TAFTCOLLEGE

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Dental Hygiene (DNTL) 1510 Oral Biology (4 Units) CSU
[formerly Dental Hygiene 10]

Prerequisites: Acceptance into Dental Hygiene Program and successful completion of Biology 2250 and 2260 with a grade of "C" or better

Prerequisite knowledge/skills:

Before entering the course, the student should be able to:

1. describe key structural features of different human cell and major tissue types,
2. identify and describe the anatomy of the systems of the human body,
3. relate structure and function at the cellular through system levels of organization of human body systems,
4. describe structural or anatomical changes that occur in disease, injury or aging of the human body systems.
5. demonstrate the construction of a correctly spelled list of 200 human surface anatomy features,
6. classify and describe microorganisms,
7. demonstrate knowledgeable use of the nomenclature of the microbes,
8. analyze the growth characteristics of microbes using routine laboratory culture techniques,
9. compare and contrast ~~the~~ eukaryotic and prokaryotic cells,
10. demonstrate basic proficiency in using the Gram stain technique,
11. exercise aseptic techniques in handling microbes,
12. demonstrate sterilization and disinfection of the laboratory and laboratory materials,
13. describe the interaction of antibiotics with microbes,
14. describe host-parasite interaction,
15. describe the cytology and physiology of the human immune system,
16. demonstrate proficient use of the light microscope for the viewing of microorganisms,
17. describe the genetic material and the replication of the nucleic acids of both the eukaryotic and prokaryotic microbes,
18. demonstrate and recognize the mutability of the microbial genome,
19. describe the use of plasmids and bacteriophage for use in genetic engineering, and
20. describe the life cycle, nutrition and possible pathogenicity of important representative of bacteria. Viruses, prions, fungi, protozoa and helminths.

Total Hours: 64 hours lecture

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Catalog Description: The study of the anatomy, histology and embryological development of oral and facial structures. Recognition of unique tooth form as it relates to functional characteristics, identification and specific location in the dental arches and analysis of microscopic and clinical features of dental and periodontal structures.

Type of Class/Course: Degree Credit

Text: Bath-Balogh, Mary and Margaret J. Fehrenbach**.** *Illustrated Dental Embryology, Histology, and Anatomy*. 4th ed, Saunders-Elsevier, 2016. Print.

Text: Fehrenbach, Margaret J. and Tracy Popowics. *Student Workbook, Illustrated Dental Embryology, Histology and Anatomy*, 4th ed. Saunders-Elsevier, 2016. Print.

Additional Required Materials: None

Course Objectives:

By the end of the course, a successful student will be able to:

1. Describe the embryology and histology of orofacial structures,
2. Locate and identify the regions and associated landmarks of the face, neck and oral cavity,
3. understand the anatomical features of teeth and periodontium as it relates to their function,
4. identify and utilize descriptive terminology of dental anatomy,
5. identify each permanent and primary tooth by its characteristic form and location within the dental arches,
6. discuss the eruption sequence of the deciduous and permanent dentitions,
7. identify and describe the characteristics of normal and abnormal occlusion, and
8.. draw to scale a representation of a tooth, demonstrating its anatomical shape and form.

Course Scope and Content:

Unit I Orofacial Structures

A. Face and neck regions
B. Oral cavity and pharynx

Unit II Dental Anatomy

A. Overview of the Dentitions
B. Permanent anterior teeth
C. Permanent posterior teeth
D. Primary dentition
E. Temporomandibular joint
F. Occlusion

Unit III Orofacial Embryology

A. Overview of prenatal development
B. Development of the face and neck
C. Development of orofacial structures
D. Tooth development and eruption

Unit IV Dental Histology

A. Overview of the cell
B. Basic tissues
C. Oral mucosa
D. Gingival and dentogingival junctional tissues
E. Head and neck Structures
F. Enamel
G. Dentin and pulp
H. Peridontium: cementum, alveolar bone, periodontal ligament

Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 8 hours per week outside of the regular class time doing the following:

1. Independent reading and study
2. Tooth drawings
3. Group learning activities

Methods of Instruction:

1. Lecture
2. Class discussions
3. Audio-visual presentations
4. Slide presentations
5. Group activities
6. 3-Dimensional illustrations via the internet

Methods of Evaluation:

1. Examinations including
   a. multiple choice questions
   b. true/false items
   c. matching items
   d. labeling items
   e. identification of three-dimensional models
2. Tooth identification exercise
3. 3-Dimensional cell oral presentation
4. Homework assignments

5. Group learning activities
6. 3-Dimensional Embryology oral presentation

Supplemental Data:

TOP Code:	124020: Dental Hygienist
SAM Priority Code:	C: Clearly Occupational
Distance Education:	Not Applicable
Funding Agency:	Y: Not Applicable(funds not used)
Program Status:	1: Program Applicable
Noncredit Category:	Y: Not Applicable, Credit Course
Special Class Status:	N: Course is not a special class
Basic Skills Status:	N: Course is not a basic skills course
Prior to College Level:	Y: Not applicable
Cooperative Work Experience:	N: Is not part of a cooperative work experience education program
Eligible for Credit by Exam:	NO
Eligible for Pass/No Pass:	NO
Taft College General Education:	NONE