



**CAMOSUN COLLEGE**  
**School of Health & Human Services**  
**Dental Programs**

**DHYG 110 – Head and Neck Anatomy**  
**Fall 2008**

**COURSE OUTLINE**

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The Approved Course Description is available on the web @ <http://www.camosun.bc.ca/calendar/current/web/dhyg.html#DHYG110>

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**1. Instructor Information**

(a) Instructor	Bev Jackson
(b) Office hours	
(c) Location	Dental Building – Rm 004
(d) Phone	(250) 370-3507 <b>Alternative:</b> (250) 478-4130
(e) E-mail	jacksonb@camosun.bc.ca
(f) Website	

**2. Intended Learning Outcomes**

**By the end of this course you will know and be able to:**

- Use dental and anatomical terms in order to complete effective intra and extra oral exams and provide descriptions of findings
- Identify features of the soft and hard tissues that relate to the identification and differentiation of landmarks and have a good understanding of the periodontium in order to identify individual client needs
- Understand normal head and neck anatomy and physiology in order to identify abnormal function, to provide a foundation for clinical dental hygiene.
- This foundation will also provide you with base knowledge required for further study in the dental sciences.

**CRITICAL ELEMENTS**

1. *Identify structures, landmarks and anatomical relationships of the skull*
  - Recall terminology used to describe directional relationships and body planes (from previous anatomy course).
  - Define common anatomical prefixes and suffixes.
  - Identify bones of the head and neck.
  - Identify structures of the temporomandibular joint (TMJ)
  - Describe the structure and function of major bones and bony landmarks of the skull, facial skeleton and cervical vertebrae.
  - Name sutures and the bones associated with them.

2. Describe intra-oral anatomy and physiology and extra-oral anatomy and landmarks.

- Identify and describe normal intra-oral soft tissue structures and their function.
- Describe surfaces and structures associated with the tongue.
- Describe the floor of the mouth.
- Describe tonsils and associated soft tissue structures in the oropharynx
- Describe the hard and soft palates.
- Describe the alveolar ridges.
- Describe the types and locations of oral mucosa, including masticatory, lining and specialized, including their function.
- Describe the appearance and feel of normal lymph nodes.
- Identify the external ear and its landmarks.
- Name the landmarks associated with the frontal view of the face.
- Identify neck structures associated with the dental hygiene extra-oral exam.

3. Discuss the structure and function of the periodontium including tooth tissues.

- Describe basic anatomy and tissues of the teeth.
- Describe the periodontium including anatomical divisions of the gingiva and tissue characteristics.
- Discuss the blood supply, innervation and lymphatic drainage of the gingiva.
- Describe the clinical appearance of healthy gingiva.
- Describe the purpose and location of normal frena.
- Describe the periodontal ligament including structure, function, fiber types and directions
- Describe directions and function of gingival fibers.
- Discuss blood supply, innervation and lymphatic drainage of the periodontal ligament.
- Describe structure, composition and functions of cementum.
- Describe types of cemento-enamel junction (CEJ) configurations.
- Discuss structure and function of the alveolar bone.
- Recall types of bone that form the alveolar ridge, including their characteristics and functions. (from previous anatomy course)
- Describe the morphology of normal alveolar bone in relation to the teeth.
- Describe the morphology of alveolar bone in an edentulous mouth.
- Describe dehiscence and fenestration including their clinical appearance.

4. Describe structure and function of the TMJ

- Discuss anatomy of the TMJ
- Describe the bones and ligaments associated with the TMJ.
- Describe the TMJ during occlusal movements of the mandible.
- Describe the feel and sound of a normal vs. abnormal functioning TMJ.
- Describe anatomical change within the TMJ during movements of the mandible.

5. Describe muscles of the head and neck.

- Name and describe muscles of the head and neck.
- Describe the origin, insertion, action and innervation of the muscles of: mastication, facial expression, soft palate, floor of the mouth, tongue, hyoid and associated neck structures.

- Categorize the muscles in their roles in the above areas.*
- Discuss structure of the neck at rest and during swallowing.*

6. Describe nerves of the head and neck

- Describe basic function of the central nervous system (CNS)
- Describe basic function of the peripheral nervous system (PNS)
- Describe the general function of the autonomic nervous system
- Describe the 12 cranial nerves and their general function.
- Describe in detail the course of the trigeminal (V cranial) nerve, identifying each branch and its' function.
- Distinguish between motor and sensory branches for the trigeminal nerve.
- Describe the nerves and pathways involved in parasympathetic innervation to the major salivary glands.
- Describe general innervation and taste sensation to the tongue.
- Describe innervation of teeth and associated periodontium.
- Name the main branches of the facial (VII cranial) nerve including their function.

7. Describe blood supply and lymphatic drainage of the head and neck.

- Describe branches of the external carotid artery including associated foramina and pathway.
- Describe tissues supplied by branches of the external carotid artery.
- Identify blood supply to the dental and oral tissues.
- Describe branches of the internal carotid artery and its' pathway.
- Describe the venous drainage system of the head and neck.
- Describe the pathway of the venous return from the teeth and the oral cavity to the heart.
- Explain the function of the lymphatic system.
- Explain lymphatic drainage of the head and neck, including the drainage of the teeth, gingiva and periodontal ligament.
- Describe primary, secondary and tertiary nodes and discuss their significance.
- Describe major fascial spaces of the head and neck and discuss their relation to the spread of infection.

8. Describe the nasal cavity and the paranasal sinuses

- Name the structures and boundaries of the nasal cavity.
- Identify and describe the location of the 4 pairs of paranasal sinuses.
- Describe the functional relationship of the nasal cavity and paranasal sinuses
- Name bones associated with the paranasal sinuses.
- Describe the relationship between the maxillary sinus and teeth.

9. Describe salivary glands and explain breath odor.

- Describe the location of the major and minor salivary glands.
- Describe types, compositions and functions of saliva.
- Differentiate the type of saliva produced from the various salivary glands.
- Define and describe antisialogogue, sialogogue, xerostomia, and ropy saliva.
- Describe halitosis
- Explain sources and causes of abnormal breath odor. (oral vs. non-oral)

10. *Identify (on a skull, anatomical model, dentoforms or diagrams) anatomical features and landmarks of the head & neck.*

### 3. Required Materials

- (a) Texts: Fehrenbach, Margaret J. and Herring Susan W (2007). *Illustrated anatomy of the head and neck (3<sup>rd</sup> Ed.)*. Philadelphia: Saunders Elsevier.

Bath-Balogh, Mary and Fehrenbach, Margaret J. (2006). *Illustrated dental embryology, histology, and anatomy (2<sup>nd</sup> Ed.)*. Philadelphia: Elsevier Saunders.

- (b) Manual: DHYG 110 - Head & Neck Anatomy Manual from the Camosun College Bookstore.

### 4. Course Content and Schedule

Class hours consist of two consecutive 50 minute periods two days per week. An outline and class schedule will be distributed in class.

### 5. Basis of Student Assessment (Weighting)

Term Test #1	30%
Term Test #2	30%
Final Exam	40%

No assignments

### 6. Grading System

*(If any changes are made to this part, then the Approved Course description must also be changed and sent through the approval process.)*

*(Mark with "X" in box below to show appropriate approved grading system – see last page of this template.)*

Standard Grading System (GPA)

Competency Based Grading System

### 7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

#### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College Calendar, Student Services or the College web site at <http://www.camosun.bc.ca>

#### STUDENT CONDUCT POLICY

There is a Student Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section.  
<http://www.camosun.bc.ca/policies/policies.html>

**A. GRADING SYSTEMS** <http://www.camosun.bc.ca/policies/policies.php>

The following two grading systems are used at Camosun College:

**1. Standard Grading System (GPA)**

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+	Minimum level has not been achieved.	3
60-64	C		2
50-59	D		1
0-49	F		0

**2. Competency Based Grading System (Non GPA)**

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

**B. Temporary Grades**

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://www.camosun.bc.ca/policies/E-1.5.pdf> for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.



CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.
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