

D A 62A: DENTAL SCIENCES I

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	2
Hours:	2 lecture, 1 laboratory per week (36 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 must be able to correctly identify permanent and primary teeth using the Palmer and Universal Numbering systems.
- The student will be able to correctly identify the muscles of the head and neck used for mastication.

Description

Discussion of anatomy and morphology of the teeth, the eruption sequence and process; normal occlusion, development and class of malocclusions; anatomy of the skull, arteries and veins, musculature and nervous structures of the head and neck. 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 Competency
 1. label the different tissues of the tooth
 2. describe the names given to the teeth in the dentition
 3. describe surfaces and anatomical landmarks found on the teeth
 4. describe the divisions of the dentition
 5. identify the periodontal tissues
 6. label the structures of the face and oral cavity
 7. describe the eruption process
 8. describe the relationships seen in normal occlusion and malocclusion
 9. identify the individual bones of the skull and important landmarks on the bones
 10. identify the bones of the face and important landmarks on the bones
 11. be familiar with identifying characteristics of deciduous versus permanent teeth
 12. describe the muscles of the head and neck
 13. label the tissues associated with the temporomandibular joint
 14. describe the function and movement of the temporomandibular joint
 15. identify the salivary glands and describe the function of saliva in the oral cavity
 16. describe the surfaces of the tongue and the function of the papillae found on the tongue
 17. describe how the blood supply is associated with the oral cavity
 18. identify the lymph nodes associated with the oral cavity and describe their functions
 19. identify the cranial nerves associated with the oral cavity
 20. identify the nerves of the skull associated with local anesthesia
- B. 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

- A. Tissues of the tooth
 1. Enamel
 2. Dentin
 3. Cementum
 4. Pulp
 - a. Pulp horns
 - b. Root canal
- B. Names given to the teeth in the dentition
 1. Central incisor
 2. Lateral incisor
 3. Cuspid
 4. Premolars
 5. Molars
- C. Surfaces and anatomical landmarks found on the teeth
 1. Surfaces
 - a. Mesial
 - b. Distal
 - c. Facial/buccal/labial
 - d. Lingual/palatal
 - e. Occlusal/incisal
 2. Anatomical landmarks
 - a. Cingulum
 - b. Cusp/cusp of Carabelli
 - c. Fissure
 - d. Fossa
 - e. Groove/developmental groove/supplemental groove
 - f. Mamelon
 - g. Marginal ridge
 - h. Apical foramen
 3. Divisions of the tooth
 - a. Anatomical and clinical crown and root
 - b. CEJ, DCJ and DEJ
 - c. Occlusal, incisal, cervical, middle, apical thirds
 4. Line and point angles
 5. Contacts
 6. Embrasures
 7. Curve of Wilson
 8. Curve of Spee
- D. Divisions of the dentition
 1. Midline
 2. Maxillary arch
 3. Mandibular arch
 4. Quadrants
 5. Sextants
- E. Periodontium
 1. Alveolar process
 2. Periodontal ligament
 3. Gingiva
 - a. Free gingiva
 - b. Attached gingiva

- 4. Mucosa
- 5. Free gingival groove
- 6. Sulcus
- F. Structures of the face and oral cavity
 - 1. Lips
 - a. Labial commissure
 - b. Vermillion zone
 - c. Lower and upper lip
 - 2. Vestibule/mucobuccal fold
 - 3. Mucogingival junction
 - 4. Labial and lingual frenum
 - 5. Salivary gland ducts
 - a. Stenson's duct
 - b. Wharton's duct
 - 6. Sublingual caruncle
 - 7. Plica fimbriata
 - 8. Interdental papilla
 - 9. Uvula, posterior/anterior pillars, soft palate, hard palate, tonsils, oropharynx
 - 10. Retromolar pad and maxillary tuberosity
 - 11. Hard palate, rugae and incisive papilla
 - 12. Floor of the mouth
- G. Eruption process
 - 1. Exfoliation
 - 2. Timeline
- H. Malocclusion
 - 1. Class I, II and III malocclusions
 - 2. Overjet and overbite
 - 3. Edge-to-edge bite
 - 4. Crossbite
- I. Bones of the skull and associated landmarks
 - 1. Frontal bone
 - a. Orbit
 - b. Frontal sinuses
 - 2. Parietal bones
 - a. Sagittal suture
 - b. Coronal suture
 - c. Fontanelle
 - 3. Occipital bone
 - a. Lamboidal suture
 - b. Foramen magnum
 - 4. Temporal bones
 - a. External auditory meatus
 - b. Mastoid process
 - c. Glenoid fossa
 - d. Styloid process
 - 5. Sphenoid bone
 - a. Greater and lesser wings
 - b. Sphenoid sinuses
 - c. Sella turcica
 - d. Pterygoid process
 - e. Hamulus
 - 6. Ethmoid bone
 - a. Ethmoid sinuses
 - b. Medial and superior conchae
 - 7. Auditory ossicles
 - a. Malleus, incus and stapes
- J. Bones of the face and associated landmarks
 - 1. Zygomatic bones
 - a. Frontal process
 - b. Temporal process
 - c. Zygomatic arch
 - 2. Maxillary bones
 - a. Maxillary suture
 - b. Zygomatic process
 - c. Maxillary sinuses
 - d. Alveolar processes
 - e. Maxillary tuberosity
 - f. Infraorbital foramen
 - 3. Palatine bones
 - a. Greater and lesser palatine foramen
 - b. Incisive foramen
 - c. Medial palatine suture
 - 4. Nasal bones
 - 5. Lacrimal bones
 - 6. Vomer bone
 - 7. Superior, middle and inferior conchae
 - 8. Mandible
 - a. Ramus
 - b. Coronoid process
 - c. Sigmoid notch
 - d. Condylod process
 - e. Angle of the mandible
 - f. Oblique ridge
 - g. Mental protuberance
 - h. Mylohyoid ridge
 - i. Mandibular notch
 - j. Mental and mandibular foramen
 - k. Retromolar area
 - l. Body of the mandible
 - m. Genial tubercules
 - 9. Hyoid bone
- K. Deciduous versus permanent teeth
 - 1. Number of teeth
 - 2. Types of deciduous teeth
 - 3. Anatomical differences
- L. Muscles of the head and neck
 - 1. Muscles of mastication
 - a. Types
 - b. Function
 - c. Origins and insertions
 - 2. Muscles of facial expression
 - a. Types
 - b. Function
- M. Temporomandibular joint
 - 1. Glenoid fossa
 - 2. Articular eminence
 - 3. Condylod process
 - 4. Capsular ligament
 - 5. Articular space
- N. Temporomandibular joint movements
 - 1. Hinge action
 - 2. Gliding action
- O. Salivary glands
 - 1. Parotid salivary gland
 - 2. Sublingual salivary gland
 - 3. Submandibular salivary gland
 - 4. Minor salivary glands
- P. Tongue
 - 1. Surfaces of the tongue
 - a. Dorsal
 - b. Ventral
 - c. Lateral surfaces
 - d. Apex

2. Taste
 - a. Sweet
 - b. Salty
 - c. Sour
 - d. Bitter
3. Papillae
 - a. Fungiform
 - b. Circumvallate
 - c. Filiform
- Q. Blood supply associated with the oral cavity
 1. Arteries
 2. Veins
 - a. Pterygoid plexis
- R. Lymph nodes
 1. Cervical nodes
 2. Preauricular, subauricular, postauricular nodes
 3. Occipital nodes
- S. Canial nerves associated with the oral cavity
 1. Trigeminal nerve
 2. Facial nerve
 3. Glossopharyngeal nerve
 4. Hypoglossal nerve
- T. Nerves of the skull associated with local anesthesia
 1. Anterior superior alveolar (ASA) nerve
 2. Middle superior alveolar (MSA) nerve
 3. Posterior superior alveolar (PSA) nerve
 4. Nasopalatine nerve
 5. Greater palatine nerve
 6. Inferior alveolar and lingual nerves
 7. Mental nerve
 8. Buccal nerve

Lab Content

- A. Identify parts of the skull and teeth on models.
- B. Anatomy in clay on plastic skull.
- C. Examine extracted teeth.
- D. Examine study models for classification of occlusion.
- E. Label drawings and color study guides.

Special Facilities and/or Equipment

When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Method(s) of Evaluation

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

- Quizzes (8)
- Midterm (1)
- Final exam (1)
- Tooth anatomy assignment (1)

Method(s) of Instruction

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

- Lecture
- Discussion
- Laboratory
- Demonstration

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. Five workbook assignments.
- C. Tooth drawings.
- D. Anatomy in clay.

Discipline(s)

Dental Technology