

DH R022: PHARMACOLOGY FOR DENTAL HYGIENE

Originator

aderdiarian

Co-Contributor(s)
Name(s)

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College

Oxnard College

Discipline (CB01A)

DH - Dental Hygiene

Course Number (CB01B)

R022

Course Title (CB02)

Pharmacology for Dental Hygiene

Banner/Short Title

Pharmacology for DH

Credit Type

Credit

Start Term

Fall 2021

Catalog Course Description

This course focuses on the classification and study of drugs according to origin, physical and chemical properties, therapeutic effect and values, particularly of drugs used in dentistry.

Taxonomy of Programs (TOP) Code (CB03)

1240.20 - *Dental Hygienist

Course Credit Status (CB04)

D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)

C (Not transferable)

Course Basic Skills Status (CB08)

N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)

C - Clearly Occupational

Course Cooperative Work Experience Education Status (CB10)

N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)

Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)

N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)

Y - Not Applicable

Course Noncredit Category (CB22)

Y - Credit Course

Funding Agency Category (CB23)

Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)

1 - Program Applicable

General Education Status (CB25)

Y - Not Applicable

Support Course Status (CB26)

N - Course is not a support course

Field trips

Will not be required

Grading method

Letter Graded

Does this course require an instructional materials fee?

No

Repeatable for Credit

No

Is this course part of a family?

No

Units and Hours

Carnegie Unit Override

No

In-Class

Lecture

Minimum Contact/In-Class Lecture Hours

35

Maximum Contact/In-Class Lecture Hours

35

Activity

Laboratory

Total in-Class

Total in-Class

Total Minimum Contact/In-Class Hours

35

Total Maximum Contact/In-Class Hours

35

Outside-of-Class

Internship/Cooperative Work Experience

Paid**Unpaid****Total Outside-of-Class****Total Outside-of-Class****Minimum Outside-of-Class Hours**

70

Maximum Outside-of-Class Hours

70

Total Student Learning**Total Student Learning****Total Minimum Student Learning Hours**

105

Total Maximum Student Learning Hours

105

Minimum Units (CB07)

2

Maximum Units (CB06)

2

Prerequisites

DH R010 and DH R011 and DH R012 and DH R013 and DH R014 and DH R015

Corequisites

DH R020 and DH R021 and DH R023 and DH R024 and DH R025

Limitations on Enrollment

Current CPR certification for health care provider (American Heart Association) or professional rescuer (American Red Cross)

Proof of freedom from and immunity to communicable diseases

No acrylic or long nails in clinical settings

Current negative TB test or chest x-ray

Physical examination demonstrating general good health

No visible tattoos or visible body piercings except single studs in earlobes

Entrance Skills**Entrance Skills**

Students require a general understanding of dental anatomy, head and neck anatomy, human anatomy and physiology, microbiology, and how to detect deviations from normal in order to understand the uses, pharmacokinetics, and adverse reactions associated with medications.

Prerequisite Course Objectives

DH R010-Explain the embryology and histology of the orofacial complex to include the first signs of tooth development, enamel, dentin, and pulp creation, root formation and attachment apparatus, oral mucous membrane and formation of the tongue and salivary glands

DH R010-Recognize normal oral structures

DH R010-Compare the physiological and structural functions of teeth and supporting tissues

DH R010-Recognize and describe the components of the oral cavity

DH R010-Explain oral anatomy relative to proper dental hygiene procedures

DH R011-Identify anatomical landmarks, anomalies, restorations, caries, periapical lesions, and other possible pathological defects in a formal written critique of each full mouth survey of radiographs

DH R012-Define the terms, nose, nasal cavity, nasal epithelium, and paranasal sinuses and understand the anatomy of those structures

DH R012-Describe the functions of the nasal cavity, nasal epithelium, and paranasal sinuses

DH R012-Describe the anatomical relationship of the maxillary sinus and maxillary teeth and the relationship of these structures with regard to infections of either one

DH R012-Name and locate the major and minor salivary glands and classify each of the glands according to its response

DH R012-Name the specific branches of the trigeminal nerve and which areas of the face, teeth and oral cavity each supplies
DH R013-Prepare personalized chairside aids
DH R013-Describe how to plan, implement, and evaluate individualized oral hygiene care
DH R013-Define the of concept preventive dentistry
DH R013-Explain toothbrush uses and tooth-brushing techniques
DH R013-Explain the use of auxiliary aids to maintain good oral hygiene
DH R013-Describe plaque and its relationship to periodontal disease and caries
DH R013-Evaluate and use selected indices
DH R013-Describe the uses of different kinds of fluorides and their effects on teeth
DH R013-Analyze human behavior and motivation
DH R013-Define the objectives of patient of patient health education
DH R013-Describe plaque control methods adjusted for different types of patients
DH R013-Adapt proper tooth brushing procedures to specific patients
DH R013-Identify and explain the use of all auxiliary aids during patient education
DH R013-Describe the etiology of periodontal disease and caries
DH R014-Explain the theory of disease transmission and the necessity for asepsis in dentistry
DH R014-State the rationale for combining questionnaire and interview techniques to obtain the necessary patient information
DH R014-List the components of a comprehensive health history and explain the relevance of each
DH R014-Identify specific conditions and/or responses that indicate the need for antibiotic premedication, sedation, change in medication, special appointment planning, additional laboratory studies and special precautions to prevent disease transmission and allergic reactions
DH R014-Identify responses that necessitate consultation with the dentist and/or physician
DH R014-List history update question to be asked at recall appointments
DH R014-State the purposes and advantages of performing a complete general and oral examination for each patient
DH R014-Identify the characteristics to observe in assessing a patient's general appearance and state why they may be significant to treatment
DH R014-Discuss the role dentistry plays in identifying and monitoring hypertension
DH R014-Describe extraoral and intraoral examinations
DH R014-Given an illustration of an abnormal lesion, describe its location in the mouth, size and clinical characteristics using medical descriptions of the type of lesion represented
DH R014-Identify the importance of accurate oral inspection
DH R014-Define importance of detection of periodontal pockets
DH R014-Identify different types of fluoride applications and patient evaluation
DH R015-Describe and take comprehensive medical, dental, and personal histories
DH R015-Perform oral examination procedures utilizing a prescribed sequence
DH R015-Identify plaque and calculus
DH R015-Chart plaque and gingival indices
DH R015-Chart both restorative and periodontal charts
DH R015-Locate, clinically, all hard deposits supragingival and subgingival
DH R015-Remove deposits using the prescribed scaling instruments
DH R015-Explain different types of fluoride applications and their effects on oral tissues

Requisite Justification

Requisite Type

Prerequisite

Requisite

DH R010

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Prerequisite

Requisite

DH R011

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Prerequisite

Requisite

DH R012

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Prerequisite

Requisite

DH R013

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Prerequisite

Requisite

DH R014

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Prerequisite

Requisite

DH R015

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Corequisite

Requisite

DH R020

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Corequisite

Requisite

DH R021

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Corequisite

Requisite

DH R023

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Corequisite

Requisite

DH R024

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Requisite Type

Corequisite

Requisite

DH R025

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Content review

Student Learning Outcomes (CSLOs)

Upon satisfactory completion of the course, students will be able to:

- | | |
|---|--|
| 1 | The student must analyze the principles of pharmacology, sufficient to permit the proper medical evaluation of patients for dental hygiene care |
| 2 | The student must identify the influences drugs taken for nondental purposes may have on a proposed treatment and modify the treatment plan accordingly |
| 3 | The student must recognize therapeutic agents used in the routine practice of clinical dentistry and provide the patient with appropriate instructions for compliance. |

Course Objectives

Upon satisfactory completion of the course, students will be able to:

- | | |
|----|---|
| 1 | Identify the acts and the regulatory agencies within the federal government that affect the use of medications. |
| 2 | Select and discuss drug information references available to research information. |
| 3 | Identify the format of a prescription and the common abbreviations used. |
| 4 | Describe basic mechanisms of drug action, including receptor-mediated and receptor-independent actions, agonists and antagonists and dose–effect relationships. |
| 5 | Define the basic principles of pharmacokinetics within the body. |
| 6 | Identify factors that influence the pharmacokinetics of drugs. |
| 7 | Evaluate therapeutic applications of drugs, including routes of administration and variables that affect drug response. |
| 8 | Interpret pharmacologic effects, adverse reactions, contraindications and general methods of toxicity prevention. |
| 9 | Research the mechanism and classification of drug interactions. |
| 10 | Review the toxicological evaluation of drugs. |
| 11 | Identify factors that may alter the effect of a medication. |
| 12 | Define ways in which medications are named (brand, generic or chemical) and the significance of each. |
| 13 | Analyze the pharmacological effects of each category of drugs as well as their mechanism of action. |
| 14 | Describe the adverse reactions, contraindications and drug interactions for each category of drugs. |
| 15 | Identify dental considerations and modifications to treatment that might be necessary based on the specific drug category. |
| 16 | Identify medications by name (generic and brand) that fall within each of the categories of medications |
| 17 | Gain an appreciation for the role of research in evidence-based dental hygiene practice. |

Course Content**Lecture/Course Content**

1. General Pharmacology
2. Drug Action
3. Prescription Writing
4. Drugs in Dentistry
5. Anti-Infective Drugs in Dentistry
6. Pharmacological Effects of Anesthesia
7. Antianxiolytic, Anticonvulsant, and Psychotherapeutic Agents
8. Corticosteroids, Histamines and Other Hormones
9. Antineoplastic-Respiratory and Gastrointestinal Drugs
10. Cardiovascular Drugs
11. Oral Conditions and Treatment
12. Emergency Drugs
13. Pregnancy and Dental Drugs
14. Dental Drug Interactions

Laboratory or Activity Content

None

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

Problem solving exercises
Written expression

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Essay exams
Group projects
Individual projects
Objective exams
Oral presentations
Problem-Solving Assignments
Problem-solving exams
Quizzes
Role playing
Reports/papers
Research papers
Treatment plans

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Audio-visual presentations
Computer-aided presentations
Class activities
Class discussions
Case studies
Distance Education
Group discussions
Guest speakers
Instructor-guided interpretation and analysis
Instructor-guided use of technology
Internet research
Lecture
Small group activities

Describe specific examples of the methods the instructor will use:

PowerPoint presentations and short videos on various drugs used in medicine and dentistry, case studies from textbook such as patients taking anti-seizure medications, group discussions regarding patient case studies involving medications and appropriate patient treatment, in-class trivia games to test knowledge of various medications, class discussions regarding relevant media articles relating to pharmacology, in-class research regarding topics such as prophylactic antibiotic premedication for joint replacements and natural supplements, guest speakers on xylitol and emergency drugs, role-playing medical emergencies and their management

Representative Course Assignments

Writing Assignments

Writing assignments include essay exams on pharmacology topics, such as "Discuss the indications and contraindications for use of general anesthesia for dental treatment," covered in lecture and assigned reading. Students will also complete written assignments on the following topics: evidence-based research assignment on the use of antibiotic prophylaxis for prosthetic joints; precautions associated with acetaminophen; drug interactions with epinephrine; and a student-conducted interview with an individual taking a minimum of two medications and an assessment of any drug interactions

Critical Thinking Assignments

Case study assignments and in-class discussions involving patient health histories and critical thinking questions relating to medications, drug interactions, side effects, and adverse reactions. The following assignments also require critical thinking: evidence-based research assignment on the use of antibiotic prophylaxis for prosthetic joints; precautions associated with acetaminophen; drug interactions with epinephrine; and a student-conducted interview with an individual taking a minimum of two medications and an assessment of any drug interactions

Reading Assignments

Student will spend a minimum of 4 hours per week outside of the regular class time doing independent study and reading from assigned text and professional journals, for example The Journal of the American Dental Association, and other related books.

Assignments related to the reading include: completing questions at the end of the chapter, writing a one-page summary on the chapter, creating test questions from the chapter, and in-class discussions of the material.

Skills Demonstrations

Skills only involve critical thinking skills, which students will demonstrate through the following:

Case study assignments and in-class discussions involving patient health histories and critical thinking questions relating to medications, drug interactions, side effects, and adverse reactions. The following assignments also require critical thinking: evidence-based research assignment on the use of antibiotic prophylaxis for prosthetic joints; precautions associated with acetaminophen; drug interactions with epinephrine; and a student-conducted interview with an individual taking a minimum of two medications and an assessment of any drug interactions

Other assignments (if applicable)

None

Outside Assignments**Representative Outside Assignments**

Student will spend a minimum of 4 hours per week outside of the regular class time doing independent study and reading from assigned text and professional journals, for example The Journal of the American Dental Association, and other related books

Students will also complete written assignments and critical thinking assignments (see above)

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

Area F: Ethnic Studies

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Resource Type

Textbook

Classic Textbook

Yes

Description

Haveless, Elena Bablenis. (2020). Applied Pharmacology for the Dental Hygienist. 8th edition. Elsevier.

Library Resources

Assignments requiring library resources

None

Sufficient Library Resources exist

Yes

Example of Assignments Requiring Library Resources

None

Distance Education Addendum**Definitions****Distance Education Modalities**

Hybrid (51%–99% online)

Hybrid (1%–50% online)

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.

Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.

Yes

Regular Effective/Substantive Contact**Hybrid (1%–50% online) Modality:**

Method of Instruction	Document typical activities or assignments for each method of instruction
E-mail	Email submission of assignments
Other DE (e.g., recorded lectures)	online quizzes or exams

Hybrid (51%–99% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
E-mail	Email submission of assignments
Other DE (e.g., recorded lectures)	Online quizzes or exams
Asynchronous Dialog (e.g., discussion board)	Discussion board relating to various topics in pharmacology
Video Conferencing	Video conference lectures

Examinations**Hybrid (1%–50% online) Modality**

Online

On campus

Hybrid (51%–99% online) Modality

Online

On campus

Primary Minimum Qualification

DENTAL TECHNOLOGY

Additional local certifications required

Dental Hygiene faculty members must comply with the requirements set by the Commission on Dental Accreditation (CODA). CODA requires that program faculty member providing didactic instruction must have earned at least a baccalaureate degree in a

discipline-related field. All dental hygiene faculty members must have current knowledge of the specific subjects they are teaching and documented background in educational methodology consistent with their teaching assignments. Dentists and dental hygienists who supervise students' clinical procedures should have qualifications which comply with the state dental or dental hygiene act. Individuals who teach and supervise dental hygiene students in clinical enrichment experiences should have qualifications comparable to faculty who teach in the dental hygiene clinic and are familiar with the program's objectives, content, instructional methods and evaluation procedures.

Review and Approval Dates

Department Chair

04/24/2020

Dean

04/24/2020

Technical Review

05/13/2020

Curriculum Committee

05/13/2020

Curriculum Committee

12/09/2020

CCCCO

MM/DD/YYYY

Control Number

CCC000334686

DOE/accreditation approval date

MM/DD/YYYY