.
- 11.5 Describe adverse reactions and contraindications for respiratory drugs.

Common Course Number: DEH 2300

Unit 12 Antineoplastic

General Outcome:

- 12.0 The student shall:** be able to describe antineoplastic medications as they relate to specific treatment of malignant conditions.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 12.1 Describe the three major modes treating cancer
- 12.2 Describe the uses of antineoplastic medications and their relevance to dentistry.
- 12.3 List and describe the classis of antineoplastic.
- 12.4 Discuss the routes of administration of chemotherapeutic drugs.
- 12.5 Describe the adverse effects of cancer fighting medications.