

Course Information

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| Course Title | Orofacial Anatomy, Histology & Embryology |
| Course Prefix, Num. and Title | DHYG 1301 |
| Division | Allied Health |
| Department | Dental Hygiene |
| Course Type | WECM Course |
| Course Catalog Description | The histology and embryology of oral tissues, gross anatomy of the head and neck, tooth morphology, and individual tooth identification. |
| Pre-Requisites | Offered only to students admitted to Dental Hygiene program |
| Co-Requisites | Enter Co-Requisites Here. |

Semester Credit Hours

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| Total Semester Credit Hours (SCH): Lecture Hours: | 3:3:1 |
| Lab/Other Hours | |
| Equated Pay Hours | 3.5 |
| Lab/Other Hours Breakdown: Lab Hours | 1 |
| Lab/Other Hours Breakdown: Clinical Hours | Enter Clinical Hours Here. |
| Lab/Other Hours Breakdown: Practicum Hours | Enter Practicum Hours Here. |
| Other Hours Breakdown | List Total Lab/Other Hours Here. |

Approval Signatures

| Title | Signature | Date |
|-------------------------|------------------|-------------|
| Department Head: | CJDerkowski | 11/1/2023 |
| Division Chair: | CJDerkowski | 11/1/2023 |
| Dean/VPI: | | |

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

Enter Topical Outline Here. I. Introduction to Head and Neck Anatomy

- A. Surface Anatomy
 - B. Skeletal System
 - C. Muscular System
 - D. Temporomandibular Joint
 - E. Vascular System
 - F. Glandular Tissue
 - G. Nervous System
 - H. Anatomy of Local Anesthesia
 - 1. Overview of Anatomical Considerations for Local Anesthesia
 - 2. Maxillary Nerve Anesthesia
 - 3. Mandibular Nerve Anesthesia
 - I. Lymphatic System
 - J. Fascia and Spaces
 - K. Spread of Dental Infection
- II. Embryonic development of the face and oral cavity
- A. Cellular proliferation and differentiation following fertilization
 - B. Formation of 3 primary germ layers
 - C. Establishment of primitive mouth
 - D. Early development of the face
 - E. Later development of the face
 - F. Development of the palate
 - G. Early development of the teeth
- III. Histogenesis of dentin
- A. Origin and development of odontoblasts
 - B. Formation and growth of dentin
- IV. Microscopic structure of mature dentin
- A. Physical properties
 - B. Chemical composition
 - C. Structure
 - D. Different types of dentin
 - E. Age and functional changes
- V. Histogenesis of enamel
- A. Origin, development of ameloblasts
 - B. Formation and growth of enamel
 - C. Hertwig's epithelial root sheath
 - D. Junctional epithelium
- VI. Microscopic structure of enamel
- A. Physical characteristics

- B. Chemical composition
- C. Structure
- VII. Structure of periodontal ligament
 - A. Fibers of periodontal ligament
 - B. Blood, lymph vessels and nerves
 - C. Cementoblasts
 - D. Osteoblasts, osteoclasts
 - E. Function of the periodontal ligament
 - F. Factors affecting width, development of periodontal ligament
- VIII. Structure of Cementum
 - A. Physical characteristics of cementum
 - B. Cementogenesis
 - C. Structure of cementum
 - D. Function of cementum
- IX. Development, structure, retrogressive changes of the pulp
 - A. Formation of the pulp
 - B. Function of the pulp
 - C. Anatomy of the pulp
 - D. Elements present in the pulp
 - E. Regressive changes of the pulp
 - F. Development and importance of the pulp stones and other calcified bodies.
- X. Development of alveolar process
 - A. Structure of the alveolar process
 - B. Physiologic changes in alveolar process
- XI. Oral mucosa
 - A. Masticatory mucosa
 - B. Lining mucosa
 - C. Specialized mucosa
- VII. Gingiva
 - A. Physical characteristics
 - B. Origin, development and function of junctional epithelium
 - C. Gingival sulcus and its clinical importance
 - D. Effect of age on gingivae
 - E. Recession and passive eruption
- VIII. Salivary glands
 - A. Physical characteristics of saliva
 - B. Distribution of salivary glands
 - C. Histology of salivary glands
 - D. Function
- XIV. Eruption and shedding
- XV. Tonsils and sinuses
 - A. Palatine tonsils
 - B. Lingual tonsils
 - C. Pharyngeal tonsils
 - D. Function of tonsils

E. Paranasal sinuses

Laboratory Outline

I. Bones of the Skull

- A. Bony Prominences
- B. Bony Openings
- C. Articulations

II. Dentitions

- A. Permanent Anterior Teeth
- B. Permanent Posterior Teeth
- C. Primary Dentition

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

1. Identify the histological and embryological development of the orofacial structures.
2. Locate the major structures of the head and neck.
3. Compare and contrast various teeth including the crown and root morphology.

Methods of Assessment:

1. Written examinations
2. Written examinations and lab practical
3. Written examinations and individual drawings of permanent dentition.

Required text(s), optional text(s) and/or materials to be supplied by the student:

Illustrated Anatomy of the Head and Neck – 4th Edition, Fehrenbach, Margaret J & Herring, Susan W. Evolve, Saunders, Elsevier,

Illustrated Dental Embryology, Histology, and Anatomy 4th Edition, Bath-Balogh, Mary & Fehrenbach, Margaret, Evolve, Saunders, Elsevier

Suggested Course Maximum:

28

List any specific or physical requirements beyond a typical classroom required to teach the course.

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Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

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| Test Scores from exams | 60% |
| Lab Practical and Assignments | 10% |
| Final Exam | 30% |

A = 100 - 93

B = 92 - 84

C = 83 - 75

D = 74 - 67

F = 66 & below

Curriculum Checklist:

- Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.
- Administrative WCJC Core Course.** Attach the Core Curriculum Review Forms
 - Critical Thinking
 - Communication
 - Empirical & Quantitative Skills
 - Teamwork
 - Social Responsibility
 - Personal Responsibility
- WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist