SYLLABUS

COURSE:	DHCT 2107 Head and Neck Anatomy
SEMESTER:	Fall
CREDIT HOUR:	2.0
REVISED:	2002
REPRINTED:	2005
COURSE DIRECTOR:	Dr. Rita Zachariasen, Ph.D.

GOAL

The goal of this course is to present to the Dental Hygiene Student the basic concepts and structures of Head and Neck Anatomy. Emphasis is placed on those subjects which are of particular interest to the clinical practice of dental hygiene. The subject is taught from a physiological systems approach with the specific topics being listed on page

OBJECTIVES

1. List and define the anatomical terms of location and position.

2. List and describe the fundamental planes of dissection.

3. Identify and locate bones of the skull. Locate the major characteristics on each of the bones of the skull as given on the handout entitled: “Osteology of the Skull”

4. With the use of anatomical terms of location, describe the relationship of one anatomical landmark to another on the skull.

5. Identify the name of the bone with which each of the anatomical landmarks is associated.

6. List the bones involved in the temporomandibular joint.

7. Draw and label the temporomandibular joint including all components.

8. Describe the types of mandibular movements.

9. Define origin and insertion of a muscle.

10. Define tendon.

11. Describe the major characteristics of skeletal muscle tissue.

12. Describe what is meant by graded muscle contraction.

13. Identify the muscles of mastication. For each of the muscles of mastication, indicate its origin, insertion, action, blood and nerve supply.

14. Draw and label the muscles of mastication.

15. Indicate which muscles of mastication are involved in each of the mandibular movements described in objective #8.

16. Identify the major muscles of facial expression. For each of the muscles of facial expression indicate its action, blood and nerve supply.

17. Draw and label the muscles of facial expression.

18. Group the muscles of facial expression as to their location.

19. Identify the suprahyoid and infrahyoid muscles. For each of these muscles, indicate its points of attachment, action, blood and nerve supply.

20. Contrast the action the suprahyoids when the hyoid is fixed as to when it is mobile.

21. Describe the involvement of the hyoid muscles in the movements describe in objective # 8.

22. List the major triangles of the neck and identify the boundaries of each.

23. Draw and label the triangles of the neck.

24. Identify the major structures found within each of the triangles of the neck.

25. List the muscles of the tongue and categorize each muscle as to whether it is intrinsic or extrinsic.

26. Identify the nerve supply to the tongue muscles.

27. For each of the extrinsic muscles, indicate its origin, insertion, and action.

28. Indicate the nerve supply for the special sense of taste.

29. Distinguish between hard palate and soft palate. Identify the underlying structures of each.

30. List the palatal arches and identify the underlying structures of each.

31. Identify the muscles of the soft palate. For each of the muscles of the soft palate, indicate its action and nerve supply.

32. Identify the muscles of the pharynx and categorize each as to whether it is longitudinal or circular. For each of the muscles of the pharynx, indicate its action and nerve supply.

33. Identify the side of the heart that supplies the head and neck regions with blood.

34. Draw and label the aortic arch and its branches.

35. Draw and label the common carotid arteries.

36. List the 8 branches of the external carotid and indicate the areas supplied by each.

37. Draw and label the internal maxillary artery in the detail as given on p. 157 of the text.

38. Indicate the areas supplied by each of the major branches of the internal maxillary artery.

39. Trace blood from the left side of the heart to each of the major oral structures including the individual teeth.

40. Identify the major vein and side of the heart which receives venous drainage from the head and neck structures.

41. Draw and label the internal jugular vein including all of its major tributaries.

42. Trace blood from the pterygoid plexus to the right side of the heart including the names of all major veins through which the blood passes.

43. Identify the two (2) major sets of arteries supplying the brain.

44. List the 4 branches of the internal carotid artery and indicate the area of the brain supplied by each.

45. Draw and label the circle of Willis.

46. Describe the functional significance of the circle of Willis.

47. List the major dural sinuses of the brain and the areas served by each.

48. Describe the composition of a dural sinus.

49. Describe the direction of blood flow through the dural sinuses.

50. List the major lymph nodes of the head and neck region and identify the structures served by each.

51. Draw and label the location of the major lymph nodes of the head and neck.

52. Trace the flow of lymph from each of the lymph nodes to the thoracic cavity.

53. Describe the clinical significance of knowing the location of lymph nodes and the areas served by each.

54. Describe the general organization of the nervous system; including in your answer central nervous system and peripheral nervous system.

55. Draw and label a neuron. Indicate the direction of a nerve impulse along the neuron.

56. Distinguish between cranial nerves and spinal nerves.

57. Distinguish between somatic nerves and autonomic nerves.

58. Distinguish between afferent (sensory) nerves and efferent (motor) nerves.

59. List the twelve pairs of cranial nerves by name and Roman numeral.

60. Identify the cranial foramen through which each cranial nerve passes.

61. Identify the type of nerve (motor, sensory, mixed) that each cranial nerve is.

62. Describe in one or two sentences the general function of each cranial nerve.

63. Draw and label the major branches of the trigeminal nerve in the same detail as given on pp. 200, 204-209 of the text.

64. Identify the structure(s) innervated by each of the major branches of the trigeminal nerve.

65. Draw and label the major branches of the facial nerve in the same detail as given on pp. 210-211 of the text.

66. Identify the structure(s) innervated by each of the major branches of the facial nerve.

67. Identify the structure innervated by each of the major branches of the glossopharyngeal nerve.

68. Identify the cranial nerve and specific branch that innervates each of the major structures found in the oral cavity including the individual teeth.

69. Define anesthesia and describe the general mechanism of anesthesia.

70. Contrast the local infiltration mode of anesthesia to that of block anesthesia.

71. Describe the sites of injection for maxillary and mandibular blocks and list the major nerves involved.

72. List the major hazards in dental anesthesia.

73. Contrast unicellular glands to multicellular glands.

74. Contrast serous glands to mucous glands.

75. Define: holocrine, merocrine, apocrine, exocrine, and endocrine glands.

76. List the morphological types of glands and describe the major characteristics of each.

77. Identify the 3 major salivary glands. For each of the glands, describe its location, secretion type, morphology, name of its duct, duct system, and motor nerve innervation.

78. Describe the two phases of salivary secretion and the names of the cells involved in each.

79. Contrast the effect the SANS on salivary secretion to that of the PSANS.

80. Give the average daily volume of saliva which is secreted and indicate the relative contribution of each of the major salivary glands.

RESOURCES

I. Media Resources

A. Printed media

Textbook:

Fehrenbach, M.J. and Herring, S.W.
Illustrated Anatomy of the Head and Neck, 2nd ed.
W.B. Saunders Co., Philadelphia

II. Human Resources

Dr. Rita Zachariasen
Room 3.112 A
713-500-4521
Email: rita.d.zachariasen@uth.tmc.edu

DHCT 2107 HEAD AND NECK ANATOMY
Fall 2005 Lecture Schedule

Tuesday and Thursday, 9-9:50 am
Room 20

LIST OF TOPICS	**READINGS***
Introduction to Anatomy	pp. 1-9, 29-31
Skull Osteology	pp. 31-93
TMJ	pp. 135-141
Muscles of Mastication	pp. 109-113
TEST I	
Muscles of Facial Expression	pp. 97-108
Neck Muscles	pp. 95-97, 113-119
Triangles of the Neck	pp. 24-26
Muscles of the Oral Cavity	pp. 119-125
Arteries	pp. 148-159
Veins	pp. 159-166
Arterial and Venous Supply of the Brain	
TEST II	
Lymphatics and Spread of Dental Infection	pp. 159-175
Nervous System – Organization	pp. 189-194
Cranial Nerves	pp. 194-199
Trigeminal Nerve	pp. 199-210
Facial & Glossopharyngeal Nerves	pp. 210-213
Dental Anesthesia	pp. 221-254
Salivary Glands and Salivation	pp. 175-181
TEST III	**Fri, Dec 9** **9-10:00 am** **Room 340**

*** Readings are from required textbook.**

EVALUATION METHODS

There will be 3 examinations given during this course. Each exam will be 100 points in value. Each exam will cover a specific block of material as presented in the "Schedule". The examinations will consist of short answers and fill-in-the-blank format. Sample examinations may be checked-out from the Dental Hygiene Secretary.

The final grade is an average of the three examinations and will be calculated using the following formula:

$$\frac{\textbf{TEST 1} + \textbf{TEST 2} + \textbf{TEST 3}}{\textbf{3}} = \textbf{Final Grade} + \textbf{2*}$$

*****A bonus of 2 percentage points will be added to the final grade if all 3 examinations are taken at the regularly scheduled time. Therefore if one has an average of 91 for the three exams, a score of 93 will be submitted as the final grade.

The grading scale used in the School of Dental Hygiene is as follows:

93 - 100	**A**
84 – 92	**B**
75 – 83	**C**
70 – 74	**D**
Below 70	**F**