ADED136C : Oral Anatomy II

A detailed study of the embryonic development of the hard and soft tissues of the face and oral cavity. This course includes the study of the anatomical structure of the head and neck with emphasis on the cranial nerves, muscles of mastication and facial expression, temporomandibular joint, vascular and lymphatic systems, tooth development and histology of dental tissues and supporting structures.
Credits 2
Lab/Practicum/Clinical Hours 0
Lecture Hours 2
Prerequisites
Students are required to pass prerequisite courses with a grade of C or higher. Exceptions apply; please consult your department chair.
BIOL195C
ADED134C
Corequisite Courses
ADED100C
ADED113C
ADED140C
Learning Outcomes

Student Learning Outcomes

1. Compare the primary embryonic layers (location and developmental structures) and summarized the importance in the development of an embryo, including the five histophysiology processes of initiation, proliferation, histodifferentiation, morphodifferentiation and apposition.
2. Summarize the development of facial structures such as when development begins, the sources of development, the sequence of development, actual and apparent fusion, including identification of structures during prenatal development.
3. Summarize the three (3) stages of tooth development including the cells in the tooth germ during the cap, bell and apposition stage, in addition identify the structures each component of the tooth germ will produce in mature teeth.
4. Analyze the structural pattern of dentin including the following terms: dentinal tubules, dentinal fibers (Tomes Fiber), odontoblasts, interglobular dentin, dentin matrix, Tomes granular layer, dead tract, sclerotic dentin and secondary dentin.
5. Summarize the root development incorporating the role of each of the following terms: inner and outer dental epithelium, Hertwig's Root Sheath, Rests of Malassez, and epithelial rests of malassez.
6. Summarize cementum formation using the terms Hertwig's Sheath, periodontal connective tissue cells, cementoblasts, and the location and function the periodontal ligament.
7. Discriminate between the structures of enamel such as the amelolast, enamel rod, rod sheath, interrod substance, bands of Hunter-Schreger, stripes of Retzius, enamel lamellae, enamel tufts, enamel spindles, apatite crystals, intercrystal spaces, perikymata, enamel spindles and enamel tufts.
8. Assess the clinical significance of cementoid, hypercementosis, excementosis, cementum hyperplasia, cementicles, cementocytes, acellular and cellular cementuf.
9. Identify the four cellular zones within the developing pulp including fibroblasts, histiocytes, undifferentiated mesenchymal cells, odontoblasts, intercellular substance, Korff's fibers, blood vessels, nerves, denticles and diffuse calcifications.
10. Compare and contrast the clinical difference in pulp shape between a newly erupted tooth and an aged tooth.
11. Identify and describe the osseous structures and landmarks of the skull with clinical significance and pathology in the practice of dentistry.
12. Identify and discuss the bony prominences, bony depressions, bony openings and skeletal articulation of the following: frontal bone, occipital bone, parietal bones, temporal bones, ethmoid bone, sphenoid bone, inferior nasal bones, lacrimal bones, mandible, maxillae, vomer bone and zygomatic bones.
13. Identify and discuss the origin, insertion, action, innervation, functions and pathology of the following: muscles of facial expression: muscles of mastication, intrinsic and extrinsic tongue muscles, muscles of the soft palate, suprahyoid & infrahyoid muscles, cervical muscles
14. Discuss the processes of mastication, speech, and swallowing in regard to the muscle of mastication.
15. Identify the components, the movement and pathology of the TMJ within the skull.

16. Discuss and integrate the TMJ pathology into patient care.
17. Describe and discuss the components and division of the nervous system.
18. Identify and trace the twelve (12) cranial nerves and paraphrase their functions.
19. Identify, trace and summarize the location and innervations of the following: trigeminal nerve – V1, V2 and V3, facial nerve and branches, glossopharyngeal nerve and branches, and hypoglossal nerve and branches
20. Discuss and integrate the pathology of the nervous system into the clinical practice of dental hygiene.
21. Identify and trace the routes of the blood vessels of the head and neck region on the skull.
22. Identify and discuss the arterial blood supply to the head and neck region including the structures supplied by the following: internal carotid artery, external carotid artery, anterior branches of the external carotid artery, medical branches of the external carotid artery, posterior branches of the external carotid artery, and terminal branches of the external carotid artery.
23. Identify and discuss the venous drainage system of the head and neck region including the structures drained by the following: facial vein, retromandibular vein, superficial temporal vein, maxillary vein, internal jugular vein and external jugular vein
24. Identify and discuss the clinical importance and pathology associated with the vascular system in head and neck anatomy into clinical practice.
25. Discuss the importance of head and neck anatomy into the administration of local anesthesia and control of pain during dental procedures.
26. Summarize the location, function, secretion and importance of the major and minor salivary gland.
27. Summarize the location, function, and pathology of the glands and lymphatic nodes in the head and neck region.