

Bergen Community College

Division of Health Professions/Dental Hygiene Department

Oral Embryology and Histology Course Syllabus

Course Title: Oral Embryology and Histology – DHY 109

Term: Fall 2014

Hours/Credits: 2 Lecture Hours/2 Credits

Corequisites: DHY 101, DHY 108 and BIO 104

Class Day and Time: DHY 109-001HY Friday 8:30 AM – 10:10 AM

DHY 109-002HY Friday 10:30 AM – 12:10 PM

Classroom: C-319

Instructor: Denise D. Avrutik, RDH, MS

Office Hours: Monday: 7:30 AM – 8:30 AM

Tuesday: 12:20 PM – 12:50 PM

Wednesday: 7:30 AM – 8:30 AM and 12:30 PM – 1:00 PM

Also by appointment – Telephone: 201-493-3628

Office: B-313

Email Address: davrutik@bergen.edu

Textbooks: Balogh, M. and Fehrenbach, M., Dental Embryology, Histology and Anatomy. Elsevier-Saunders, 3rd edition, 2011.

Balogh, M. and Fehrenbach, M., Illustrated Embryology, Histology and Anatomy. Elsevier-Saunders, 3rd edition, 2011.

Supplemental Textbooks: Melfi, R.C., Permar's Oral Embryology and Microscopic Anatomy. Lippincott, Williams and Wilkins. 10th Edition, 2000.

Chiego, Daniel J, Essentials of Oral Histology and Embryology, A Clinical Approach. Mosby, 4th Edition 2013.

Instructional Resources:

- BCC Library and Resource Center
- Dental/Dental Hygiene Journals – National and International
- Web-based resources

Internet Resources:

- www.adha.org (American Dental Hygienists' Association)
- www.ada.org (American Dental Association)
- www.cochrane.org
- <http://evolve.elsevier.com>

Course Description:

This course is a comprehensive study of oral facial embryology and the cellular structure of dental and associated glandular and mucosal tissues. Emphasis is on clinical considerations of the developmental process as relevant to dental hygiene practice. The relationship between structure and function will be stressed using microscopic and clinical visuals.

Course Objectives:

Upon completion of the course, the student will be able to:

- Achieve accuracy in using dental terminology.
- Demonstrate knowledge of the major events that occur during prenatal development.
- Discuss the histologic features and embryological development of each orofacial structure.
- Relate the knowledge of basic histology into specific histology of the oral cavity.
- Identify clinical considerations involved with each of the studied tissues.
- Explain the relationship of specific oral tissues to structure, shape and function in the oral cavity.
- Discuss various genetic factors that bear influence to the sequential development of teeth.
- Identify oral health disparities among deciduous and permanent teeth.

- Discuss 5 factors essential to prenatal care recommended to prevent oral anomalies.
- Develop skills in noting tissue changes associated with oral pathology.
- Apply knowledge acquired through evidence based presentations to practice critical thinking skills.
- Evaluate outcomes of dental interventions to promote better oral esthetics and function.

Competencies for Entry into the Profession of Dental Hygiene

Dental hygienists must complete an accredited educational program and qualify for licensure in any state or jurisdiction. They practice in collaboration with dental and other health care professionals in a variety of settings.

Core Competencies (C)

C.1 Apply a professional code of ethics in all endeavors.

C.2 Adhere to state and federal laws, recommendations, and regulations in the provision of oral health care.

C.3 Use critical thinking skills and comprehensive problem-solving to identify oral health care strategies that promote patient health and wellness.

C.4 Use evidence-based decision making to evaluate emerging technology and treatment modalities to integrate into patient dental hygiene care plans to achieve high-quality, cost-effective care.

C.5 Assume responsibility for professional actions and care based on accepted scientific theories, research, and the accepted standard of care.

C.6 Continuously perform self-assessment for lifelong learning and professional growth.

C.7 Integrate accepted scientific theories and research into educational, preventive, and therapeutic oral health services.

C.8 Promote the values of the dental hygiene profession through service-based activities, positive community affiliations, and active involvement in local organizations.

C.9 Apply quality assurance mechanisms to ensure continuous commitment to accepted standards of care.

C.10 Communicate effectively with diverse individuals and groups, serving all persons without discrimination by acknowledging and appreciating diversity.

C.11 Record accurate, consistent, and complete documentation of oral health services provided.

C.12 Initiate a collaborative approach with all patients when developing individualized care plans that are specialized, comprehensive, culturally sensitive, and acceptable to all parties involved in care planning.

C.13 Initiate consultations and collaborations with all relevant health care providers to facilitate optimal treatments.

C.14 Manage medical emergencies by using professional judgment, providing life support, and utilizing required CPR and any specialized training or knowledge.

Health Promotion and Disease Prevention (HP)

- HP.1 Promote positive values of overall health and wellness to the public and organizations within and outside the profession.
- HP.2 Respect the goals, values, beliefs, and preferences of all patients.
- HP.3 Refer patients who may have physiological, psychological, or social problems for comprehensive evaluation.
- HP.4 Identify individual and population risk factors, and develop strategies that promote health-related quality of life.
- HP.5 Evaluate factors that can be used to promote patient adherence to disease prevention or health maintenance strategies.
- HP.6 Utilize methods that ensure the health and safety of the patient and the oral health professional in the delivery of care.

Community Involvement (CM)

- CM.1 Assess the oral health needs and services of the community to determine action plans and availability of resources to meet the health care needs.
- CM.2 Provide screening, referral, and educational services that allow patients to access the resources of the health care system.
- CM.3 Provide community oral health services in a variety of settings.
- CM.4 Facilitate patient access to oral health services by influencing individuals or organizations for the provision of oral health care.
- CM.5 Evaluate reimbursement mechanisms and their impact on the patient's access to oral health care.
- CM.6 Evaluate the outcomes of community-based programs, and plan for future activities.
- CM.7 Advocate for effective oral health care for underserved populations.

Patient Care (PC)

Assessment

- PC.1 Systematically collect, analyze, and record diagnostic data on the general, oral, and psychosocial health status of a variety of patients using methods consistent with medical legal principles.
- PC.2 Recognize predisposing and etiologic risk factors that require intervention to prevent disease.
- PC.3 Recognize the relationships among systemic disease, medications, and oral health that impact overall patient care and treatment outcomes.
- PC.4 Identify patients at risk for a medical emergency, and manage the patient care in a manner that prevents an emergency.

Dental Hygiene Diagnosis

- PC.5 Use patient assessment data, diagnostic technologies, and critical decision making skills to determine a dental hygiene diagnosis, a component of the dental diagnosis, to reach conclusions about the patient's dental hygiene care needs.

Planning

PC.6 Utilize reflective judgment in developing a comprehensive patient dental hygiene care plan.

PC.7 Collaborate with the patient and other health professionals as indicated to formulate a comprehensive dental hygiene care plan that is patient-centered and based on the best scientific evidence and professional judgment.

PC.8 Make referrals to professional colleagues and other health care professionals as indicated in the patient care plan.

PC.9 Obtain the patient's informed consent based on a thorough case presentation.

Implementation

PC.10 Provide specialized treatment that includes educational, preventive, and therapeutic services designed to achieve and maintain oral health. Partner with the patient in achieving oral health goals.

Evaluation

PC.11 Evaluate the effectiveness of the provided services, and modify care plans as needed.

PC.12 Determine the outcomes of dental hygiene interventions using indices, instruments, examination techniques, and patient self-reports as specified in patient goals.

PC.13 Compare actual outcomes to expected outcomes, reevaluating goals, diagnoses, and services when expected outcomes are not achieved.

Professional Growth and Development (PGD)

PGD.1 Pursue career opportunities within health care, industry, education, research, and other roles as they evolve for the dental hygienist.

PGD.2 Develop practice management and marketing strategies to be used in the delivery of oral health care.

PGD.3 Access professional and social networks to pursue professional goals

Reference: American Dental Education Association, House of Delegates, (2111),
Competencies for Entry into the Profession of Dental Hygiene

Curriculum Core Competencies:

- Apply a professional code of ethics in all endeavors.
- Adhere to state and federal laws, recommendations, and regulation in the provision of dental hygiene care.
- Provide dental hygiene care to promote patient/client health and wellness using critical thinking and problem solving skills in the provision of evidenced based on practice.
- Use evidence based decision making to evaluate and incorporate emerging treatment modalities.

- Assume responsibility for dental hygiene actions and care based on accepted scientific theories and research as well as the accepted standard of care.
- Communicate effectively with individuals and groups from diverse populations both verbally and in writing.

Teaching Methodology: Oral Embryology and Histology is a hybrid online course. A portion of the course work will be presented by lecture and PowerPoint presentations in class and the remainder will be offered online. Inquiry learning is often conducted to engage the students and increase student contribution and participation.

ADA Compliance Statement:

Students who require accommodations in accordance with the Americans with Disabilities Act (ADA) can request these services from the Office of Specialized Services. To learn more about how to apply for services. Please visit them at: <http://www.bergen.edu/oss>

Examination Policy:

There will be 4 (one each month) non-cumulative examinations during the semester. The dates will be announced during session 1 of the Fall semester.

Make-up exams will be administered at the discretion of the instructor during the last week of the semester and will represent a format different than the regularly scheduled exam. If the student misses the scheduled make-up exam, a grade of "0" will be given.

Course Requirements:

Grading is the responsibility and province of the instructor. All students will be graded consistently and fairly. Continuous open communication between student and instructor will be encouraged and appreciated.

There will be assigned readings and supplemental studies.

To receive a passing grade, students must achieve a grade average of 75 and above.

Evaluation:

Exams (4) – 90%, all weighted equally

Assignments – 10% - Completion of 4 Study Guides

The following grading system reflects the policy established by the college and shall be used in this course:

A	-	92 – 100
B+	-	89 – 91
B	-	83 – 88
C+	-	80 – 82
C	-	75 – 79
F	-	below 75

Evaluation

A cumulative average of 75 must be achieved on all examinations in Histology to successfully pass the course. When a student has not been able to earn a "C" grade or better, the student will receive the letter grade "F" which signifies the course must be repeated.

Grading Policy

It is an unfortunate feature of grade windows that many people are within a point of the next higher grade. In order to maintain the integrity of the system I feel that I have to be consistent in allocating grades. In doing so, I don't think that one can permit personal issues to influence the decision. I have outlined a grading scheme that is as generous as possible but maintains the standards of the college. In doing so I am not able to change the assigned grades.

Attendance/Punctuality:

Bergen Community College's attendance policy states: "All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor of each course."

All program classes and activities must be prioritized. Scheduling conflicts must be resolved by the student so that program classes and activities are met.

Please note that attendance is critical to successful completion of the program. It is your responsibility to find out what you have missed by consulting the instructor. I will not pursue you regarding your missed work.

More than two (2) unexcused absences will result in a loss of credit in this course and will result in the student repeating the entire course.

Two tardy arrivals will equal one absence.

Absence of the Instructor:

As noted in the college catalog, students are expected to wait twenty (20) minutes for a faculty member to come to class. If at the end of the twenty minutes, the faculty member does not come, the students should sign an attendance sheet and indicate the course, date and time. A student should deliver this attendance sheet to the dental hygiene office. The students cannot be penalized by faculty for not waiting longer than the twenty minutes.

Serious Illness, Injury or Pregnancy:

A student in the Dental Hygiene program, who sustains a serious illness, injury or becomes pregnant, must present written medical permission to attend classes and clinical practice at the time of resuming studies. Pregnant students must provide the Dental Hygiene coordinator with a written permission slip from their physician to participate in radiology and clinical courses. The college medical office and the instructor must each receive a copy of this medical clearance.

Your good health is essential to the practice of dental hygiene. In order to successfully complete the program, full participation in all areas of practice is required regardless of medical conditions.

Academic Conduct:

- The Dental Hygiene faculty adheres to the policy statement governing academic conduct as outlined in the Bergen Community College catalog.
- Tape recorders are not permitted in DHY 109.
- Faculty may not post exam grades due to laws.
- Faculty reserve the right to delay the return of exam grades until all students have taken the exam and faculty review of the exam has been completed.
- Cheating, plagiarism and unethical behavior will not be tolerated. Any student who has demonstrated any of the above behaviors will be disciplined according to college procedures.
- Cell phone use is NOT permitted during class.

Progression Requirements:

- A student must complete the Dental Hygiene program within four consecutive years from enrollment in the program.
- Two core dental hygiene course failures prohibit the student from progressing in the program.
- All dental hygiene students who are withdrawing from a dental hygiene course (DHY) or have received an "F" grade in any course must notify the dental hygiene program chairman about their intention to repeat the course.
- General science and education pre- and co- requisites must be fulfilled as listed in the course sequence of the catalog and program brochure.
- It is the responsibility of the individual student to review the prerequisites for each course prior to registration.

Recommended Practice:

To effectively manage the course for successful completion, the following is recommended:

- Read and follow the course syllabus
- Follow the course calendar
- Complete all of the required readings, assignments and reviews.
- Use the email communication system for communicating with each other and your professor on a regular basis.
- Consult the instructor if you have any questions regarding the course material.

Email and Moodle Communication

I will attempt to answer all email communication within 24 hours of receipt Monday through Friday. The only exception to this would be on my non-teaching day which is Thursday. I will check my email at a minimum of once during the weekend and will answer all weekend Moodle mail by 8:30 PM on Sunday. Please check your email on a daily basis and respond in an efficient manner. If you would like to schedule an online discussion with me please email me a suggested time.

Netiquette Reminders During Discussions and Forums

Remember to be respectful, keep your responses on topic, post your messages to the appropriate audience, quote responsibly and reply substantially and keep your responses jargon free.

Assignments:

All assignments must be submitted by the designated date and time. No late assignments will be accepted.

Moodle

Power Point presentations will be placed on Moodle for class and online teaching.

Course Content

(Subject to change)

Month	Topic	Assigned Readings <i>Italicized readings are optional</i>	Competencies for Entry into the Profession
September			
05	Histology Introduction and Overview Classification and Components of Tissues	Chapters 7-8 – Bath-Balogh, Fehrenbach <i>Chapter 1 – Permar</i>	C.3, PC.5
12	Overview of Prenatal Development Embryonic Development of the Face, Neck and Oral Cavity	Chapter 3 – Bath-Balogh, Fehrenbach <i>Chapter 2 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
19	Tooth Development – Formation, Location, Structure, Eruption and Exfoliation	Chapter 6 – Bath-Balogh, Fehrenbach <i>Chapter 3 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
26	Exam 1 (1 st hour) Enamel	Chapter 12 – Bath-Balogh, Fehrenbach <i>Chapter 4 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
October			
03	Dentin	Chapter 13 – Bath-Balogh, Fehrenbach <i>Chapter 5 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
10	Pulp	Chapter 13 – Bath-Balogh, Fehrenbach <i>Chapter 6 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
17	Cementum	Chapter 14 – Bath-Balogh, Fehrenbach <i>Chapter 7 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10

24	Exam 2 (1 st hour) Periodontal Ligament	Chapter 14 – Bath-Balogh, Fehrenbach <i>Chapter 8 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
31	Bone and Alveolar Process	Chapter 14 – Bath-Balogh, Fehrenbach <i>Chapter 9 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
November			
07	Gingiva Philips Sonicare Presentation – Lee Sommerville, RDH, MS	Chapter 10 – Bath-Balogh, Fehrenbach <i>Chapter 11 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
14	Exam 3 (1 st hour) Oral Mucous Membranes Colgate Presentation – Diane Peterson, RDH, MS	Chapter 9 – Bath-Balogh, Fehrenbach <i>Chapter 10 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
21	The Salivary Glands and the Tongue	Chapter 9 – Bath-Balogh, Fehrenbach <i>Chapter 12 – Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
28	NO CLASSES – THANKSGIVING RECESS		
December			
05	Head and Neck Structures: Thyroid Gland, Lymphatics and Nasal and Paranasal	Chapter 9 – Bath-Balogh Fehrenbach	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10
12	Exam 4 – Final Examination		
19	TMJ	<i>Chapter 13 & 14 Permar</i>	C.1, C.3, C.7, C.13, HP.3, HP.4, HP.5, PC.1, PC.2, PC.3, PC.5, PC.6, PC.7, PC.8, PC.10

Lecture Outline

- Lecture 1** Introduction to general and oral histology
Goal: To introduce the student to the microscopic structure and function of human tissues
Objectives:
1. Define the study of oral embryology and histology.
 2. Describe the classification and function of tissues.
 3. List the four human tissue types.
 4. Explain the structure of the four human tissue types.
 5. List the three components of tissues.
 6. Describe the four tissue types in relation to their location.
 7. Identify the roles of the subdivisions of tissues
- Lecture 2** Overview of prenatal development of the face and oral cavity
Goal: To explain and chronicle events in the embryonic and fetal periods of life (1st and 2nd trimesters)
Objectives:
1. Outline the periods of prenatal development.
 2. Describe the events that occur during the stages of embryologic development.
 3. Differentiate between the period of the ovum, embryo and fetus.
 4. Differentiate between cephalic and caudal.
 5. Integrate the prenatal development with the development of the face neck and oral structures.
 6. Describe the formation of the mouth and the timeline it follows.
 7. Describe the fusion of the palate.
 8. Explain the developmental disturbances that can occur with the development of the face, neck and oral structures.
- Lectures 3** Odontogenesis: the origin and formation of tissues of the teeth
Goal: To trace tooth development from its initiation stage to maturation by examining each cell layer
To focus on the mechanism of active eruption including compression of the enamel organ, root growth and specific pressures. To study the differentiation of odontoclasts and their contributing role in resorption of primary root tissues
Objectives:
1. Outline the stages of tooth development.
 2. Describe the bud, cap and bell stages of tooth development.
 3. Identify each tooth's location in the mouth.
 4. Describe the formation of the teeth and the surrounding oral structures that occur during each of the stages of development.
 5. Describe the dental lamina, state its formation on the development timeline and identify the embryonic layer it forms from.
 6. Describe a mesenchymal cell and list two cells it can form.

7. Explain the developmental disturbances that can occur during tooth formation.
8. Identify the embryological background of the dental hard tissue types.
9. List the dental hard tissues formative and resorptive cells.
10. Sequence the development of the enamel dentin and pulp.
11. Discuss the developmental disturbances that can occur during each stage of tooth development.
12. Explain the exfoliation and eruption process and sequence for the primary and permanent dentition.
13. Describe the eruption process for the deciduous and permanent dentitions.
14. Identify the location of succedaneous and nonsuccedaneous dental lamina.
15. Describe the histologic role in the processes of eruption.
16. Explain the histologic process in the shedding of deciduous teeth.
17. Chronologically list the eruption and shedding ages of the deciduous dentition.
18. List the eruption schedule for the permanent dentition.
19. Discuss why primary teeth may be retained.

Lecture 4

Goal:

Tooth enamel

To examine both the microscopic and clinical features of the enamel. Integration of the caries process and the preventive relevancy of sealant and fluoride applications.

Objectives:

1. Describe the properties of enamel.
2. Discuss the apposition and maturation of enamel.
3. Identify the two stages of calcification of the enamel rod and describe the process of each.
4. Describe the alignment of the enamel rod and dentinal tubule with respect to the CEJ or DCJ.
5. Name what the inner enamel epithelial cells differentiate to in the bell stage.
6. Describe what odontoblasts do when they come in contact with the preameloblasts.
7. Indicate and discuss the microscopic features of enamel.
8. Describe the percent of organic and inorganic material found in enamel.
9. Describe the stellate reticulum.
10. Identify where on the tooth that apposition and calcification of the enamel begins.
11. Utilizing the knowledge of dental histology and the clinical considerations of enamel explain how to maintain its integrity.

12. Discuss hypocalcification and the difference between it and demineralization.
13. Identify and explain the formation of enamel developmental disturbances and their clinical significance.

Lectures 5, 6 Dentin and Pulp

Goal: To illustrate how the dentin-pulp complex shares specific characteristics which influence the vitality of the teeth.

- Objectives:**
1. Discuss the dentin-pulp complex.
 2. Describe the properties of dentin.
 3. Describe the processes of the apposition and maturation of dentin.
 4. Describe the percent of organic and inorganic material found in dentin.
 5. Outline and describe the types of dentin.
 6. Describe the process of the formation of reparative dentin.
 7. Discuss the microscopic features of dentin.
 8. Describe what occurs to odontoblasts in the pulp cavity during and after a cavity preparation.
 9. Explain the process of how dentin ages and explain its ramifications.
 10. Utilizing the knowledge of dental histology and the clinical considerations of dentin explain how to maintain its integrity.
 11. Describe the formation of the pulp cavity and the pulp.
 12. Describe the percent of organic and inorganic material found in the pulp.
 13. Identify the location of odontoblasts in the pulp cavity.
 14. Describe the sensations generated by the pulp.
 15. Explain the process of how pulp ages and explain its ramifications.
 16. Explain the complications that can occur to the pulp and their ramifications.

Lectures 7, 8 Cementum and Periodontal Ligament

Goal: To introduce the supporting structures of the periodontium and to study these tissues as they develop in-utero.

- Objectives:**
1. Discuss the periodontium, and describe the properties of each of its components.
 2. Describe the development of the periodontium.
 3. Indicate and discuss the microscopic features of the periodontium.
 4. Describe the age-related changes in the periodontium.
 5. Describe the properties of cementum.
 6. Outline the types of cementum.
 7. Discuss the microscopic features of cementum.

8. Describe the processes of the apposition and maturation of cementum.
9. Explain the complications that can occur to the cementum during formation and post development and explain their ramifications.
10. List the fiber groups of the periodontal ligament and discuss their functions.
11. Explain the functions of the periodontal ligament.
12. Indicate and discuss the microscopic features of the periodontal ligament.
13. Integrate the knowledge of the histology with the clinical considerations involving the periodontium, especially those changes associated with periodontal pathology.

Lecture 9

Bone and Alveolar Process

Goal:

To examine bone, both as tissue and organ, and to explain its development and capacity to remodel throughout life.

Objectives:

1. Describe the alveolar bone.
2. Outline the types of alveolar bone.
3. Explain the composition of alveolar bone.
4. Discuss the embryological background of alveolar bone.
5. List the alveolar bone's formative and resorptive cells.

Lecture 10

Gingiva

Goal:

To trace the histologic development of the gingiva and present its clinical appearance in health and disease.

Objectives:

1. List and describe each of the types of gingival tissue.
2. Describe the histological features of the different types of gingival tissue.
3. Describe the composition and discuss the development of the dentogingival junctional tissue.
4. Discuss turnover of the dentogingival junctional tissue.
5. Integrate the knowledge of the histology with the clinical considerations of the dentogingival junctional tissue in maintaining its health.
6. Describe the pathology that may occur within the dentogingival junctional tissue.

Lectures 11, 12

Oral Mucous Membranes, Salivary Glands and the Tongue

Goal:

To study the cellular structure of the oral mucosa in various areas of the oral cavity. To examine the major and minor salivary glands with their respective duct systems and secretions.

Objectives:

1. List and describe the types of oral mucosa.
2. Characterize each of the different types of epithelium associated

- with each region in the oral cavity.
3. Describe the different types of epithelium associated with the tongue.
 4. Identify the turnover times for different regions of the oral mucosa and their clinical correlations.
 5. Discuss the repair and aging considerations of the oral mucosa.
 6. Describe the methods of promoting oral mucosal health
 7. Identify and explain the pathologic conditions of the oral mucosa.
 8. Describe the function of the salivary glands.
 9. Describe the histological features of salivary glands.
 10. Differentiate between the major and the minor salivary glands.
 11. List and identify the major and minor salivary glands.
 12. Discuss the histology of salivary glands.
 13. Describe common pathological disturbances that can occur with salivary glands.
 14. Describe the formation of the tongue.
 15. Describe taste perception.
 16. Discuss the pathological occurrences that can occur on and within the tongue.

Lecture 13

Head and Neck Structures

Goal:

Gain an understanding and appreciation of the structures of the head and neck including the glands, lymphatics, nasal cavity and paranasal sinuses

Objectives:

1. Describe the location of each head and neck structure.
2. Discuss the histological features and describe the embryological development of each head and neck structure.
3. Integrate the knowledge of the histology of head and neck structures.

Lecture 14

Temporomandibular Joint and Course

Goal:

To examine the functional movements of the mandible and the unique histologic composition of temporomandibular joint.

Objectives:

1. Describe the histology of each component of the temporomandibular joint and how it relates to its clinical features.
2. Integrate the knowledge of the anatomy and histology of the temporomandibular joint into the dental treatment of the patient who develops a disorder.

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**Oral Embryology and Histology Syllabus
Fall 2014**

STUDENT ACKNOWLEDGEMENT VERIFICATION

I, _____ acknowledge that I have read and fully understand the course syllabus, including requirements, course policies, student responsibilities, methods of evaluation, and grading criteria for DHY 109HY – Oral Embryology and Histology.

I agree to abide by the protocols and requirements set forth in this course syllabus, the *Bergen Community College Dental Hygiene Student Handbook* and the *Bergen Community College Catalog*.

If I have any questions regarding this course syllabus I will ask Professor Avrutik for clarification prior to signing this course agreement.

Student Signature/Date

Faculty Signature/Date