

LAST REVIEW: 2010 - 2011

NEXT REVIEW: 2015 - 2016

STATUS: A

COURSE TITLE: ORAL HISTOLOGY AND EMBRYOLOGY

COMMON COURSE NUMBER: DEH 1130

CREDIT HOURS: 2

CONTACT HOUR BREAKDOWN

CLOCK HOURS:

(Voc. Course ONLY)

Lecture: **2**

Lab:

Clinic:

Other: **N/A**

PREREQUISITE(S): DEH 1002, DEH 1002L, DEH 2300, DEH 1800, DEH 1800L, DEH 2400, DEH 1602

COREQUISITE(S): DEH 1802, DEH 1802L, DEH 2701

PRE/COREQUISITE(S):

COURSE DESCRIPTION This course is designed to increase the student's knowledge of the early embryonic development of the face and oral cavity and the process of tooth development. Included is a study of the microscopic structure and morphology of the tissues of the teeth and supporting structures.

UNIT TITLES

1. General Histology
2. Basic Tissues and Organ Systems
3. Histology of Soft Tissues of the Oral Cavity
4. General Embryology
5. Oral and Facial Development
6. Tooth Development: eruption and shedding
7. Formation of Enamel
8. Formation of Dentin
9. Development of Pulp, Cementum & PDL
10. Bone and Salivary Glands

EVALUATION: GRADING:

Grades will be determined by the following:

Tests (3 tests) - 45%
Class participation -05 %
Assignments (2) - 10%
Final Examination - 40%

The student's letter grade for this course will be determined by the departmental percentage scale:

92 - 100 = A
83 - 91 = B
75 - 82 = C
66 - 74 = D

F

A final grade of "C" or higher must be achieved in all Dental Hygiene courses for continuance in the Program.

All graded examinations and projects will be retained by the Dental Hygiene Department for the purpose of maintaining the student's academic records. The student may have access to his/her file upon request. An appointment may be necessary to do so.

ACADEMIC DISHONESTY:

If a student commits any act of academic dishonesty according to BC Policy 6Hx2-5.02, such as but not limited to cheating or plagiarism, that student will receive an "F" grade for the course and may also be subject to disciplinary procedures in accordance with college policy. The Student Code of Conduct, BC Policy 6Hx2-5.02, gives a description of what acts may constitute academic dishonesty. These descriptions are also included in the BC Student Handbook and in the BC College Catalog. (Be aware as stated in the Dental Hygiene Student Handbook any act of Academic Dishonesty will result in the immediate dismissal of the student from the Dental Hygiene Program and does not merit previous written warning.)

DISRUPTIVE STUDENT POLICY:

All students will be bound by BC policy 6Hx2-5.19. Students who cannot conform to the standards of appropriate behavior as set forth in Broward College Policy 6Hx2-5.02, Student Responsibilities, shall not be permitted to interfere with other students' access to a college education. If in the opinion of the faculty the student is disruptive, faculty may ask a student to leave the classroom for the class period. The student will be permitted to return upon the permission of the faculty.

ATTENDANCE:

Attendance and punctuality are highly recommended for each course. When the student is absent or late the student must call the course instructor as early as possible to inform the instructor. If the instructor cannot be reached then call the Associate Dean at 954-201-6904. If it is necessary to leave a message at either location please include a telephone number where you can be reached. Absences are recorded in the PARTICIPATION portion of your final grade.

Non-Class Days: Should unanticipated circumstances that are beyond anyone's control or when concerns are raised about the safety and/or security of the students, faculty, and staff, the President or his/her designee has the authority to close a campus or the College. For purposes of grading and attendance policies, the day(s) during which the campus/college is closed shall be considered a non-class day(s). When this occurs, each faculty member shall determine how best to make up the lost class time.

Excused/Non-Penalized Absences: There shall be no penalty for a student who is absent from academic activities because of religious holy day observances in his/her own faith, the student's serious illness, a death in the immediate family, or attendance to statutory governmental responsibilities. The student is responsible to bring documentation of any of these to the faculty member within ten days of this absence. In the case of jury duty, please contact the Associate Dean to receive a letter of full time student status to present to the courts for deferral.

Student Responsibilities Relative to Excused/Non-Penalized Absences: A student shall notify instructors in advance of absence(s) to observe a religious holy day(s) in his/her own faith, and shall likewise notify instructors in advance of other absences when practicable under the circumstances. "Death in the immediate family" shall be interpreted to mean mother, father, spouse, child, brother, sister, grandparents, or grandchildren. "Statutory governmental responsibilities" refer to such matters as jury duty, subpoena for court appearance or unplanned military obligation. If a non-penalized absence occurs on the first day of class, the student shall notify the instructor of the reason for his/her absence at the next class meeting. Documentation for non-penalized absences must be presented by the student to the faculty member within ten days of this absence. The student shall be responsible for the material covered in his/her absence and shall be granted a reasonable amount of time to make up any work or test missed for excused/non-penalized absences.

Important Notice

Starting fall 2007, faculty will report student non-attendance. If you stop attending class *prior* to the withdrawal date, you will be administratively withdrawn from class and receive a **W** or, if it is your third attempt, an **F**.

If you stop attending class *after* the withdrawal date, you will receive a **WF** that will then be computed as an **F** in your **GPA**. To avoid this situation, you should remain an active learner in this class and always communicate extenuating circumstances to me. Ongoing communication with the instructor is critical to your course success.

If a student does not attend classes within two weeks after the Drop/Add period in each session, he/she will be withdrawn from classes or receive a failing grade for non-attendance. In either case, no refund will be given.

Requirements for class attendance are determined by the instructor and will be outlined in the course syllabus. It is the student's responsibility to attend classes to ensure that he/she is properly enrolled.

Common Course Number: DEH 1130

UNITS

Unit 1 General Histology

General Outcome:

- 1.0 The student shall:** Describe the structure, function and components of cells.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 1.1 Describe cellular function
- 1.2 List the components of the cell.
- 1.3 Describe the individual functions of cellular structures.
- 1.4 Describe cellular differentiation.
- 1.5 Discuss protein synthesis.
- 1.6 Relate cellular significance to dental tissues.
- 1.7 Differentiate between DNA and RNA and the functions of each.

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Unit 2 Basic Tissues and Organ Systems

General Outcome:

2.0 The student shall: List and describe the components of tissues.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 2.1 List the components of a tissue.
- 2.2 Name and describe the four groups of tissues and how they combine to create organs.
- 2.3 Describe the various types of epithelial tissues and where they are located throughout the body. Include function of this tissue.
- 2.4 Discuss glandular tissues and their classifications.
- 2.5 Describe the types of connective tissues, including bone and blood.
- 2.6 List and describe muscle tissues.
- 2.7 Differentiate between myelinated and non-myelinated tissues.
- 2.8 List and describe nine organ systems.
- 2.9 Name and describe the twelve cranial nerves.

Unit 3 Histology of Soft Tissues of the Oral Cavity

General Outcome:

- 3.0 The student shall:** List the classifications of tissues and give examples of each.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 3.1 Describe the tissues of the oral cavity.
- 3.2 Describe three types of oral mucosa.
- 3.3 List the areas of the oral cavity which are composed of lining mucosa.
- 3.4 Name the structures that are composed of masticatory mucosa.
- 3.5 Describe specialized mucosa.
- 3.6 List the major and minor salivary glands.
- 3.7 Describe three types of tonsils.

Unit 4 General Embryology

General Outcome:

- 4.0 **The student shall:** Describe the periods of development.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 4.1 Name and describe the periods of development in embryology.
- 4.2 Define fertilization.
- 4.3 Describe the proliferative period.
- 4.4 Describe the embryonic period.
- 4.5 Give a detailed account of the fetal period.
- 4.6 Define teratology.

Unit 5 Oral and Facial Development

General Outcome:

5.0 The student shall: Describe the process of embryonic development of the face.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 5.1 Define growth and development.
- 5.2 Describe development of the stomodeum, foregut, and buccopharyngeal membrane.
- 5.3 Describe the five branchial arches.
- 5.4 Name the four processes involved in facial development.
- 5.5 Discuss the development of the palate and nasal septum.
- 5.6 Define primary and secondary palate.
- 5.7 Describe the development of the tongue.
- 5.8 Describe possible congenital malformations of the oral cavity.

Unit 6 Tooth Development: eruption and shedding

General Outcome:

6.0 The student shall: Discuss tooth development from tooth germ to eruption.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 6.1 Define and describe odontogenesis.
- 6.2 Describe the three germ layers.
- 6.3 Describe the primary dental lamina.
- 6.4 Describe the three parts of the tooth germ.
- 6.5 Describe the bud, cap, and bell stages.
- 6.6 Discuss dentinogenesis.
- 6.7 Discuss amelogenesis.
- 6.8 Describe root formation.
- 6.9 Describe formation of the PDL and cementum.
- 6.10 List and describe anomalies that can occur in the developmental process.
- 6.11 Define eruption. List the eruption pattern and dates typical for both dentitions.
- 6.12 Describe eruptive movements.
- 6.13 Discuss mesial drift.
- 6.14 Describe the process of shedding.

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Unit 7 Formation of Enamel

General Outcome:

- 7.0 The student shall:** Describe the development and composition of enamel, dentin, pulp, cementum.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 7.1 List the components of enamel.
- 7.2 Describe the location, composition and function of tooth structures.
- 7.3 Define enamel cuticle.
- 7.4 Differentiate between Hunter-Schreger bands and lines of Retzius.
- 7.5 Describe the microscopic structures of enamel.
- 7.6 Differentiate between amelogenesis and dentinogenesis.
- 7.7 List and define types and functions of dentin.
- 7.8 Describe the development, composition and function of pulp.
- 7.9 Describe the types and functions of cementum.

Unit 8 Formation of Dentin

General Outcome:

8.0 The student shall: Describe the development and composition of dentin.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 8.1 Describe the location and composition of dentin.
- 8.2 Describe the structure of dentin, including organic and inorganic substances, dentinal tubules, and odontoblasts.
- 8.3 Define Tomes' granular layer.
- 8.4 List and describe the various types of dentin.
- 8.5 Describe the clinical importance of dentin.

Unit 9 Development of Pulp, Cementum & PDL

General Outcome:

- 9.0 The student shall:** Describe the development and composition of pulp, cementum and periodontal ligament.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 9.1 Describe the location, origin, and composition of pulp.
- 9.2 List the components of pulp.
- 9.3 Discuss the four functions of pulp.
- 9.4 Describe the clinical importance of pulp.
- 9.5 Describe the location and composition of cementum.
- 9.6 Discuss the components of cementum.
- 9.7 Discuss the clinical importance of cementum.
- 9.8 Describe the location and function of the PDL.
- 9.9 Review the fibers of the PDL.
- 9.10 Define Rests of Malassez.
- 9.11 Discuss the five functions of the PDL.

Unit 10 Bone and Salivary Glands

General Outcome:

- 10.0** **The student shall:** Demonstrate knowledge of the structure of bone as a tissue and an organ.

Specific Measurable Learning Outcomes:

Upon successful completion of this unit, the student shall be able to:

- 10.1 Distinguish between bone as a tissue and bone as an organ.
- 10.2 Describe two types of bone.
- 10.3 List the microscopic structure of bone.
- 10.4 Discuss growth of bone.
- 10.5 Describe the alveolar process and the two types of bone that form this structure.
- 10.6 Define a mucous membrane.
- 10.7 Describe the histologic structures of mucous membranes.
- 10.8 Describe the histology and function of salivary glands.
- 10.9 List and describe the major and minor salivary glands.