

D A 62C: DENTAL SCIENCES III

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	2
Hours:	2 lecture per week (24 total per quarter)
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- The student will be able to interpret a written prescription.
- The student will record a personal nutritional analysis and propose changes for optimal nutritional needs.

Description

Microbiologic and nutritional conditions related to dentistry; etiology, symptoms, transmission and control of infective and contagious diseases, nutritional physiology, and counseling, effect of nutrition on general dental health. Pharmacology of local anesthetic solutions, analgesic gases, and psychosedatives, and antibiotic agents. Use of nitrous oxide equipment. Intended for students in the Dental Assisting Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

A. Dental Assisting Theory and Practice

1. review the methods by which organisms are transmitted and establish themselves in susceptible tissues, replicate, and produce disease symptoms
2. given a list of common and significant diseases either affecting the oral cavity or affecting the provision of dental care, identify each with the organism which causes the disease
3. identify some common systemic diseases and list the oral symptoms which they may produce
4. describe the process by which nutritional materials are metabolized to provide energy or build tissue
5. associate fats, carbohydrates, proteins, minerals and vitamins with their role in normal cell and tissue activities
6. list at least three common and substantial food sources for fats, carbohydrates, proteins, and the essential mineral and vitamins
7. associate the deficiency diseases with the nutritional deficiency involved
8. using a prepared nutritional evaluation form, obtain an accurate assessment of nutritional levels, and suggest means by which that level can be improved to minimize associated medical or dental conditions
9. list four examples of commonly used analgesics, tranquilizers, antibiotics and sedatives or hypnotics, and indicate the actions, uses, and possible adverse reactions to each
10. identify and describe the equipment for nitrous oxide oxygen analgesia
11. describe, in sequence, the physiologic responses induced by administration of nitrous oxide and oxygen

12. prepare the patient and the equipment and make appropriate dial settings and adjustments for nitrous oxide administration
 13. supervise the recovery of a patient or subject who has been placed in a sedated state with nitrous oxide and oxygen administration
- ### B. Infection Control and Hazardous Waste Management
1. identify the necessary steps to properly handle nitrous oxide oxygen equipment in the prevention of contamination or cross contamination
- ### C. Ethical and Legal Principles
1. state the ethical and legal implications of prescribing and administering drugs in the dental office
 2. understand the ethical responsibilities of the dental assistant in recognizing nutritional deficiencies
 3. cite the legal and ethical implications of the administration and utilization of nitrous oxide oxygen analgesia
- ### D. Dental Assisting Program Competencies
1. Dental Assisting Theory and Practice: dental assisting students must be competent in applying the theory and practice of dental assisting for persons of all ages and abilities
 2. Infection Control and Hazardous Waste Management: dental assistants must possess the knowledge and abilities to prevent the transmission of infectious diseases
 3. Ethical and Legal Principles: dental assisting students must be competent in understanding ethical/legal principles as applied to the dental office

Course Content

Dental Assisting Theory and Practice

A. Infectious diseases and prevention

1. Review of causative organisms of infectious diseases
 - a. Viruses
 - b. Bacteria
 - c. Fungi
 - d. Prions
 2. Chain of infection
 - a. Virulence
 - b. Number of microorganisms
 - c. Susceptible host
 - d. Portal of entry
 3. Types of infections
 - a. Acute infection
 - b. Chronic infection
 - c. Latent infection
 - d. Opportunistic infection
 4. Methods of disease transmission
 - a. Direct transmission
 - b. Indirect transmission
 - c. Splash or spatter
 - d. Airborne transmission
 - e. Parenteral transmission
 - f. Bloodborne transmission
 - g. Foot and water transmission
 - h. Fecal-oral transmission
 5. Immunology
 - a. Types of immunity
- ### B. Oral pathology
1. Systemic diseases and oral symptoms
 - a. Hepatitis
 - b. HIV
 - c. Herpes simplex/herpes zoster
 - d. Human papillomavirus
 - e. Diabetes

- 2. Oral conditions and manifestations
 - a. Meth mouth
 - b. Eating disorders
 - 1) Anorexia nervosa
 - 2) Bulimia
 - c. Scurvy
- C. Metabolism of nutrition
 - 1. Metabolism and the relationship to energy release and tissue construction
 - 2. Digestive process and food absorption
 - D. Role of nutrients
 - 1. Food guide pyramid
 - a. Fats
 - b. Carbohydrates
 - c. Protein
 - d. Minerals
 - e. Vitamins
 - E. Food sources
 - 1. Fats
 - 2. Carbohydrates
 - 3. Protein
 - 4. Minerals
 - 5. Vitamins
 - F. Deficiency diseases associated with nutrition
 - 1. Eating disorders
 - a. Bulimia
 - b. Anorexia nervosa
 - 2. Scurvy
 - G. Nutritional evaluation and counseling
 - H. Drug actions, uses and adverse reactions
 - 1. Analgesics
 - 2. Tranquilizers
 - a. Antibiotics
 - b. Sedatives
 - c. Hypnotics
 - 2. Over-the-counter versus prescribed medications
 - a. Controlled Substance Act
 - 3. Prescription writing and abbreviations
 - I. Nitrous oxide-oxygen analgesia equipment
 - 1. Portable equipment
 - 2. Wall unit
 - 3. Types of tanks
 - 4. Scavenger systems
 - J. Nitrous oxide-oxygen analgesia physiologic responses
 - 1. Stage and planes
 - K. Responses to nitrous administration
 - 1. Indications
 - 2. Contraindications
 - 3. Signs
 - 4. Patient response
 - L. Administration of nitrous oxide-oxygen analgesia
 - 1. Equipment set-up
 - 2. Patient preparation
 - 3. Administration procedure
 - a. Flow of gases
 - b. Patient titration
 - c. Patient monitoring
 - 4. Pre- and post-administration of oxygen
 - M. Patient recovery from nitrous administration
 - 1. Signs of recovery
 - 2. Return of blood gasses to normal

- A. Nitrous oxide oxygen administration
 - 1. Decontamination of equipment
 - 2. Handling of nasal mask
 - 3. Preventing cross contamination of equipment
- Ethical and Legal Principles
 - A. Ethical and legal implications of prescribing and administering drugs
 - 1. Dental assistant's responsibility
 - 2. Proper dispensing of medications or written prescriptions
 - 3. DEA number and prescription limitations
 - B. Ethical responsibilities of the dental assistant in recognizing nutritional deficiencies
 - 1. Communicate to the dentist/staff/patient nutritional deficiencies and their prevention
 - C. Legal and ethical implications of the administration and utilization of nitrous oxide oxygen analgesia
 - 1. Supervision level
 - 2. Misuse and complications from improper administration
 - 3. Professional conduct during administration

Lab Content

Not applicable.

Special Facilities and/or Equipment

None.

Method(s) of Evaluation

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

Weekly quizzes
 Assignments
 Oral pathology report and presentation
 Nutritional analysis

Method(s) of Instruction

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

Lecture
 Discussion
 Oral presentations

Representative Text(s) and Other Materials

Bird, DL, and DS Robinson. *Modern Dental Assisting, 12th ed.*. 2018.

Bird, DL, and DS Robinson. *Student Workbook to Accompany Modern Dental Assisting, 12th ed.*. 2018.

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

- A. Read five chapters in the textbook
- B. One online continuing education course and test on Proctor and Gamble educational website
- C. Oral pathology report - 2 pages
- D. Read two journal articles and write a summary of the articles

Discipline(s)

Dental Technology