Community and Technical College  
Dental Hygiene Program  
DH A201 Oral Histology and Embryology  
2 Credits

I. Course Description  
Presents information on histology and embryology of the oral cavity, with emphasis on dental and periodontal structures. Also includes discussion on dental accretions and cariology.

II. Course Design  
A. Designed for first year dental hygiene students.  
B. Credits: 2  
C. Total student involvement time:  
   1. Lecture: 2 hours per week for 15 weeks  
   2. Outside work expected: 60 hours  
D. DH A201 is required for an Associate of Applied Science degree in Dental Hygiene.  
E. This course has fees.  
F. This course may be taught in any time frame, but not less than 1 week per credit.  
G. This is a revised course.  
H. This course is coordinated with UAA list serve and the UAF Dental Hygiene Program.  
I. This course is a 200-level course because it builds on information that has been introduced in prerequisite courses.

III. Course Activities  
This course will be conducted primarily through lecture. Audiovisual materials and models may supplement lecture sessions.

IV. Course Prerequisites and Registration Restrictions  
A. Course Prerequisites: BIOL A111; BIOL A112  
B. Registration Restrictions: Departmental approval.

V. Course Evaluation  
A. Grades will be A-F  
B. Grades are based on written or computerized exams and assignments.
VI. Course Curriculum

1.0 Safety
   1.1 University safety
   1.2 Classroom and building safety

2.0 Embryonic Development of the Face and Oral Cavity
   2.1 Orofacial structures
   2.2 Primary and secondary palates
   2.3 Nasal cavity and septum
   2.4 Tongue

3.0 Tooth Development Stages
   3.1 Crown
      3.1.1 Initiation
      3.1.2 Bud
      3.1.3 Cap
      3.1.4 Bell
   3.2 Apposition and maturation
   3.3 Specialized cells and matrix formation
   3.4 Root development

4.0 Tooth Eruption and Exfoliation of Primary Teeth

5.0 Dental and Periodontal Histology
   5.1 Gingiva
   5.2 Dentin and pulp
   5.3 Enamel
   5.4 Cementum and alveolar process
   5.5 Periodontal ligament

6.0 Histology of Oral Mucosa
   6.1 Buccal and labial mucosa
   6.2 Alveolar mucosa
   6.3 Ventral tongue and floor of mouth
   6.4 Tongue
   6.5 Soft and hard palates
   6.6 Attached gingival

7.0 Other Tissues
   7.1 Major salivary glands
   7.2 Minor salivary glands
   7.3 Tonsils
   7.4 Lymphoid tissue
8.0 Accretions
8.1 Dental biofilm
   8.1.1 Distribution
   8.1.2 Microbiology
   8.1.3 Structure
   8.1.4 Inflammatory reactions
   8.1.5 Prevention
   8.1.6 Dietary factors
8.2 Calculus
   8.2.1 Demineralization and remineralization cycling
   8.2.2 Prevention
8.3 Material alba

9.0 Cariology
9.1 Etiology
9.2 Pathology
9.3 Classification

VII. Suggested Texts

VIII. Bibliography
IX. **Instructional Goals, Student Outcomes, and Assessment Procedures**

A. **Instructional Goal:** Provide students knowledge and understanding of embryology and histology of the oral cavity.

B. **Student Outcomes/Assessment Procedures:**

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<th><strong>Student Outcomes:</strong></th>
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<td>After successful completion of this course, students will be able to:</td>
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<th><strong>Assessment Procedures</strong></th>
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<td>Written or computerized examination</td>
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- Integrate knowledge of the embryonic development of the face, oral cavity, and dental tissues to explain normal structures and developmental abnormalities.

- Examine the apposition and maturation of mineralized dental tissues and the clinical implications of malformed tissues.

- Characterize various dental and periodontal tissues.

- Apply knowledge of various types of oral mucosa to related pathology that may be present in the oral mucosa.

- Summarize the formation of dental accretions.

- Explain the etiology and pathology of dental caries.