



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: DLA 1210 Dental Science II

Date: Fall 2020

Credit Hours: 1

Prerequisite(s): Completion of DLA 1209 and DLA 1200 with a C or higher.

Delivery Method:

<input checked="" type="checkbox"/> Lecture	1 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Lab	0 Contact Hours (2-3 contact = 1 credit hour)
<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)
<input type="checkbox"/> Online	
<input type="checkbox"/> Blended	

Offered: Fall Spring Summer

IAI Equivalent –**Only for Transfer Courses**-go to <http://www.itransfer.org>:

CATALOG DESCRIPTION:

This 8-week course builds on the information provided in DLA 1200- Dental Science I. The course details information on the osteology of the skull; muscles, nerves and arteries of the head and neck; salivary glands; distribution patterns of the lymphatic/immune systems relating to the spread of infection related to dentistry; and the anatomy, function/dysfunction, and clinical considerations of the temporomandibular joint.

GENERAL EDUCATION GOALS ADDRESSED

[See last page for Course Competency/Assessment Methods Matrix.]

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

[Choose up to three goals that will be formally assessed in this course.]

- To apply analytical and problem solving skills to personal, social, and professional issues and situations.
- To communicate successfully, both orally and in writing, to a variety of audiences.
- To construct a critical awareness of and appreciate diversity.
- To understand and use technology effectively and to understand its impact on the individual and society.
- To develop interpersonal capacity.
- To recognize what it means to act ethically and responsibly as an individual and as a member of society.
- To recognize what it means to develop and maintain a healthy lifestyle in terms of mind, body, and spirit.
- To connect learning to life.

EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:

[Outcomes related to course specific goals. See last page for more information.]

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

1. Demonstrate a comprehensive understanding of the Osteology of the Skull (Standard 2-14)
 - 1.1. Identify, understand and use the terminology associated with the osteology of the skull.
 - 1.2. Name the bones of the neurocranium.
 - 1.3. Name the bones of the viscerocranium
 - 1.4. Identify the location of the cranial and facial bones on a picture, diagram or model
 - 1.5. Identify the location of the anatomic landmarks on the cranial and facial bones on a picture diagram.
 - 1.6. Identify the following foramina or canals on a picture, diagram or model: hypoglossal canal, supraorbital, stylomastoid, carotid canal, jugular, rotundum, ovale, foramen magnum, spinosum, lacerum, greater and lesser palatine, and incisive.
 - 1.7. Identify the location of the anatomic landmarks on the mandible and maxilla on a picture, diagram or model.
2. Demonstrate a comprehensive understanding of the Muscles of the Head and Neck. (Standard 2-14)
 - 2.1. Identify, understand and use the terminology associated with the Muscles of the Head and Neck.
 - 2.2. Describe the origin, insertion, and function of the muscles of mastication.
 - 2.3. Name the muscles of mastication, muscles of the tongue, muscles of facial expression, muscles of the neck, and muscles of the soft palate.
 - 2.4. Classify each muscle of the head and neck according to the group in which it belongs.
 - 2.5. Describe the location and function of the muscles of facial expression, suprahyoid and infrahyoid muscles, and muscles of the tongue, neck, soft palate, and pharynx.
 - 2.6. Describe nerve innervation to the various types of muscles groups.
 - 2.7. Describe the three stages of swallowing.
 - 2.8. Complete a project demonstrating a thorough understanding of a muscle of your choice, including its origin, insertion, function, innervation and blood supply.

3. Demonstrate a comprehensive understanding of the Nerves of the Head and Neck. (Standard 2-14)
 - 3.1. Identify, understand and use the terminology associated with the Nerves of the Head and Neck.
 - 3.2. Identify the three parts of a neuron
 - 3.3. Identify the names and numbers of the cranial nerves.
 - 3.4. Define the following terms: neuron, dendrite, axon, efferent, afferent, somatic, and visceral.
 - 3.5. Describe the central, peripheral, and autonomic nervous systems.
 - 3.6. Differentiate between sympathetic and parasympathetic nerve supply.
 - 3.7. Describe the trigeminal, facial, glossopharyngeal, and hypoglossal nerves according to the following: nerve supply (sensory, motor or both), structures supplied, teeth supplied, and exit site.
 - 3.8. Describe the nerve supply to each maxillary and mandibular tooth.
 - 3.9. Be able to locate nerve supply and place topical in the correct location depending on treatment.

4. Demonstrate a comprehensive understanding of the Arteries of the Head and Neck. (Standard 2-14)
 - 4.1. Identify the eight branches of the external carotid artery.
 - 4.2. Describe the structures supplied by the eight branches of the external carotid artery.
 - 4.3. Describe the structures supplied by the internal carotid artery.
 - 4.4. Describe the blood supply to the maxillary and mandibular teeth.
 - 4.5. Describe the structures drained by the superficial and deep veins.

5. Demonstrate a comprehensive understanding of the Salivary Glands. (Standard 2-14)
 - 5.1. Identify the major salivary glands on a picture or diagram.
 - 5.2. Identify the minor salivary glands on a picture or diagram.
 - 5.3. Identify the duct for each major salivary gland.
 - 5.4. Classify each of the major and minor salivary glands according to its secretion.

6. Demonstrate a comprehensive understanding of the Lymphatics and spread of Dental Infection. (Standard 2-14)
 - 6.1. Discuss the function of the lymphatic system
 - 6.2. Identify and label the major groups of lymph nodes that drain the teeth and oral cavity.
 - 6.3. Define the terms primary, secondary, and tertiary nodes of involvement as they relate to lymph drainage.
 - 6.4. Describe the primary lymph drainage of all teeth.
 - 6.5. Discuss the concepts of fascial space infection.
 - 6.6. Discuss how a fascial space infection may spread from the oral cavity to the thorax
 - 6.7. Define Ludwig's angina.

7. Demonstrate a comprehensive understanding of the Temporomandibular Joint (TMJ). (Standard 2-14)
 - 7.1. Describe and locate the following structures on a picture, diagram or model: condyle, mandibular fossa, articular eminence, articular disc, capsule, retrodiscal pad.
 - 7.2. Describe the nerve and the blood supply to the temporomandibular joint.
 - 7.3. Describe the two types of movement within the TMJ.
 - 7.4. Describe the clinical concerns associated with the TMJ.

MAPPING LEARNING OUTCOMES TO GENERAL EDUCATION GOALS

[For each of the goals selected above, indicate which outcomes align with the goal.]

Goals	Outcomes
First Goal	
To recognize what it means to develop and maintain a healthy lifestyle in terms of mind, body, and spirit.	6.1-6.7
Second Goal	
To connect learning to life	1.1-1.7; 2.1-2.8; 3.1-3.9; 4.1-4.5; 5.1-5.4; 6.1-6.4; 7.1-7.4

COURSE TOPICS AND CONTENT REQUIREMENTS:

- I. Osteology of the Skull
 - A. Neurocranium
 - a. Occipital bone
 - b. Frontal bone
 - c. Bones of the orbit
 - d. Parietal bones
 - e. Temporal bones
 - f. Ethmoid bones
 - g. Sphenoid bone
 - B. Viscerocranium
 - a. Zygomatic bones (cheek bones)
 - b. Vomer
 - c. Nasal bones
 - d. Lacrimal bones
 - e. Inferior nasal concha
 - f. Palatine bones
 - C. Maxilla
 - D. Mandible
 - E. Hyoid Bone
- II. Muscles of the Head and Neck
 - A. Muscles of Mastication
 - a. Temporalis
 - b. Masseter
 - c. Medial pterygoid
 - d. Lateral pterygoid
 - B. Suprahyoid Muscles
 - a. Digastric
 - b. Mylohyoid
 - c. Geniohyoid
 - d. Stylohyoid
 - C. Infrahyoid Muscles
 - a. Omohyoid

- b. Sternohyoid
- c. Sternothyroid
- d. Thyrohyoid
- D. Muscles of the Tongue
 - a. Intrinsic muscles
 - i. Superior longitudinal
 - ii. Inferior longitudinal
 - iii. Transverse
 - iv. Vertical
 - b. Extrinsic Muscles
 - i. Genioglossus
 - ii. Hyoglossus
 - iii. Styloglossus
- E. Muscles of Facial Expression
 - a. Muscles of the scalp
 - b. Muscles of the ear
 - c. Orbicularis Oculi
 - d. Procerus
 - e. Corrugator
 - f. Muscles of the Nose
 - g. Muscles of the Mouth
 - i. Orbicularis Oris
 - ii. Levator Labii Superioris Alaeque Nasi
 - iii. Levator Labii Superioris or Quadratis
 - 1. Labii Superioris
 - iv. Zygomatic
 - v. Levator Anguli Oris or Caninus
 - vi. Buccinator
 - vii. Risorius
 - viii. Depressor Anguli Oris or Triangularis
 - ix. Depressor Labii Inferioris or Quadratis
 - 1. Labii Inferioris
 - x. Mentalis
- F. Muscles of the Neck
 - a. Platysma
 - b. Trapezius
 - c. Sternocleidomastoid
- G. Muscles of the Soft Palate
 - a. Palatoglossal or Palatoglossus
 - b. Palatopharyngeal or Palatopharyngeus
 - c. Uvula
 - d. Levator Veli Palatini
 - e. Tensor Veli Palatini
- H. Muscles of the Pharynx
 - a. Superior Constrictor
 - b. Middle Constrictor
 - c. Inferior Constrictor
 - d. Palatopharyngeal
 - e. Elevators and Dilators of the Pharynx
 - i. Salpingopharyngeal

- ii. Stylopharyngeal
 - f. Deglutition
 - i. Oral stage
 - ii. Pharyngeal stage
 - iii. Esophageal stage
- III. Nerves of the Head and Neck
 - A. Cranial Nerves
 - B. Trigeminal Nerve (V)
 - a. Ophthalmic nerve (V1)
 - b. Maxillary nerve (V2)
 - i. Zygomatic nerve
 - ii. Infraorbital nerve
 - iii. Posterior superior alveolar (PSA) nerve
 - iv. Pterygopalatine Nerves
 - c. Mandibular nerve (V3)
 - i. The anterior division
 - ii. The posterior division
 - iii. Inferior Alveolar Nerve
 - C. Facial Nerve (VII)
 - D. The Glossopharyngeal Nerve (IX)
 - E. The Hypoglossal Nerve (XII)
- IV. Arteries of the Head and Neck
 - A. Internal Carotid
 - B. External Carotid
 - a. Mandibular section
 - b. Pterygoid section
 - c. Pterygopalatine section
 - C. Veins of the face
 - a. Superficial veins
 - b. Deep veins
- V. Salivary Glands
 - A. Major Salivary Glands
 - a. Parotid
 - b. Submandibular
 - c. Sublingual
 - B. Minor Salivary Glands
 - a. Labial glands
 - b. Buccal glands
 - c. Palatine glands
 - d. Lingual glands
- VI. Lymphatic System and Dental Infection
 - A. Node Groups Affected By Disease
 - a. Primary
 - b. Secondary
 - c. Tertiary
 - B. Distribution Pattern
 - a. Retropharyngeal nodes
 - b. Submental nodes
 - c. Submandibular nodes
 - d. Upper Deep Cervical nodes

- e. Lower Deep Cervical nodes
 - C. Spread of Infection in Fascial Spaces
 - a. Ludwig's Angina
 - D. Other Maxillary Infections
 - a. Nasal cavity
 - b. Maxillary sinus
 - c. Soft tissue spaces of the cheek, or area below the eye
 - i. Lateral pharyngeal space
- VII. Temporomandibular Joint
- A. Anatomy
 - B. Nerve and Blood Supply
 - C. Movement
 - D. Clinical Considerations
 - a. Subluxation
 - b. TMJ Disorder (TMD)
 - c. Bruxism
 - d. Arthritis

INSTRUCTIONAL METHODS:

- Lecture
 - Power Points
 - Class discussion and activities
- Text assignments
- Homework assignments
- Visual aids - videos, transparencies, slides, charts and models
- YouTube
- Blackboard
- Oral Presentations
- Pre tests
- Exams and quizzes
- Comprehensive exam
- Scenarios and Case Studies

INSTRUCTIONAL MATERIALS:

- Laboratory Models
- Head, Neck & Dental Anatomy, 4th Edition, Marjorie J. Short and Deborah Levin-Goldstein 2013 (no newer editions as this time)
- Dental Assisting Coloring Book, 1st Edition, Donna J. Phinney and Judy H. Halstead
- Anatomy of Orofacial Structures: A Comprehensive Approach, 7th Edition, 2014

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:

Grading

All grades will be posted on blackboard. Please log into the course regularly so you can stay notified to any missing assignments or quizzes.

The contents of following categories are calculated equally, and will be explained in more detail later in this document.

(29) Attendance: 10%
 (TBD) Homework: 10%
 (17) Quizzes: 25%

- (8) Exams: 25%
- (1) Muscle Project: 10%
- (1) Final Exam: 20%

A= 90-100
B= 80-89
C= 70-79
D= 60-69
F= 0-59

Course Competency/Assessment Methods Matrix

(Dept/# Course Name)	Assessment Options																																			
For each competency/outcome place an "X" below the method of assessment to be used.	Assessment of Student Learning	Article Review	Case Studies	Group Projects	Lab Work	Oral Presentations	Pre-Post Tests	Quizzes	Written Exams	Artifact Self Reflection of Growth	Capstone Projects	Comprehensive Written Exit Exam	Course Embedded Questions	Multi-Media Projects	Observation	Writing Samples	Portfolio Evaluation	Real World Projects	Reflective Journals	Applied Application (skills) Test	Oral Exit Interviews	Accreditation Reviews/Reports	Advisory Council Feedback	Employer Surveys	Graduate Surveys	Internship/Practicum /Site Supervisor Evaluation	Licensing Exam	In Class Feedback	Simulation	Interview	Written Report	Assignment				
	Direct/ Indirect	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	I	I	I	I	D	D										
Demonstrate a comprehensive understanding of the Osteology of the Skull			X	X	X	X	X	X	X			X	X		X												X									X
Demonstrate a comprehensive understanding of the Muscles of the Head and Neck			X	X	X	X	X	X	X			X	X		X												X									X
Demonstrate a comprehensive understanding of the Nerves of the head and Neck			X	X	X	X	X	X	X			X	X		X												X									X
Demonstrate a comprehensive understanding of the Arteries of the Head and Neck			X	X	X	X	X	X	X			X	X		X												X									X
Demonstrate a comprehensive understanding of the Salivary Glands			X	X	X	X	X	X	X			X	X		X												X									X
Demonstrate a comprehensive understanding of the Lymphatic System and Spread of Dental Infection			X	X	X	X	X	X	X			X	X		X												X									X

