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Dental Hygiene (DNLT) 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 higher

Prerequisite knowledge/skills:

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

1. classify and describe microorganisms,
2. knowledgeably use the nomenclature of the microbes and their culturing,
3. analyze the growth of colonies of microbes,
4. compare and contrast the eukaryotic and prokaryotic cell,
5. exercise aseptic techniques in handling microbes,
6. demonstrate sterilization and disinfection of the laboratory and laboratory materials,
7. describe the interaction of antibiotics with microbes,
8. describe host-parasite interaction,
9. describe the cytology and physiology of the human immune system,
10. demonstrate ease of use of the light microscope for the viewing of microorganisms,
11. describe the genetic material and the replication of the nucleic acids of both the eukaryotic and prokaryotic microbes,
12. demonstrate and recognize the mutability of the microbial genome,
13. describe and demonstrate the use of bacteriophage for genetic engineering,
14. describe the life cycle, nutrition and possible pathogenicity of important representatives of bacteria, fungi and protozoa,
15. identify and explain the function of the major structural components of the human body at microscopic and macroscopic levels,
16. demonstrate the skill of careful dissection, and
17. demonstrate the construction of a correctly spelled list of 200 human surface anatomy features.

Total Hours: 64 hours lecture

Catalog Description: This is a study of embryology and histology of oral structural formation, clinical recognition of normal oral structures, the physiological and structural functions of teeth and supporting tissues, and oral anatomy relative to proper dental hygiene procedures.

Type of Class/Course: Degree Credit

Text: Bath-Balogh, Mary and Margaret J. Fehrenbach. *Illustrated Dental Embryology, Histology, and Anatomy*. 4th ed., Saunders/Elsevier, 2015. Print. And accompanying workbook.

Course Objectives:

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

1. explain the embryology and histology of oral structural formation,
2. demonstrate clinical recognition of normal oral structures,
3. compare and contrast the physiological and structural functions of teeth and supporting tissues, and
4. explain oral anatomy relative to proper dental hygiene procedures,
5. define and/or identify the terms used in dental anatomy nomenclature,
6. identify the name, arch, and describe the surface of each of the twenty deciduous and thirty two permanent teeth,
7. state eruption schedule of the deciduous and permanent dentitions,
8. identify and describe the characteristics of ideal occlusion, variations from ideal occlusion,
9. identify extracted teeth and their exact position in the dental arch, and
10. draw to scale an extracted model tooth demonstrating its anatomical shape and form.

Course Scope and Content:

Unit I Introduction to Oral Facial Region

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

Unit II Dental Anatomy

Overview of the Dentitions

- A. Permanent anterior teeth
- B. Permanent posterior teeth
- C. Primary dentition
- D. TMJ
- E. 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 Oral Histology

- A. Overview of the cell
- B. Basic tissues
- C. Oral mucosa
- D. Gingival and dentogingival junctional tissues
- E. Orofacial Structures
- F. Enamel
- G. Dentin and pulp

H. Peridontium: cemetum, 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
2. Tooth identification exercise
3. 3-Dimensional cell presentation
4. Homework assignments
5. Group learning activities

Supplemental Data:

T.O.P. Code:	124020 Dental Hygienist
Sam Priority Code:	C: Clearly Occupational
Funding Agency:	Y: Not Applicable
Program Status:	I: Program Applicable
Noncredit Category:	Y: Not Applicable

Special Class Status:	N: Course is not a special class
Basic Skills Status:	N: Not Applicable
Prior to College Level:	Y: Not Applicable
Cooperative Work Experience:	N: Course is not a part of a cooperative education program
Eligible for Credit by Exam:	No
Eligible for Pass/No Pass:	No