

# D H 300A: ORAL BIOLOGY I

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	3
Hours:	3 lecture per week (36 total per quarter)
Advisory:	Not open to students with credit in D H 52A.
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 identify the location on the dental arch, the name and universal tooth number when shown individual extracted teeth (75% or better)
- The student will identify the branches of cranial nerve V (Trigeminal nerve) and the oral structures innervated by the nerve.

## Description

Comprehensive overview of anatomy of the skull, arteries, veins, and lymphatics, musculature and nervous structures of the head and neck. Identification of the teeth, the eruption sequence, normal occlusion, and classification of occlusion used in the dental profession. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

## Course Objectives

The student will be able to:

- Define and apply the terminology used in naming the landmarks of teeth.
- Differentiate the systems used to code teeth.
- Apply the eruption schedules of the teeth to case studies.
- Analyze occlusion and identify the three occlusal classifications.
- Compare the various types of malocclusion and anomalies of teeth.
- Explain the anatomic nomenclature in relation to the anatomic position.
- Describe the bones of the skull with emphasis on the maxilla and mandible.
- Describe the origin, insertion, and action of the musculature of the head and neck.
- Document the blood supply from the heart to all areas of the oral cavity including all teeth.
- Discuss the lymphatic drainage of the head and neck.
- Explain the basic components of the nervous system.
- Describe the nerves and the areas of the head and neck that they supply including the trigeminal and facial nerves.
- Apply infection control and hazard protocols when handling extracted teeth.

## Course Content

- Individual descriptions and identification of each of the teeth of the permanent dentition

- Dental terminology
- Incisors
- Cuspids
- Premolars
- Molars
- Dental anomalies
- Tooth numbering systems and divisions
  - Numbering system
    - Universal notation
    - Palmer notation
    - FDI notation
  - Divisions
    - Quadrants
    - Sextants
- Eruption schedules of primary and permanent teeth
  - Deciduous dentition
  - Permanent dentition
  - Mixed dentition
  - Delayed active eruption
  - Delayed passive eruption
- Characteristics of the normal occlusion and classifications
  - Occlusion
    - Class 1 occlusion
    - Class 2 occlusion
      - Division I
      - Division II
    - Class 3 occlusion
  - Curve of Spee
  - Curve of Wilson
  - Sphere of Monson
  - Vertical alignment of teeth
- Development and classification of malocclusion and anomalies
  - Overbite
  - Overjet
  - Openbite
  - Crossbite
- Anatomic nomenclature
  - Anatomic position
    - Anterior
    - Posterior
    - Ventral
    - Dorsal
    - Superior
    - Inferior
    - Median plane
    - Sagittal plane
    - Frontal plane
    - Horizontal plane
    - Ipsilateral
    - Contralateral
    - Superficial
    - Deep
  - Landmarks of the skull including maxilla and mandible
    - Cranial bones
    - Facial bones
    - Maxillary bones
    - Mandible
    - Hyoid bone
- Muscles of the head and neck
  - Muscles of mastication
  - Supra and infrahyoid muscles
  - Muscles of facial expression

- 4. Muscles of swallowing
- 5. Pharyngeal muscles
- 6. Tongue muscles
- I. Arterial/venous complex of the head
  - 1. Circulatory system
  - 2. Heart and chambers
  - 3. Valves of the heart
  - 4. Aorta
  - 5. Carotid arteries
  - 6. Circle of Willis
  - 7. Maxillary arteries
  - 8. Venous drainage
  - 9. Jugular veins
  - 10. Pterygoid plexus of veins
  - 11. Cavernous sinus thrombosis
- J. Lymphatic system
  - 1. Lymph circulation
  - 2. Parotid nodes
  - 3. Submental nodes
  - 4. Submandibular nodes
  - 5. Cervical nodes
  - 6. Lymphatic trunk
  - 7. Nodes of diseases
- K. Nervous system
  - 1. Central nervous system
  - 2. Brain
  - 3. Spinal cord
  - 4. Peripheral nervous system
  - 5. Cranial nerves
  - 6. Spinal nerves
  - 7. Autonomic nervous system
  - 8. Sympathetic nerves
  - 9. Parasympathetic nerves
- L. The trigeminal and facial nerves
  - 1. Ophthalmic division
  - 2. Maxillary division
  - 3. Mandibular division
  - 4. Greater petrosal nerves
  - 5. Chorda tympani nerves
  - 6. Buccal nerves
- M. Infection and hazard control
  - 1. Practice asepsis and hazard protocols during laboratory sessions

## Lab Content

Not applicable.

## Special Facilities and/or Equipment

- A. Multimedia classroom; dental models, skulls and extracted and individual teeth models.
- B. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

## Method(s) of Evaluation

- Examinations
  - Oral anatomy identification evaluations
  - Mid term examination
  - Final examination

## Method(s) of Instruction

- Lecture

- Discussion
- Identification on models
- Demonstration

## Representative Text(s) and Other Materials

Fehrenbach and Popowics. Illustrated Dental Embryology, Histology, and Anatomy, 5th ed.. 2021.

Fehrenbach M.J., and S.W. Herring. Illustrated Anatomy of the Head and Neck, 6th ed.. 2020.

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

- A. Weekly reading assignments
- B. Homework from questions provided by the instructor for each chapter of the textbook
- C. Anatomy identification exercises

## Discipline(s)

Dental Technology