

Orofacial Anatomy, Histology and Embryology

Lamar Institute of
Technology

DHYG 1301

Course Syllabus

SUMMER II

Taught by:
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MPC 211
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**Orofacial Anatomy, Histology and Embryology (DHYG 1301)
Summer II**

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DHYG 1301: Orofacial Anatomy, Histology and Embryology
Lecture Schedule: Monday - Thursday, 9:00 – 10:30 - Room MPC 112
Lab Schedule: MW and TR, 11:00 - 1:55 - Room MPC 127

Date	Lecture	Assignment	Lab	Assignment
Week 1	Orientation to course	Read: LIT Dental Hygiene Student Handbook/ Risk Management Policy and Procedures Manual	-----	-----
	Introduction to Head and Neck Anatomy Surface Anatomy Face and Neck Region Oral Cavity and Pharynx	Read: Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapter 1, 2 Review: Illustrated Anatomy of the Head and Neck (IAHN) Chapter 1,2 *Unit 1, 2	Section 5AD Skeletal System	Read: IAHN Chapter 3 *Unit 4 Lab: pages 32-37
	Glandular Tissue Head and Neck Structures	Read: IAHN Chapter 7, IEHA Chapter 11, *Unit 3	Section 5BD Skeletal System	Read: IAHN Chapter 3 *Unit 4 Lab: pages 32-37
Week 2	Lymphatic System Head and Neck Structures	Read: IAHN Chapter 10 Review: IEHA Chapter 11 *Unit 5 ***Quiz 1- Head and Neck Osteology Identification due	Section 5AD Skeletal System, Muscular System	Continue Bones Begin Muscles Read: IAHN Chapter 4 *Unit 6 Lab: pages 39-50
	Fascia and Spaces Spread of Dental Infection	Read: IAHN Chapter 11, 12 *Unit 5	Section 5BD Skeletal System, Muscular System	Continue Bones Begin Muscles Read: IAHN Chapter 4 *Unit 6 Lab: pages 39-50

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Date	Lecture	Assignment	Lab	Assignment
	EXAM 1	Covers: IAHN Chapters 1,2,7,10-12; IEHA Chapters 1, 2, 11	Section 5 AD Muscular System	Continue muscles
	Muscular System	Read: IAHN Chapter 4 *Unit 6 ****CD assignment – Osteology of the Skull Multiple choice quiz due	Section 5 BD Muscular System	Continue muscles
Week 3	Nervous System	Read: IAHN Chapter 8 *Unit 7	Section 5 AD Lab EXAM I	Lab Exam 1: Skeletal System and Muscular System
	Nervous System Vascular System	Continue: IAHN Chapter 8 *Unit 7 Read: IAHN Chapter 6 *Unit 8	Section 5BD Lab EXAM 1	Lab Exam 1: Skeletal System and Muscular System
	Vascular System	Continue: IAHN Chapter 6 *Unit 8 ****CD assignment –Muscular System multiple choice quiz due	Section 5AD Overview of Dentition Permanent Dentition: Anterior Teeth	IEHA Chapters 15 and 16 * Unit 9 Complete Anterior tooth modules
	EXAM 2	Covers: IAHN Chapters 4,6,8	Section 5BD Permanent Dentition: Anterior Teeth	IEHA Chapters 15 and 16 * Unit 9 Complete Anterior tooth modules

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Date	Lecture	Assignment	Lab	Assignment
Week 4	Face and Neck Development Orofacial Development	Read: IEHA Chapters 4,5 *Unit 12 ****CD assignment –Nervous System multiple choice quiz due	Section 5AD Permanent Dentition: Posterior Teeth	IEHA Chapter 17 *Unit 10 Complete Posterior Tooth Modules
	Tooth Development and Eruption	Read: IEHA Chapter 6 *Unit 13	Section 5BD Permanent Posterior Teeth	IEHA Chapter 17 *Unit 10 Complete Posterior Tooth Modules
	Continue Tooth Development and Eruption	Read: IEHA Chapter 6 *Unit 13	Section 5AD Primary Dentition	Read IEHA : Chapter 18 Unit 11 Complete Deciduous Tooth Modules
	Occlusion	Read: IEHA Chapter 20 * Unit 14 ****Quiz 2- Teeth, tongue and gingiva Identification due	Section 5 BD Primary Dentition	Read IEHA : Chapter 18 Unit 11 Complete Deciduous Tooth Modules
Week 5	EXAM 3	Covers: IEHA Chapters 4,5,6,20	Section 5AD Occlusion	Complete Occlusion Modules Unit 14 Temporomandibular Joint IAHN Chapter 5

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Date	Lecture	Assignment	Lab	Assignment
	Oral Mucosa Gingival and Dentogingival Junctional Tissues Lymphatic System Glandular Tissues	Read: IEHA Chapters 9, 10 Read: IEHA Chapter 7, 10 *Unit 15, 16 Read: IAHN Chapter 5	Section 5 BD Occlusion	Complete Occlusion Modules Unit 14 Temporomandibular Joint IAHN Chapter 5
	Enamel Dentin and Pulp	Read: IEHA Chapters 12, 13 *Unit 17 and 18	Section 5 AD Lab Exam 2	Covers: Permanent Dentition, Primary Dentition and Occlusion
	Periodontium: Cementum, Alveolar Process, Periodontal Ligament	Read: IEHA Chapter 14 *Unit 19, 20	Section 5 BD Lab Exam 2	Covers: Permanent Dentition, Primary Dentition and Occlusion
Week 6	EXAM 4	Covers IEHA Chapters 9-10, 12-14, IAHN Chapter 5	Mrs. Lori Rogers	Instrument Distribution Everybody will be in this lab
Class schedule may change during the semester.				

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PREREQUISITE/ CO-REQUISITE COURSES

Admittance to the dental hygiene program.

COURSE DESCRIPTION

A study of histology and embryology of oral tissues, gross anatomy of the head and neck, tooth morphology, and individual tooth identification.

COURSE GOALS

1. Locate the major structures of the head and neck.
2. Describe in detail the development of facial structures.
3. Describe all aspects of early tooth development including: stages of development, components of the tooth germ, dentin and enamel formation and mineralization, root development, and cementum formation.
4. Describe enamel: composition, thickness, importance, CEJ relationships, density, color, and solubility.
5. Describe the physical and chemical properties of dentin including its unique structural components and patterns.
6. Describe the functions, components, formation and properties of cementum.
7. Describe the functions, components, and properties of the pulp and apical foramen.
8. Describe the functions of the periodontal ligament, the seven principal fibers, and identify the blood, lymph and nerve supply to the periodontal ligament.
9. Describe the functions and components of the alveolar process.
10. Locate each salivary gland, describe the type of secretion and determine whether major or minor gland.
11. Describe masticatory mucosa in terms of function, texture, and color.
12. State the function of the epithelial attachment.
13. Describe lining mucosa and identify areas covered by lining mucosa.
14. Describe specialized mucosa and identify areas covered by or comprised of specialized mucosa.
15. Describe the arterial and venous blood flow through the head and neck.
16. Identify and state the functions of the muscles of the head and neck.
17. Identify the nerves that supply the head and neck region.
18. Demonstrate knowledge of dental nomenclature.
19. Compare and differentiate in form, function, and position all deciduous and permanent teeth in the human dentition.
20. Determine occlusion classification and deviations from normal in the deciduous and permanent dentitions according to the Angle's classification of occlusion.
21. Describe the temporomandibular joint and its movements.
22. Identify the histological and embryological development of the orofacial structures.

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CREDIT HOURS

3 credit hours

CLASS MEETING TIME:

Lecture: Monday thru Thursday	9:00 – 10:30 am	MPC 112
Laboratory: Monday/Wednesday or Tuesday/Thursday	11:00 – 1:55 pm	MPC 127

INSTRUCTOR:

Lecture and Laboratory

Kristina Marie N. Mendoza, RDH, DMD

Office 211 Multi-Purpose Center

Phone 409-839-2914

Office hours: M, T, W, TR 8:00 am – 9:00am

Laboratory

Christine M. Clowe, RDH, BS

Phone 409-880-8860

COURSE POLICIES

1. Attendance Policy

Students should plan on attending classes, labs and clinic sessions as assigned throughout the semester.

Family outings, vacations and personal business should be scheduled when school is not in session and will not be considered excuses for missing assignments, examinations, classes, labs or clinic time.

Absenteeism

- In order to ensure the students in the dental hygiene program achieve the necessary didactic and clinical competencies outlined in the curriculum, it is necessary that the student complete all assigned lecture classes, clinical and laboratory hours.
- If you are unable to attend lecture class, clinic or lab, it is **mandatory that you call the appropriate instructor prior to the scheduled class, clinic or lab time**. The student is responsible for all material missed at the time of absence. Extenuating circumstances will be taken into account. Extenuating circumstances might include: funeral of immediate family member, maternity, hospitalization, etc.
- It is expected that students will appear to take their exams at the regularly scheduled examination time. Make-up examinations will be given **only** if the absence is due to illness (confirmed by a physicians' excuse), a death in the immediate family, or at the discretion of the instructor.

Fall/Spring Semesters:

Dental hygiene students will be allowed **two** absences in any lecture, clinic or lab. Absences must be accompanied by a written excuse on the next class day. In the event that a student misses class, clinic or lab beyond the allowed absences, the following policy will be enforced:

2 absences = verbal warning

Beginning with 3 absences, **2 points** will be deducted from the final course grade for each absence thereafter.

Summer or 8 week Sessions:

Dental hygiene students will be allowed **one** absence in any lecture, clinic or lab. Absences must be accompanied by a written excuse on the next class day. In the event that a student misses class, clinic or lab beyond the allowed absences, the following policy will be enforced:

1 absence = verbal warning

2 absences = written warning with the Disciplinary Action Form (DAF)

3 absences = grade will be lowered one full letter grade

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2. Tardiness

- Tardiness is disruptive to the instructor and the students in the classroom. It is expected that students will arrive on time for class, clinic or lab, and remain until dismissed by the instructor. If tardiness becomes an issue, the following policy will be enforced:

Tardy 1 time = verbal warning

Tardy 2 times is considered an absence.

3. Starfish

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.



4. Electronic Devices

Electronic devices are a part of many individual's lives today. Devices such as tape recorders, radios, cell phones, paging devices and laptop computers, however, may be disturbing to faculty and classmates. Students, therefore, must receive the instructor's permission to operate all electronic devices in the classroom and clinic. Texting on cell phones or computers will not be allowed during class or clinic.

5. Academic Integrity

It shall be considered a breach of academic integrity (cheating) to use or possess on your body any of the following devices during any examination unless it is required for that examination and approved by the instructor: Cell phone, smart watch/watch phone, laptop, tablet, electronic communication devices (including optical), and earphones connected to or used as electronic communication devices.

Use of such devices during an examination will be considered academic dishonesty. The examination will be considered over and the student will receive a zero for the exam.

Students with special needs and/or medical emergencies or situations should communicate with their instructor regarding individual exceptions/provisions. It is the student's responsibility to communicate such needs to the instructor.

- 6. Late coursework.** Assignments must be completed by the due date. Late assignments will not be accepted and will result in a zero for that assignment.
- 7. Remediation.** Remediation is available by appointment with the instructor. Please advise the instructor if you feel you need remediation and every effort will be made to accommodate you.

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Americans with Disabilities Act (ADA)

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things this statute requires that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations of their disabilities. If you believe you have a disability requiring an accommodation, please contact Special Populations Coordinator at 409-880-1737 or visit the office located in the Cecil Beeson Building, room 116B. You may also visit the online resource at <http://lit.edu/depts/stuserv/special/defaults.aspx>.

Technical Requirements (for Blackboard)

The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at:

[https://help.blackboard.com/en-](https://help.blackboard.com/en-us/Learn/9.1_2014_04/Student/015_Browser_Support/015_Browser_Support_Policy)

[us/Learn/9.1_2014_04/Student/015_Browser_Support/015_Browser_Support_Policy](https://help.blackboard.com/en-us/Learn/9.1_2014_04/Student/015_Browser_Support/015_Browser_Support_Policy). A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of the online technology and resources.

Student Code of Conduct Statement

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu or obtained in print upon request at the Student Services Office. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

***Faculty has the authority to modify the above policies if appropriate.**

TEACHING METHODS

Teaching methods will include

- Lecture
- Discussion
- Laboratory
- CD-ROMs
- Reading Assignments

REQUIRED TEXT

- **LIT Dental Hygiene Student Handbook/Risk Management Policy and Procedures Manual** (current edition)
- Fehrenbach, Margaret J., and Herring, Susan W., **Illustrated Anatomy of the Head and Neck**, Elsevier, 5th edition, 2017, ISBN: 978-0-323-39634-9.
- Fehrenbach, Margaret J., Popowics, Tracy, **Illustrated Dental Embryology, Histology, and Anatomy**, Elsevier Saunders, 4th edition, 2016, ISBN: 978-1-4557-7685-6.

REFERENCES

- **Anatomy-Tooth Morphology**, CD-ROM New Mentor, Virginia Commonwealth University, 1998-2000.
- Avery, J, Chiego D, **Essentials of Oral Histology and Embryology: A Clinical Approach**, 4th edition, Elsevier Mosby, 2014.

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- Fahrenbach, Margaret J. Dental Anatomy Coloring Book, 2nd edition, Elsevier Saunders, 2014.
- Scheid, RC, Weiss, G, Woelfel's Dental Anatomy, Lippincott, Wolters Kluwer, 9th edition, 2017.
- Wilkins, Esther, Clinical Practice of the Dental Hygienist, Lippincott, Williams & Wilkins, 12th edition, 2016.

COURSE REQUIREMENTS

- Head and Neck Anatomy for Health Professionals CD: Three Multiple Choice Quizzes must be done using the CD that will be distributed in class. Due dates for each quiz are listed in the class schedule.
- Two Landmark Identification Quizzes. These must be done. These will be distributed in class and due dates are written in the class schedule.
- Tooth and Occlusion Modules
A series of tooth and occlusion modules corresponding to the individual labs must be completed by the end of this course. No grade will be given for these modules. Students may complete during the lab session or on their own time. Failure to complete all modules will result in an incomplete in this course. MODULE CHECK-OFF SHEET will be distributed in class. See course schedule for completion date
- Examination
- Class Participation

EVALUATION CRITERIA

Exams (6 total)	85%
Lecture (4)	
Lab (2)	
Participation grade	<u>15%</u>
	100%

GRADE SCALE:

A	=	92 - 100
B	=	83 - 91
C	=	75 - 82
D	=	60 - 74
F	=	59 and below

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CONTENT OUTLINE

TOPIC

1. Introduction to Head and Neck Anatomy
 - a. Clinical Application
 - b. Anatomic Nomenclature
 - c. Anatomic Variation
2. Surface anatomy
 - a. Surface Anatomy
 - b. Regions of the head
 - c. Regions of the neck
3. Skeletal System
 - a. Skeletal System Overview
 - b. Head and neck bones
4. Glandular tissue
 - a. Glandular tissue Overview
5. Lymphatic System
 - a. Lymphatic system
 - b. Lymph nodes of the head
 - (1) Occipital Lymph Nodes
 - (2) Posterior Auricular, Anterior Auricular, and Superficial Parotid Lymph Nodes
 - (3) Facial Lymph Nodes
 - (4) Cervical lymph nodes
6. Fascia and Spaces
 - a. Fascia and Spaces Overview
7. Spread of Dental Infections
 - a. Infection Process Overview
 - b. Odontogenic Infection
 - c. Spread of Odontogenic Infection
 - d. Prevention of Spread of Infection
8. Muscular System
 - a. Muscular System Overview
 - b. Head and Neck Muscles
 - (1) Cervical muscles
 - (2) Muscles of facial expression
 - (3) Muscles of mastication
 - (4) Hyoid muscles
 - (5) Muscles of the tongue
 - (6) Muscles of the pharynx
9. Vascular System
 - a. Vascular System Overview
 - b. Arterial Blood Supply to Head and Neck
 - (1) Origins to the head and neck
 - (2) Internal carotid artery
 - (3) External carotid
 - c. Venous Drainage of Head and Neck
 - (1) Facial vein
 - (2) Retromandibular vein
 - (3) Venous sinuses
 - (4) Internal jugular vein
 - (5) External jugular vein
 - (6) Pathways to the heart from the head and neck

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10. Nervous System
 - a. Nervous System Overview
 - (1) Central nervous system
 - (2) Peripheral nervous system
 - (3) Cranial nerves
 - b. Nerves to the oral cavity and associated structures
 - (1) Trigeminal nerve
 - (2) Facial nerve
 - c. Nerve lesions of the head and neck
11. Face and Neck Development
 - a. Development of the face
 - (1) Stomodeum and oral cavity formation
 - (2) Mandibular arch and lower face formation
 - (3) Frontonasal process and upper face formation
 - (4) Maxillary process and midface formation
 - b. Development of the neck
 - (1) Primitive pharynx formation
 - (2) Branchial apparatus formation
12. Orofacial Development
 - a. Orofacial development
 - b. Palatal development
 - (1) Primary palate formation
 - (2) Secondary palate formation
 - (3) Palate Completion
 - c. Nasal cavity and septum development
 - d. Tongue development
 - (1) Body of the tongue formation
 - (2) Base of the tongue formation
 - (3) Completion of tongue formation
13. Tooth Development and Eruption
 - a. Tooth development
 - (1) Initiation stage
 - (2) Bud stage
 - (3) Cap stage
 - (4) Bell stage
 - (5) Apposition and maturation stages
 - b. Root development
 - (1) Root dentin formation
 - (2) Cementum and pulp formation
 - (3) Multirrooted tooth development
 - c. Periodontal ligament and alveolar process development
 - c. Primary tooth eruption and shedding
 - d. Permanent tooth eruption
14. Dental Anatomy
 - a. Overview of Dentition
 - (1) Dentition
 - (2) Dentition Periods
 - (3) Dental Anatomy Terminology
 - (4) Tooth form
 - (5) Considerations for dental anatomy study
 - b. Permanent Anterior Teeth
 - (1) Permanent Anterior Teeth Properties

 - (2) Permanent Incisors
 - (3) Canines
 - c. Permanent Posterior teeth

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- (1) Permanent posterior teeth properties
- (2) Permanent premolars
- (3) Permanent molars
- d. Primary Teeth
 - (1) Primary teeth properties
 - (a) Primary incisors
 - (b) Primary canines
 - (c) Primary molars
- 15. Temporomandibular Joint
 - (1) Temporomandibular joint properties
 - (2) Joint bones
 - (a) Temporal bone
 - (b) Mandible
 - (3) Joint capsule
 - (4) Joint disc
 - (5) Joint movement
- 16. Occlusion
 - a. Occlusion properties
 - b. Centric occlusion
 - (1) Arch form
 - (2) Dental curvatures and angulations
 - (3) Centric stops
 - (4) Centric relation
 - (5) Lateral and protrusive occlusion
 - (6) Mandibular rest position
 - c. Primary Occlusion
 - d. Malocclusion
 - (1) Malocclusion classification
- 15. Dental Histology
 - a. Cells
 - (1) Cell Properties
 - (2) Cell Division
 - (3) Extracellular Materials
 - (4) Intercellular junctions
 - b. Basic Tissue
 - (1) Basic Tissue properties
 - (2) Epithelium Properties
 - (3) Basement Membrane properties
 - (4) Connective Tissue properties
 - (5) Muscle Properties
 - (6) Nerve Tissue properties
 - c. Oral Mucosa
 - (1) Oral Mucosa Properties
 - (i) Lining mucosa
 - (ii) Masticatory mucosa
 - (iii) Specialized mucosa
 - (iv) Epithelium of oral mucosa
 - (v) Lamina propria of oral mucosa
 - d. Oral mucosa regional differences
 - (1) Labial mucosa and buccal mucosa
 - (2) Alveolar mucosa
 - (3) Floor of the mouth and ventral tongue surface
 - (4) Soft palate
 - (5) Attached gingival
 - (6) Hard palate

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- e. Tongue and lingual papillae properties
- d. Oral mucosa pigmentation
- f. Oral mucosa turnover, repair, and aging
- 16. Gingival and Dentogingival Junctional Tissues
 - a. Gingival tissues properties
 - b. Dentogingival junctional tissues properties
- 17. Enamel
 - a. Enamel properties
 - b. Enamel matrix formation
 - c. Enamel matrix maturation
 - d. Enamel histology
- 18. Dentin and pulp
 - a. Dentin-pulp complex
 - b. Dentin properties
 - (1) Dentin matrix formation
 - (2) Dentin matrix maturation
 - (3) Mature dentin components
 - (4) Dentin types
 - (5) Dentin histology
 - (6) Aging dentin
 - c. Pulp properties
 - (1) Pulp anatomy
 - (2) Pulp histology
 - (3) Pulp zones
 - (4) Aging pulp
- 19. Periodontium: Cementum, Alveolar Bone, Periodontal Ligament
 - a. Components of the periodontium
 - (1) Cementum
 - (i) Development of cementum
 - (ii) Microscopic appearance of cementum
 - (iii) Types of cementum
 - (2) Alveolar bone
 - (i) Anatomy of the jaw bones
 - (ii) Development of the jaw bones
 - (3) Periodontal ligament
 - (i) Components of the periodontal ligament
 - (ii) Fiber groups of the periodontal ligament
- 15. Temporomandibular Joint - Self-Instructional CD-ROM
 - a. Overview of the Temporomandibular Joint
 - (1) Bones of the joint
 - (2) Joint capsule
 - (3) Disc of the joint
 - (4) Ligaments associated with the joint
 - b. Jaw movements with muscle relationships
 - c. Palpation of the joint

**LEARNER
OBJECTIVES**

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UNIT 1: Surface Anatomy of the Head and Neck

Upon completion of this unit the student should be able to locate and identify the following on living subjects, models and/or pictures:

1. Supraorbital ridge (superciliary)
2. Glabella
3. Frontal eminence
4. Auricle
5. External acoustic meatus
6. Tragus
7. Orbit
8. Sclera
9. Iris
10. Pupil
11. Medial and lateral canthi
12. Root of the nose
13. Bridge of the nose
14. Nasal septum
15. Ala
16. Naris
17. Apex of the nose
18. Nasolabial sulcus
19. Labiomental groove
20. Vermilion zone
21. Vermilion border
22. Philtrum
23. Tubercle of the upper lip
24. Labial commissure
25. Mental protuberance

UNIT 2: Intra Oral Anatomy

Upon completion of this unit the student should be able to locate the following on a classmate or in pictures/drawings:

1. Labial frenum
2. Vestibules
3. Mucobuccal folds
4. Gingiva
5. Attached gingiva
6. Mucogingival junction
7. Marginal gingiva
8. Gingival sulcus
9. Interdental gingiva or papilla
10. Hard palate
11. Maxillary tuberosity
11. Median raphe
13. Incisive papilla
14. Rugae
15. Soft palate
16. Uvula
17. Pterygomandibular fold
18. Retromolar pad
19. Epiglottis
20. Tongue (apex, body, base)
21. Foramen cecum
22. Sulcus terminalis
23. Median lingual sulcus
24. Lingual tonsil
25. Deep lingual veins
26. Lingual frenum
27. Palatine tonsil
28. Plica fimbriatae
29. Sublingual caruncle
30. Fauces
31. Anterior and posterior tonsillar pillars
32. Nasopharynx
33. Laryngopharynx
34. Larynx
35. Esophagus
36. Circumvallate papillae
37. Filiform papillae
38. Fungiform papillae
39. Foliate papillae

UNIT 3: Glandular Tissue

Upon completion of this unit the student should be able to:

1. Describe the development of the salivary glands.
2. Identify the functions of salivary glands.
3. Identify two types of secretory cells and describe their secretory products.
4. State the amount of saliva produced daily.
5. Identify the two major groups of salivary glands.
6. Define exocrine, serous, mixed, and mucous.
7. Identify the major salivary glands; give the location and secretion of each; name their main ducts and give their percentage of total salivary volume.
8. Identify the minor salivary glands.
9. Describe the location of Von Ebner's glands and give its secretion.
10. State the part of the central nervous system which controls the salivary glands.

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11. Describe how the salivary glands are examples of a merocrine gland with a compound tubuloalveolar structure.
12. Identify the nerves and blood vessels that supply each salivary gland.
13. Locate the thyroid gland, parathyroid glands and the thymus gland.
14. Identify the functions of the thyroid, parathyroid and thymus glands.
15. Identify the nerves and blood vessels that supply the thyroid, parathyroid and thymus glands

UNIT 4: Bones of the Head and Neck

Upon completion of this unit the student should be able to

- I. Locate and identify the following:

CRANIAL BONES:

1. Occipital bone
 - A. Foramen magnum
 - B. Occipital condyles
 - C. Jugular notch
 - D. Hypoglossal canals
2. Frontal bone
 - A. Supraorbital ridge
 - B. Supraorbital notch
 - C. Glabella
 - D. Zygomatic process of the frontal bone
 - E. Coronal suture
3. Parietal bones
 - A. Sagittal suture
 - B. Lambdoidal suture
 - C. Squamosal suture
4. Temporal bones
 - A. Squamous Portion
 - a. Zygomatic process of the temporal bone
 - b. Articular fossa (mandibular)
 - c. Articular eminence
 - d. Postglenoid process
 - e. Temporal fossa
 - B. Tympanic Portion
 - a. External acoustic meatus
 - b. Petrotympanic fissure
 - C. Petrous Portion
 - a. Mastoid process
 - b. Mastoid notch
 - c. Styloid process
 - d. Stylomastoid foramen
 - e. Jugular foramen
 - f. Internal acoustic meatus
 - g. Carotid canal
 - h. Foramen lacerum
5. Sphenoid bone
 - A. Body of the sphenoid
 - a. Hypophyseal fossa
 - B. Lesser wing of the sphenoid
 - a. Optic canal (foramen)
 - b. Superior orbital fissure
 - C. Greater wing of the sphenoid
 - a. Inferior orbital fissure
 - b. Foramen rotundum
 - c. Foramen ovale

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- d. Foramen spinosum
- e. Spine of the sphenoid bone
- f. Infratemporal crest
- D. Pterygoid process of the sphenoid
 - a. Lateral pterygoid plate
 - b. Medial pterygoid plate
 - c. Pterygoid fossa
 - d. Hamulus
- 6. Ethmoid Bone
 - A. Perpendicular plate
 - B. Superior nasal conchae
 - C. Middle nasal conchae
 - D. Orbital plate
 - E. Cribriform plate
 - F. Crista galli

FACIAL BONES:

- 1. Vomer
 - A. Nasal septum
- 2. Lacrimal bones (2)
 - A. Nasolacrimal duct
- 3. Nasal bones (2)
- 4. Inferior nasal conchae (2)
- 5. Zygomatic bones
 - A. Frontal process
 - B. Temporal process
 - C. Maxillary process
 - a. Infraorbital rim
 - D. Zygomatic arch
 - a. Zygomatic process of the temporal bone
 - b. Temporal process of the zygomatic bone
- 6. Palatine bones
 - A. Horizontal plate
 - a. Median palatine suture
 - b. Transverse palatine suture
 - c. Greater palatine foramen
 - d. Lesser palatine foramen
 - e. Posterior nasal apertures
 - B. Vertical plate
 - a. Orbital process
- 7. Maxillary bones
 - A. Body of the maxillae
 - a. Maxillary tuberosity
 - b. Posterior superior alveolar foramina
 - c. Inferior and superior orbital fissure
 - d. Infraorbital foramen
 - e. Infraorbital sulcus
 - f. Infraorbital canal
 - g. Canine fossa
 - h. Nasal aperture (piriform aperture)
 - B. Frontal process of the maxilla
 - a. Medial orbital rim
 - C. Alveolar process
 - a. Canine eminence
 - D. Zygomatic process
 - a. Infraorbital rim

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- E. Palatine process
 - a. Median palatine suture
 - b. Incisive foramen
- 8. Mandible
 - A. Body of the mandible
 - B. Mental protuberance
 - C. Symphysis
 - D. Ramus
 - E. Angle of the mandible
 - F. Mental foramen
 - G. External oblique line
 - H. Coronoid notch
 - I. Mandibular notch
 - J. Coronoid process
 - K. Condyle
 - L. Articulating surface of the condyle
 - M. Genial tubercles (mental spines)
 - N. Mylohyoid line (ridge)
 - O. Mylohyoid groove
 - P. Sublingual fossa
 - Q. Submandibular fossa
 - R. Mandibular foramen
 - S. Lingula
 - T. Pterygoid fovea
 - U. Retromolar triangle
- II. Describe the hyoid bone and identify the body and greater and lesser cornu.
- III. Discuss how the hyoid bone functions and what unique characteristic enables it to be mobile.
- IV. Identify the paranasal sinuses and discuss their functions.
- V. State the number of bones in the skull.
- VI. Identify bones as either cranial or facial bones.
- VII. Describe the function/purpose of foramina, canals, fissures and other bony openings.
- VIII. Define articulation.
- IX. List and define the words used to describe bony prominences.
- X. List and define the words used to describe bony depressions.
- XI. Identify the paranasal sinuses, their locations and functions.

Unit 5: Lymphatics Fascia and Spaces Spread of Dental Infections

Upon completion of this unit the student should be able to:

1. State the function of the lymphatic system.
2. List the components of the lymphatic system.
3. Discuss the drainage pattern of the lymph system in the head and neck region.
4. Identify on a classmate and on a diagram the major groups of lymph nodes that drain the head and neck and specify the areas that they drain.
5. Define "primary", secondary", and "tertiary" nodes.
6. Locate the tonsillar tissues on a diagram.
7. Define lymphadenopathy.
8. Discuss the role of the lymphatic system in the metastasis of cancer.
9. Define superficial and deep fascia.
10. Identify the significance of fascia.
11. Identify the major spaces in the head and neck.
12. Discuss the significance of the spaces in the spread of dental infections.
13. Define terms used to describe dental infection and the spread of dental infection.
14. Discuss the different ways that dental infections can be spread.
15. Discuss the lesions and complications that can occur with the spread of dental infection in the head and neck region.

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UNIT 6: Muscles

Upon completion of this unit the student should be able to:

1. Identify the muscles of facial expression and state the origin, insertion, and action of the muscle.
2. Identify the muscles of mastication, their origin, insertion, action, blood supply, and nerve supply.
3. Identify the cervical muscles, their origin and insertion, action, blood supply and nerve supply.
4. Identify the hyoid muscles, their origin and insertion, action, blood supply and nerve supply.
5. Identify the muscles of the tongue, their origin and insertion, action, blood supply and nerve supply.

UNIT 7: Nerves

Upon completion of this unit the student should be able to:

1. Identify the two major divisions of the nervous system.
2. Identify the three components of the peripheral nervous system.
3. Identify the twelve cranial nerves, their general functions and areas that they innervate.
4. For each of the following nerves, describe the tissues innervated and whether the nerve is afferent (sensory) or efferent (motor):
 - A. Trigeminal (all divisions and branches)
 - B. Facial
 - C. Glossopharyngeal
 - D. Vagus
5. Discuss facial paralysis, Bell's palsy and Trigeminal neuralgia.

UNIT 8: Blood Supply

Upon completion of this unit the student should be able to:

1. Identify and locate the arteries and veins of the head and neck and state the areas supplied or drained by each.
2. Trace the blood flow through the head and neck region.
3. Identify the significance of the routes of blood flow and the location of vessels as it relates to local anesthesia injections or the spread of dental infections.

UNIT 9: Permanent Anterior Teeth

Upon completion of this unit the student should be able to:

1. List or select from a list, the appropriate age(s) concerning the developmental chronology of incisors, found in the various developmental tables, when given a certain developmental feature.
2. Demonstrate a knowledge of the morphology of each surface or the crown and root of the incisors and canines by:
 - a. describing
 - b. selecting
 - c. or using a drawing, photograph or specimen to identify or label any of the following features:
 1. contours of any surface or margin of a surface
 2. structural entities such as:
 - a. cingulum
 - b. developmental lines (depressions)
 - c. fossae
 - d. imbrication lines
 - e. incisal edge
 - f. linguogingival fissure
 - g. linguogingival groove
 - h. marginal ridges
 - i. root grooves

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3. Relative dimensions and shape
3. Describe or select the correct response from a list, the various comparisons between the incisors and canines.
4. Describe the general characteristics of any given incisor and canine including function, arch position, and distinguishing features.
5. Determine from a diagram, description, photograph or specimen whether a given incisor or canine is maxillary or mandibular, left or right, and central or lateral. F9
6. Determine the correct designation for a given incisor or canine diagram, description, photograph or specimen using any numbering system previously covered.
7. Recognize the developmental anomaly present when given a specimen or photograph of any incisor or canine.
8. Identify on a diagram or model, define or describe all the italicized terminology used in naming landmarks of the oral cavity.

UNIT 10: Permanent Posterior Teeth

Upon completion of this unit the student should be able to:

1. List or select from a list, the appropriate age(s) concerning the developmental chronology of premolars, found in the various developmental tables, when given a certain developmental features.
2. Demonstrate a knowledge of the morphology of each surface or the crown and root of the premolars and molars by
 - a. describing:
 - b. selecting
 - c. or using a drawing, photograph or specimen to identify or label any of the following features:
 1. contours of any surface or margin of a surface
 2. structural entities such as:
 - a. cusps
 - b. cusp ridges
 - c. developmental grooves (lines/depressions)
 - d. fossae
 - e. longitudinal root grooves
 - f. marginal ridges
 - g. pits
 - h. roots or central groove
 3. relative dimensions and shape
3. Describe or select the correct response from a list, the various comparisons between the premolars and molars
4. Describe the general characteristics of any given premolar and molar including function, arch position, and distinguishing features.
5. Determine from a diagram, description, photograph or specimen whether a given premolar or molar is maxillary or mandibular, left or right, and first and second.
6. Determine the correct designation for a given premolar or molar diagram, description, photograph or specimen using any numbering system previously covered.
7. Recognize the developmental anomaly present when given a specimen or photograph of any premolar or molar.
8. Identify on a diagram or model, define or describe all the italicized terminology used in naming landmarks of the oral cavity.

UNIT 11: Deciduous Anterior and Posterior Teeth

Upon completion of this unit the student should be able to:

1. Demonstrate knowledge of the general differences between the permanent and deciduous teeth, by describing, or selecting the correct response from a list, when given one or more differences, or any appropriate implications of these differences.
2. Demonstrate knowledge of the morphology of each surface of the crown and root of all deciduous teeth by:
 - a. describing
 - b. selecting

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- c. or identifying from a diagram or specimen, any of the following features:
 - 1) contours of any surface, or margin of any surface
 - 2) structural entities such as grooves, pits, ridges cusps, fossae, etc.
 - 3) relative dimensions and shapes
 - 4) root numbers, location, and contours
 - 5) any other surface features
3. Describe or select the correct response from a list, the various comparisons between specific deciduous teeth, and their permanent counterparts, where appropriate.
4. Identify from a diagram, specimen or description which deciduous tooth is being described, or illustrated, as to classification, arch, or right or left quadrant.
5. Determine the correct number for a given diagram, description, or specimen using any numbering system previously covered.
6. List or select from a list the eruption dates of deciduous teeth.
7. Discuss the importance and functions of deciduous teeth.

UNIT 12: Development of the Face, Neck and Orofacial Structures

Upon completion of this unit the student should be able to:

1. Define key terms in chapters.
2. Integrate knowledge of the development of the face, neck and orofacial structures into understanding the observed structures and any developmental disturbances of these structures.
3. Discuss the development of the face including time of formation and the embryonic layers involved.
4. Explain the development of the following including formation sequence, time origin and tissues.
 - a. stomodeum and oral cavity
 - b. mandibular arch and lower face
 - c. maxillary process and midface
 - d. front to nasal process and upper face
5. Explain the development of the neck including formation sequence, time, origin and tissue involved.
 - a. primitive pharynx
 - b. bronchial apparatus
6. Describe the development of the palate including sources, fusion, role of tongue development, development of the nasal septum, and abnormalities associated with the fusion of the palate.
7. Describe possible areas of clefts with the fusing of the upper lip.
8. Describe the portions of the tongue and which bronchial arches are involved in its development.
9. State the time fusion of the palate should be complete.
10. Define tuberculum impar and copula.

UNIT 13: Tooth Development and Eruption

Upon completion of this unit the student should be able to:

1. Define key terms in this chapter.
2. Describe the stages of tooth development including the stay, time span, microscopic appearance, main processes involved, and its description.
3. Identify the cell layers of the tooth during the Bell Stage, a description of the layers and its role in tooth formation.
4. Describe the opposition and maturation stages of tooth development including formation of preameloblasts, odontoblasts and dental matrix, ameloblasts, dentinoenamel function and enamel matrix.
5. Explain the process of root development including root dentin, cementum, and pulp formation.
6. Describe the development of the periodontal ligament and alveolar bone development.
7. Explain the differences in root formation for multirooted teeth.
8. Explain the tooth eruption process and the shedding of the primary teeth.
9. Explain the process for permanent tooth eruption.

UNIT 14: Occlusion

Upon completion of this unit the student should be able to:

1. Correlate the relationship between the eruption schedule, growths, and ultimate alignment of the teeth.
2. Describe the affect which muscle forces have on the alignment of the teeth.
3. Define the terms:
 - a. occlusion
 - b. static occlusion
 - c. centric occlusion
 - d. centric relation
 - e. centric relation

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- c. functional occlusion
- f. malocclusion
- 4. Discuss the rationale for observing a patient's occlusion.
- 5. Describe and recognize the three types of facial profiles.
- 6. Describe and recognize the mal-relations of groups of teeth and individual teeth.
- 7. Describe angle's classification of malocclusion for permanent and deciduous dentitions.
- 8. Describe and recognize normal (ideal occlusion (canine and molar relationships)).
- 9. Discuss parafunctional habits, myofunctional and skeletal considerations, and occlusal trauma and their relation to occlusion.

UNIT 15: Orofacial Structures

Upon completion of this unit the student should be able to:

- 1. Describe the general histological features of oral mucosa.
- 2. Name the 3 categories of oral mucosa. Describe their characteristics.
- 3. Describe the 3 types of stratified squamous epithelium.
- 4. Name the main fiber of the lamina propria.
- 5. Describe the 2 layers of lamina propria.
- 6. Define submucosa.
- 7. Describe the regional differences of the oral mucosa by clinical features and histological features.
- 8. Describe the 4 types of lingual papillae in clinical appearance and histological features.
- 9. Name the four tastes and locate areas of the mouth where each taste sensation can be found.
- 10. Identify and state the functions of Langerhan's cells, Merkel's cells and melanocytes.
- 11. Discuss the renewal rates for different tissues in the oral cavity and their clinical correlations.

UNIT 16: Gingival and Dentogingival Functional Tissues

Upon completion of this unit the student should be able to:

- 1. Define key terms in chapters.
- 2. List and describe each of the types of gingival tissues.
- 3. Describe the histological features of the different types of gingival tissues.
- 4. Describe the composition and development of the dentogingival functional tissues.
- 5. Discuss cell renewal for the tissues of the dentogingival function.

UNIT 17: Enamel

Upon completion of this unit the student should be able to:

- 1. Define key terms in the chapter.
- 2. Describe the formation and location and physical characteristics of enamel, including the following:
 - a. hardness
 - b. thickness
 - c. color
 - d. permeability
 - e. solubility
 - f. surface enamel
- 3. Describe:
 - a. Ameloblasts
 - b. Lines of Retzius
 - c. Tome's processes
 - d. Enamel rods
 - e. Interprismatic region
 - f. Nasmyth's membrane
 - g. Reduced enamel epithelium
- 4. List the chemical composition of enamel including percentages of each component.
- 5. Describe perikymata.
- 6. Describe the microscopic structure of enamel including the rods, rod sheaths, and interrod substance.
- 7. Describe and give the clinical significance of the following formations in the enamel.
 - a. Neonatal line
 - b. Enamel lamellae
 - c. Enamel tufts
 - d. enamel spindles
 - e. DEJ
 - f. Imbrication lines
- 8. Discuss the apposition and maturation of enamel.

UNIT 18: Dentin and Pulp

Upon completion of this unit the student should be able to:

- 1. Define all terms in the chapter.
- 2. Discuss the dentin-pulp complex and describe the properties of dentin and pulp.

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3. Discuss the apposition and maturation of dentin.
4. Outline the types of dentin.
5. Label the anatomical components of pulp.
6. Discuss the microscopic features of dentin and pulp.
7. Identify the microscopic zones in the pulp and describe the zone.
8. Describe the age changes in pulp and dentin.
9. List and describe the four main functions of the pulp.

Unit 19: Periodontium: Cementum, Alveolar Bone, Periodontal Ligament

Upon completion of this unit the student should be able to:

1. Define all terms in this chapter.
2. Discuss the periodontium and describe the properties of the cementum, alveolar bone, and periodontal ligament
3. Discuss the development of the periodontium.
4. Outline the types of cementum and alveolar bone.
5. Label the fiber groups of the periodontal ligament and discuss their functions.
6. Demonstrate and discuss the microscopic features of cementum, alveolar bone, and periodontal ligament.
7. Describe age changes in the periodontium.

UNIT 20: Temporomandibular Joint

At the end of this unit the student should be able to:

1. Locate and identify the specific, anatomical landmarks of the temporomandibular joint (TMJ) on a diagram, skull, and a patient.
2. Describe the histology of each component of the TMJ.
3. Describe the movements of the TMJ.
4. Integrate the knowledge of the anatomy and histology.

APPENDIX

Orofacial Anatomy, Histology and Embryology (DHYG 1301) Summer II

Class Participation

▪ Participation grade – this grade is based upon the following factors:

1. Attendance/Promptness:

In order to ensure that the student in the dental hygiene program acquires the necessary didactic and laboratory competencies outlined in the curriculum, it is necessary that the student complete attend all assigned lecture classes and laboratory hours as outlined in the SLIT Dental Hygiene Student Handbook. Students are expected to arrive and leave class according to the published schedule or as instructed by the faculty member.

2. Level of Engagement in Class:

Participation in class includes being an active and willing participant in class by answering questions, participating in class discussions as appropriate, volunteering to read aloud, completing class practice activities during class or other assignments by the instructor.

3. Listening Skills:

Student should listen when others talk, both in groups and in class.

4. Behavior:

Student does not display disruptive behavior in class. Cell phones should be turned off and put away.

Texting is not permitted at any time while class or laboratory is taking place.

5. Preparation

a. Course syllabus:

You must print out and the **DHYG 1301** course syllabus. **The course syllabus must be brought to class and lab every day.**

b. PowerPoint notes/handouts

All chapter handouts must be printed out **prior to class arrival and brought to class every day.** These should be reviewed along with the reading assignment prior to the class period.

c. Textbooks:

A copy of the **current** textbooks must be purchased. The textbooks must be **brought to class and lab every day** unless otherwise instructed.

d. Class notes:

You should be able to show evidence that you actively complete class notes (or add additional notes that are meaningful and necessary to printouts) during the lecture as the instructor lectures.

e. Assignments:

Students should have read assigned chapter, viewed CD-ROMs, and completed quizzes and cases as specified below prior to class unless otherwise noted:

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Class Participation Rubric				
	3	2	1	Points
Attendance/Promptness	Student is always prompt and adheres to the LIT Dental Hygiene program attendance policy.	Student is late to class once every two weeks and/or does not regularly attend classes.	Student is late to class more than once every two weeks and does not adhere to the LIT Dental Hygiene program attendance policy.	
Level of Engagement in Class	Student proactively contributes to class by offering ideas and asking questions more than once per class.	Student proactively contributes to class by offering ideas and asking questions once per class.	Student rarely contributes to class by offering ideas and asking questions.	
Listening Skills	Student listens when others talk, both in groups and in class. Student incorporates or builds off of the ideas of others.	Student listens when others talk, both in groups and in class.	Student does not listen when others talk, both in groups and in class.	
Behavior	Student almost never displays disruptive behavior during class.	Student rarely displays disruptive behavior during class.	Student occasionally displays disruptive behavior during class.	
Preparation	Student is almost always prepared for class with assignments and required class materials. (includes Blackboard)	Student is usually prepared for class with assignments and required class materials. (includes Blackboard)	Student is rarely prepared for class with assignments and required class materials. (includes Blackboard)	
Grade = points/possible points				

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Other words of wisdom. Developing good habits in the classroom is extremely important!! Good classroom behavior and study habits will assist you in your endeavor to become a dental hygienist.

Demonstrate leadership qualities by working with your Study Group* to share information, provide peer tutoring, support each other, and review daily class information.

***STUDY GROUPS**

Sign-up sheet will be provided on the first day of class.

LABORATORY

**Orofacial Anatomy, Histology and Embryology (DHYG 1301)
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Laboratory Assignment: Bones

Dates: Week 1

1. Identify the landmarks of the skull using the Learner Objectives on pgs 16-18
 - a. on the skulls provided in lab.
 - b. on the diagrams on pgs 30-34.

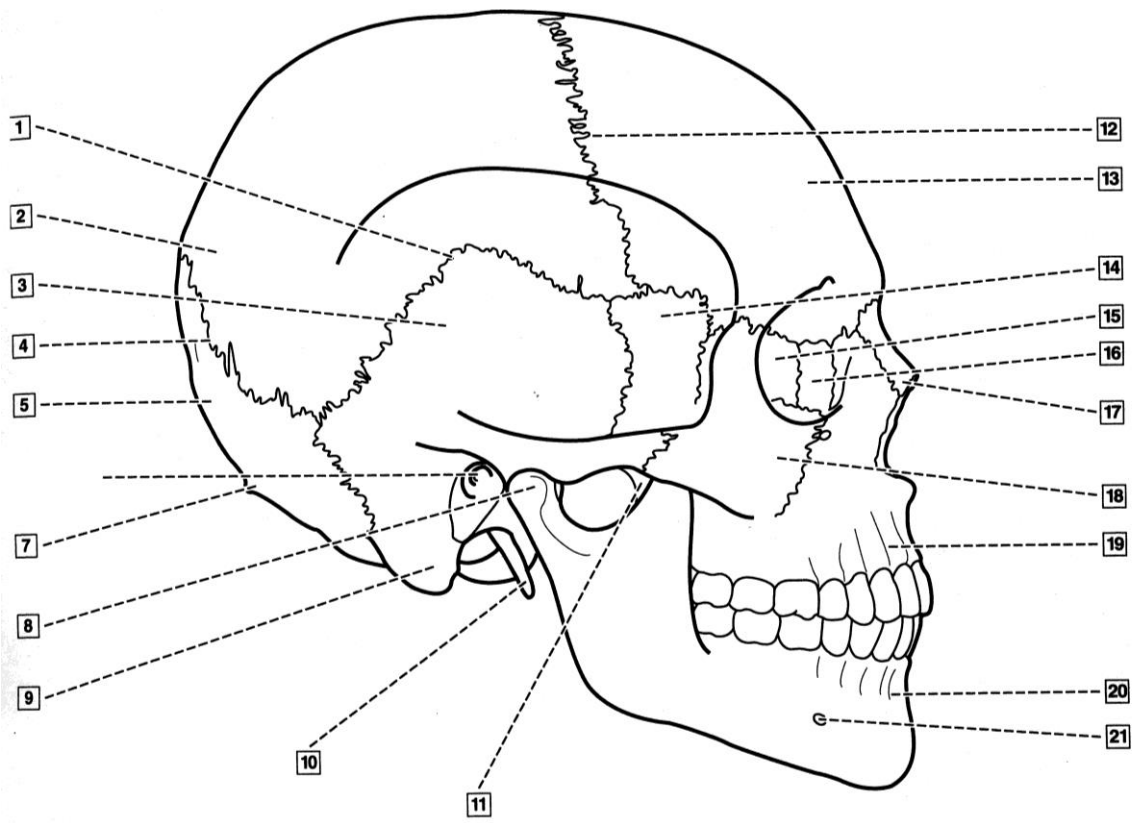
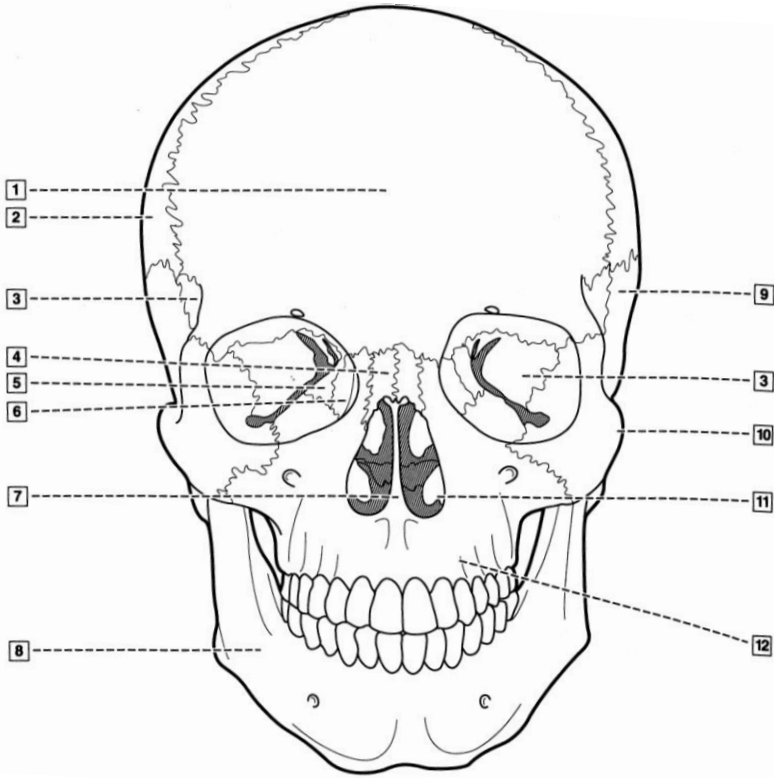
2. Identify the foramen, fissures, other holes, and what goes through them.
 - a. on the skulls provided in lab.

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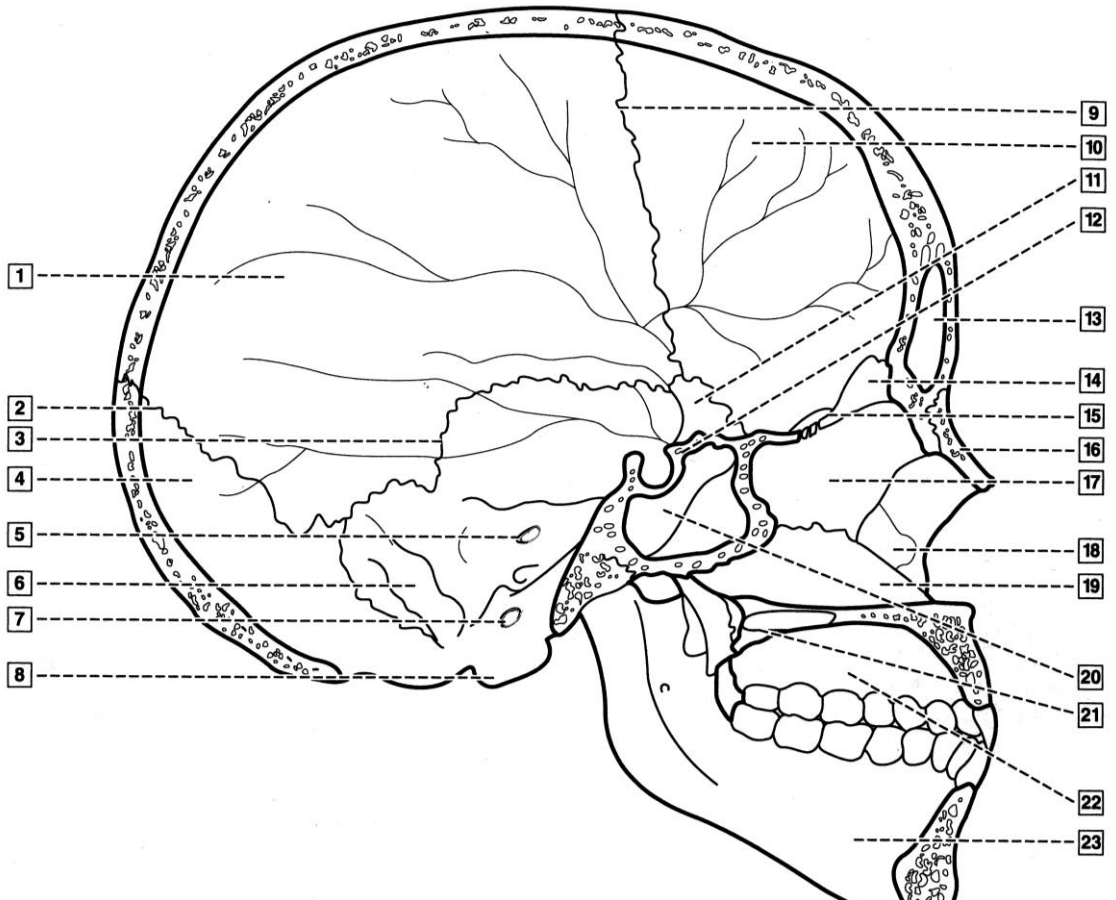
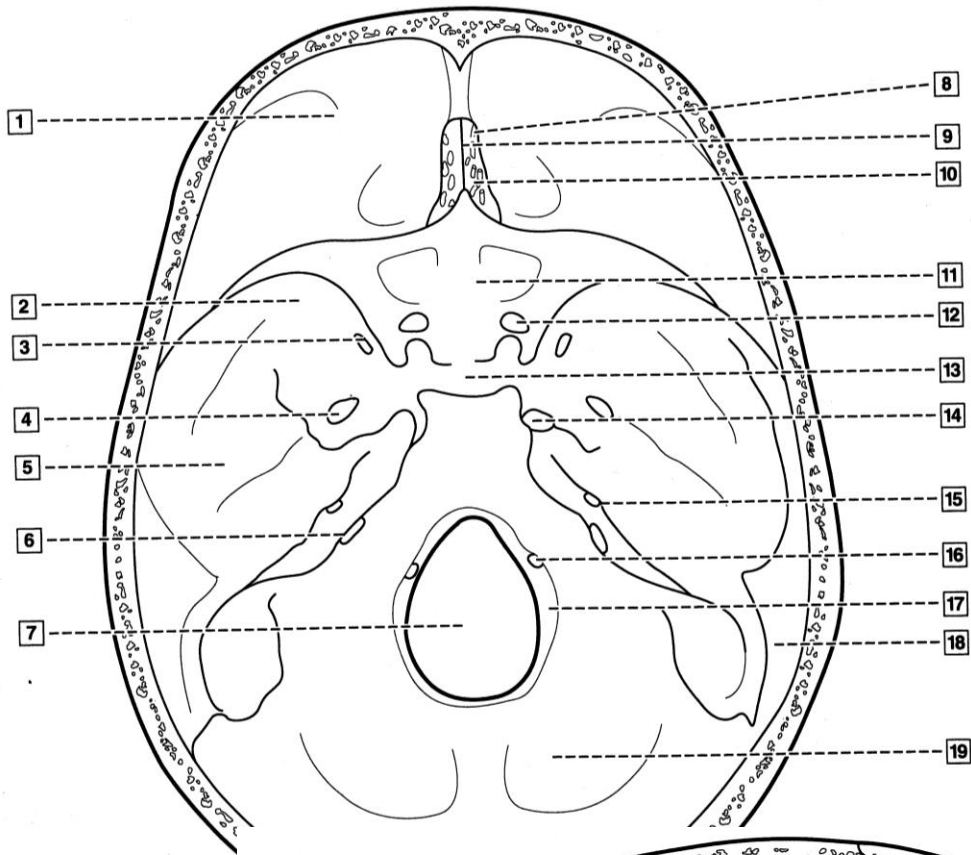
**FORAMEN, FISSURES, OTHER HOLES IN THE HEAD
AND
WHAT GOES THROUGH THEM**

- | | |
|--|--|
| <p>1. Superior Orbital Fissure
Oculomotor nerve III
Trochlear nerve IV
Ophthalmic division of the trigeminal VI
Abducens VI
Superior ophthalmic vein
Lacrimal, frontal and nasociliary nerves</p> | <p>11. Styloid Mastoid Foramen
Facial Nerve (from the internal acoustic meatus)</p> |
| <p>2. Foramen Rotundum
Maxillary division of the Trigeminal V2</p> | <p>12. Inferior Orbital Fissure
Infra-orbital arteries
Maxillary division of the trigeminal V</p> |
| <p>3. Foramen Ovale
Accessory meningeal artery
Veins from the cavernous sinus to the pterygoid plexus of veins
Mandibular division of the Trigeminal V3 (sensory and motor)</p> | <p>13. Infra-orbital Canal
Infra-orbital vessels and nerve
Anterior superior alveolar artery</p> |
| <p>4. Cribriform Plate
Olfactory nerve I</p> | <p>14. Infra-orbital foramen
Infra-orbital nerve and vessels</p> |
| <p>5. Internal Acoustic Meatus
Facial nerve VII (to the stylomastoid foramen)
Vestibulocochlear nerve VIII</p> | <p>15. Mental Foramen
Mental artery and vein
Mental nerve</p> |
| <p>6. Jugular foramen
Glossopharyngeal nerve IX
Vagus nerve X
Accessory nerve XI</p> | <p>16. Mandibular Foramen
Inferior alveolar artery and vein
Inferior alveolar nerve</p> |
| <p>7. Hypoglossal Canal
Hypoglossal nerve XII</p> | <p>17. Posterior Superior Alveolar Foramina
Posterior superior vessels and Nerve</p> |
| <p>8. Incisive Foramen
Greater palatine vessels</p> | <p>18. Pterygomaxillary Fissure
Maxillary artery
Maxillary nerve</p> |
| <p>9. Greater Palatine Foramen
Greater palatine vessels
Greater palatine nerve</p> | <p>19. Optic Canal
Optic nerve
Nasopalatine nerve</p> |
| <p>10. Petrotympenic Fissure
Branches of the maxillary artery
Chorda Tympani</p> | <p>20. Carotid Canal
Internal Carotid Artery</p> |
| | <p>21. Foramen Spinosum
Middle Meningeal artery</p> |

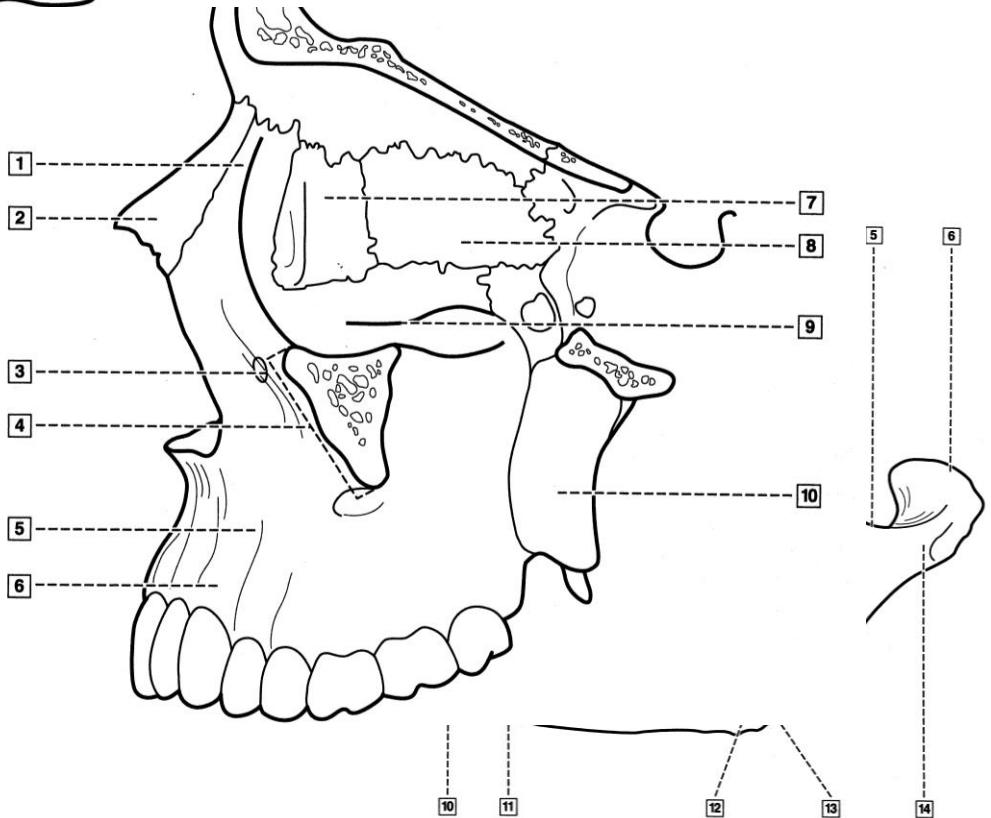
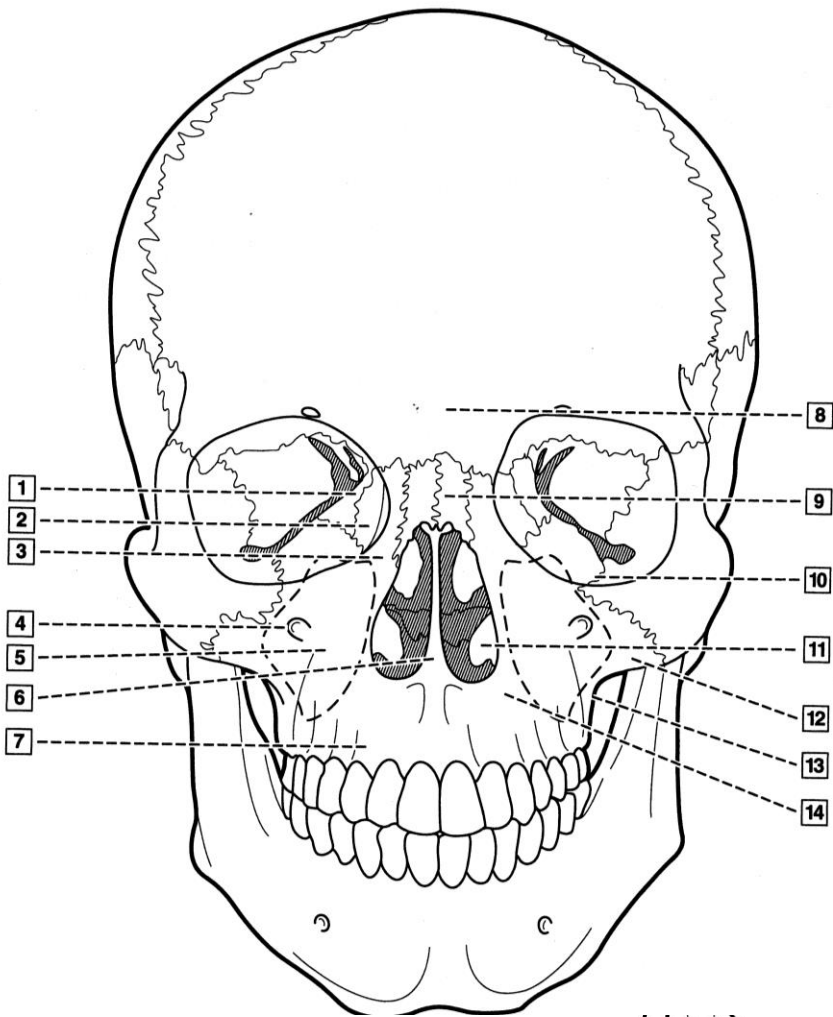
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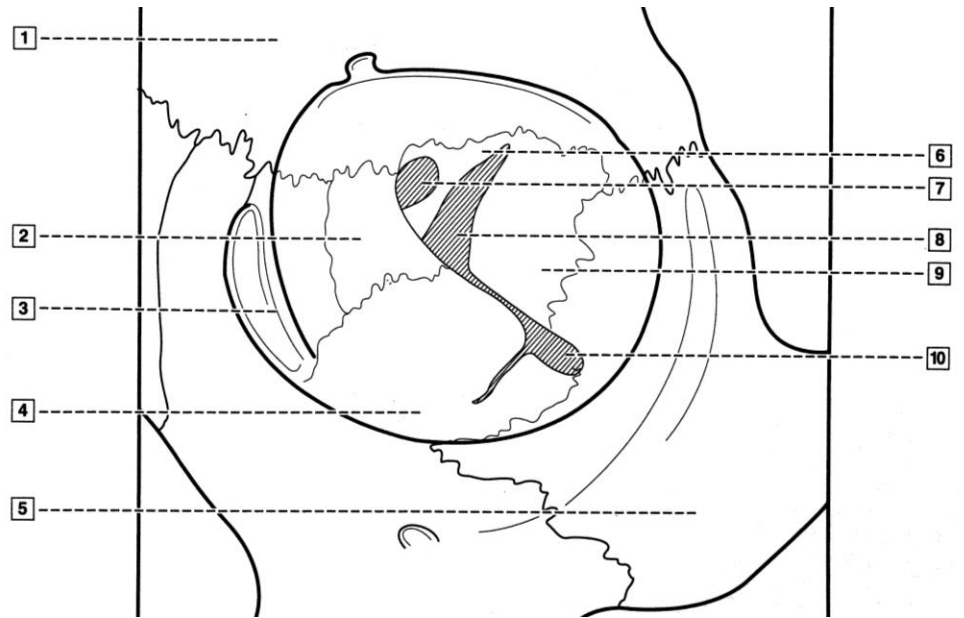
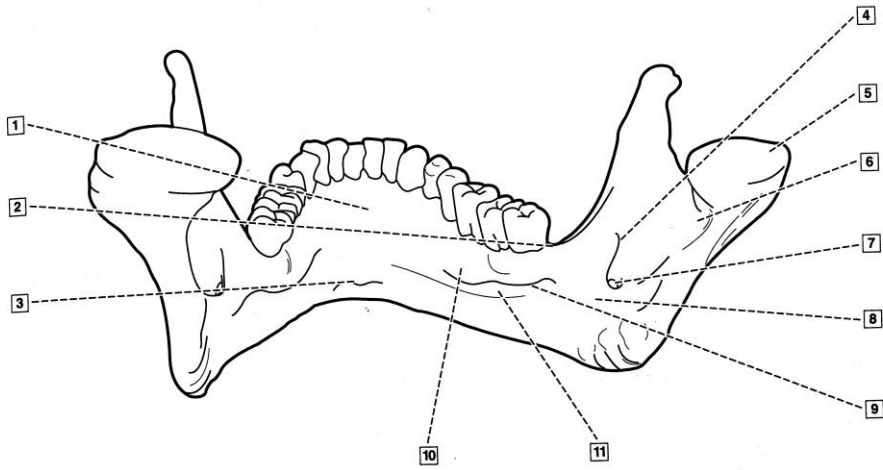
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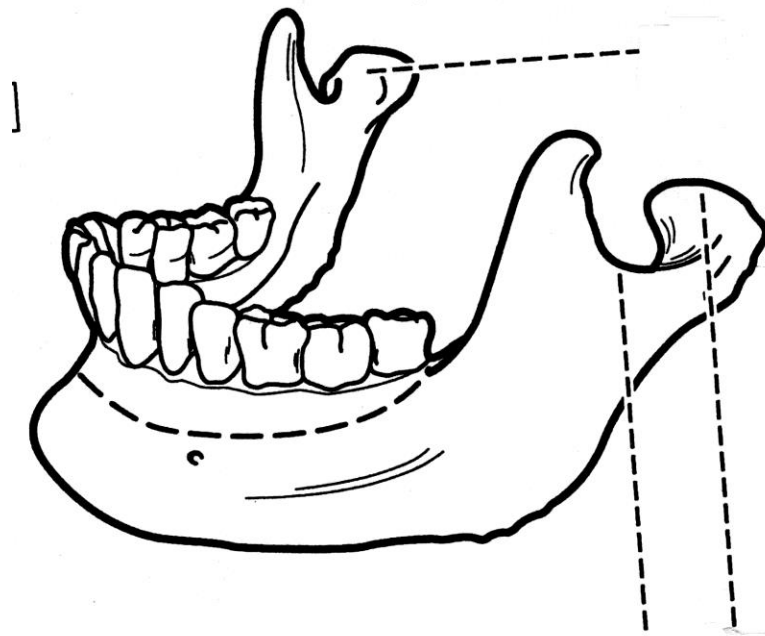
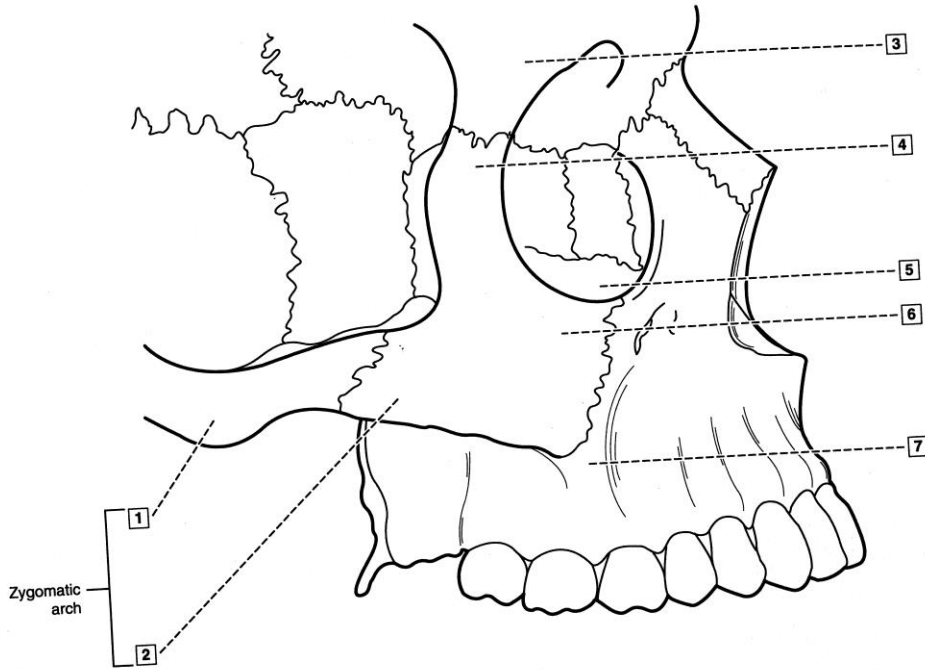
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Laboratory Assignment: Muscles

Dates: Week 2

1. Identify the muscles of the Head and Neck region using the Learner Objectives on pg 19.
 - a. on the diagrams on pgs 42-48
 - b. on the mannequins in lab

3. Complete the origin, insertion, action, blood supply, and nerve supply on the charts on pgs. 37-42

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**MUSCLES OF HEAD AND NECK
NERVE SUPPLY:
BLOOD SUPPLY:**

MUSCLES	ORIGIN	INSERTION	ACTION
<p>SCALP Occipitofrontalis (<u>epicranius</u>) paired</p>			
<p>NECK Platysma</p>			
<p>EYES Orbicularis oculi Corrugator Supercillii</p>			

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<p>MOUTH</p> <p>Orbicularis oris</p> <p>Levator labii Superioris</p> <p>Zygomaticus Minor</p> <p>Zygomaticus Major</p> <p>Levator Anguli Oris</p> <p>Depressor Labii Inferioris</p>				
MUSCLES	ORIGIN	INSERTION		ACTION
<p>Depressor Anguli Oris</p> <p>Mentalis</p> <p>Buccinator</p> <p>Risorius</p> <p>Levator Labii Superioris Alaeque Nasi</p>				

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MUSCLES OF THE TONGUE	ORIGIN	INSERTION	ACTION	BLOOD SUPPLY	NERVE SUPPLY
<p>Intrinsic Tongue Muscles</p> <p>Superior Longitudinal</p> <p>Inferior Longitudinal</p> <p>Transverse</p> <p>Vertical</p> <hr/> <p>Extrinsic Tongue Muscles</p> <p>Genioglossus</p> <p>Styloglossus</p> <p>Hyoglossus</p>					

**Orofacial Anatomy, Histology and Embryology (DHYG 1301)
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MUSCLES OF MASTICATION	ORIGIN	INSERTION	ACTION	BLOOD SUPPLY	NERVE SUPPLY
Masseter					
Temporalis					
Medial Pterygoid (Internal Pterygoid Muscle)					
Lateral Pterygoid (External Pterygoid Muscle)					

**Orofacial Anatomy, Histology and Embryology (DHYG 1301)
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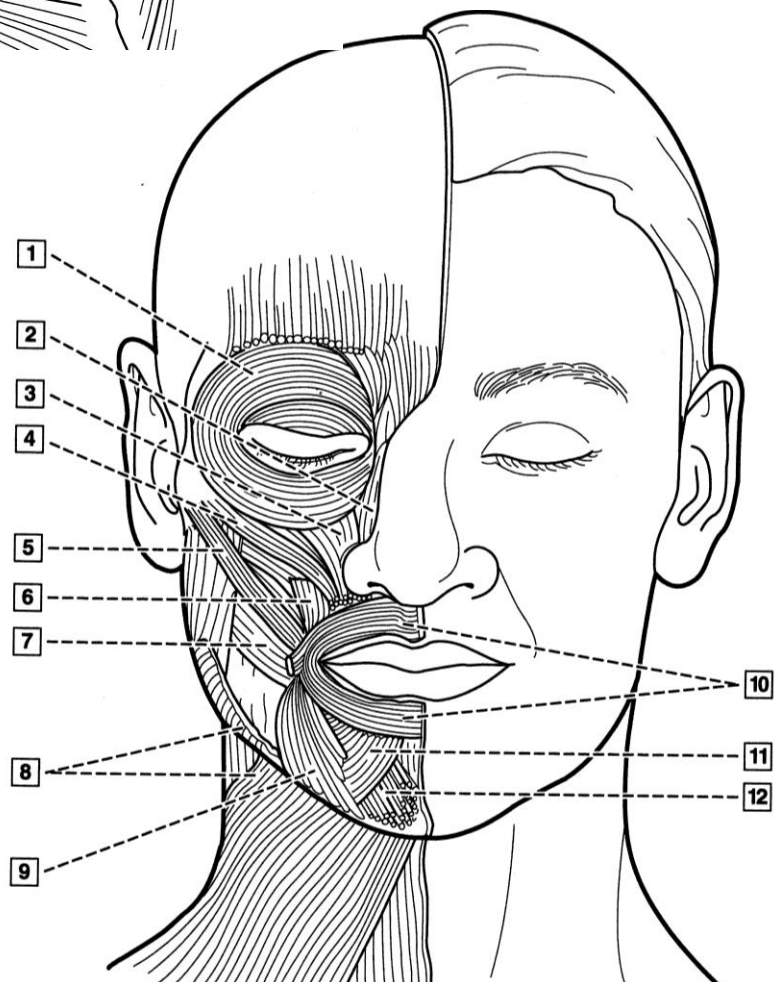
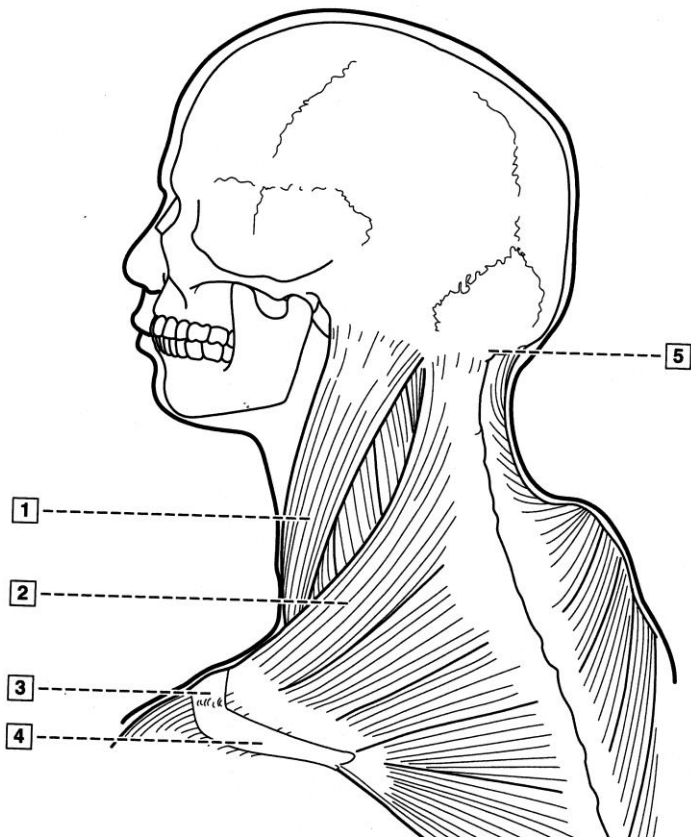
HYOID MUSCLES	ORIGIN	INSERTION	ACTION	BLOOD SUPPLY	NERVE SUPPLY
Suprahyoid Muscles					
Anterior Group Anterior Belly of Digastric Mylohyoid					
Geniohyoid					
Posterior Group Digastric Posterior Belly					
Stylohyoid					
Infrahyoid Muscles					
Omohyoid (2 bellies) Inferior belly Superior belly					
Sternohyoid					
Sternothyroid					
Thyrohyoid					

Orofacial Anatomy, Histology and Embryology (DHYG 1301)

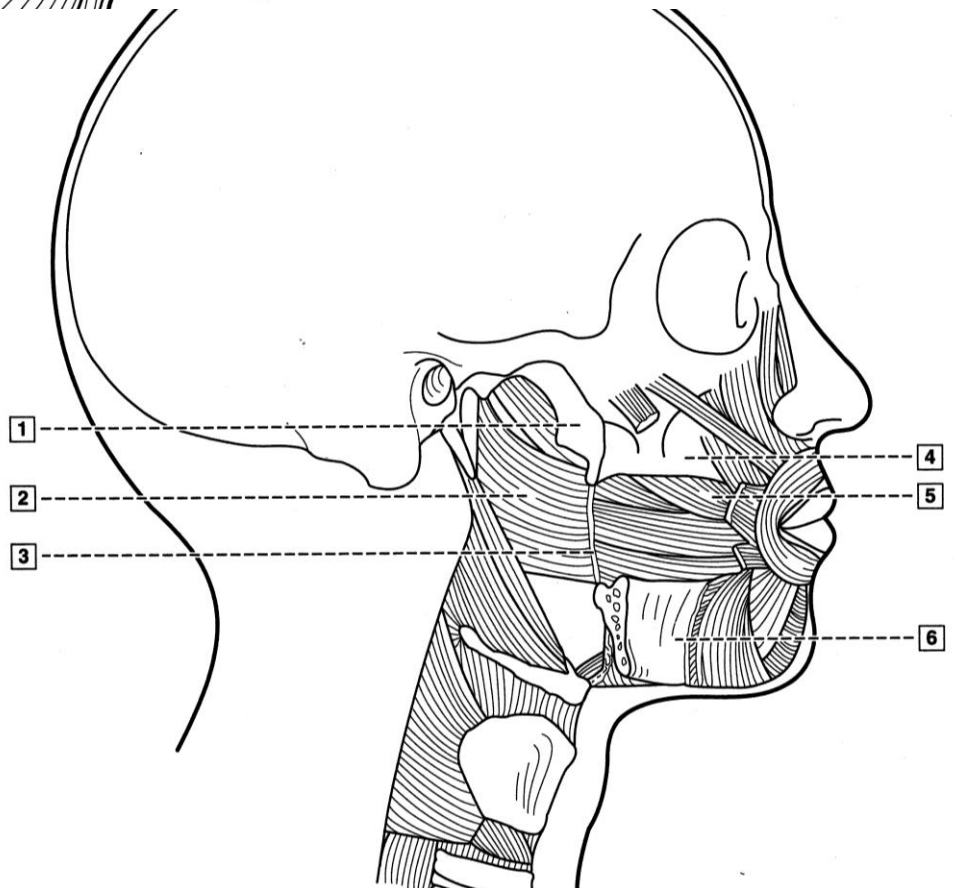
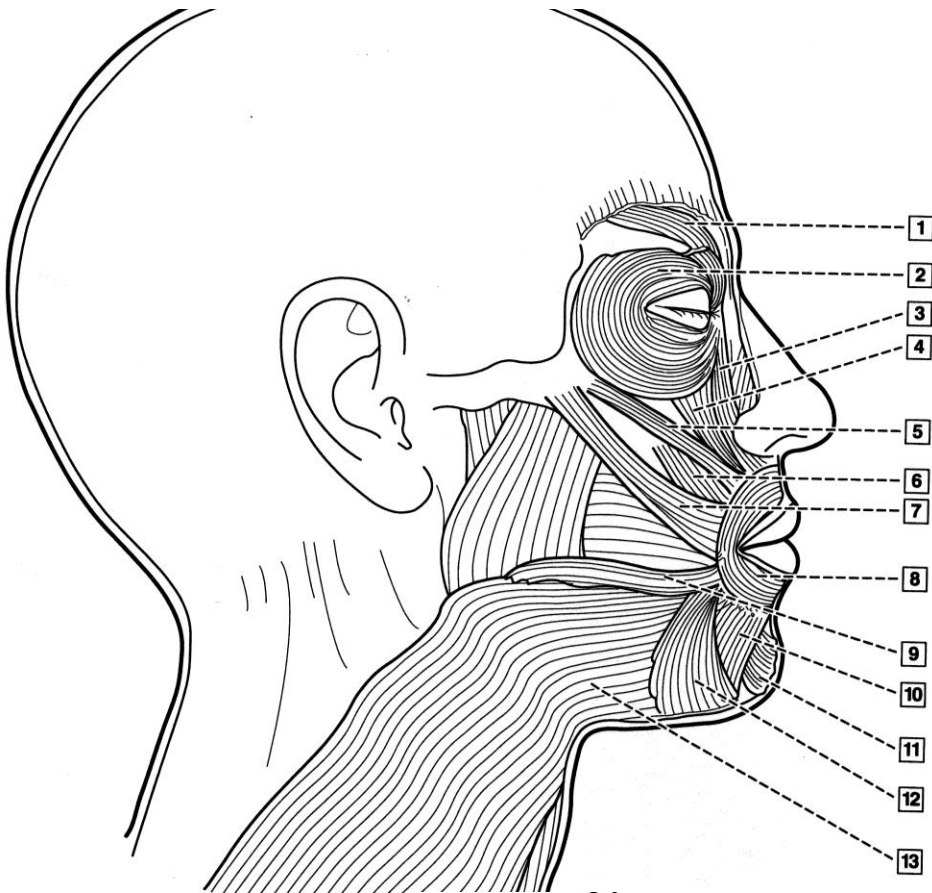
Summer II

CERVICAL MUSCLES	ORIGIN	INSERTION	ACTION	BLOOD SUPPLY	NERVE SUPPLY
Sternocleido mastoid					
Trapezius					
MUSCLES OF THE PHARYNX					
Stylopharyngeus					
Pharyngeal Constrictor Three paired muscles (superior, middle and inferior)					
MUSCLES OF THE SOFT PALATE					
Palatoglossus (anterior tonsillar pillar)					
Palatopharyngeus (posterior tonsillar pillar)					
Levator Veli Palatini					
Tensor Veli Palatini					
Uvula Muscles					

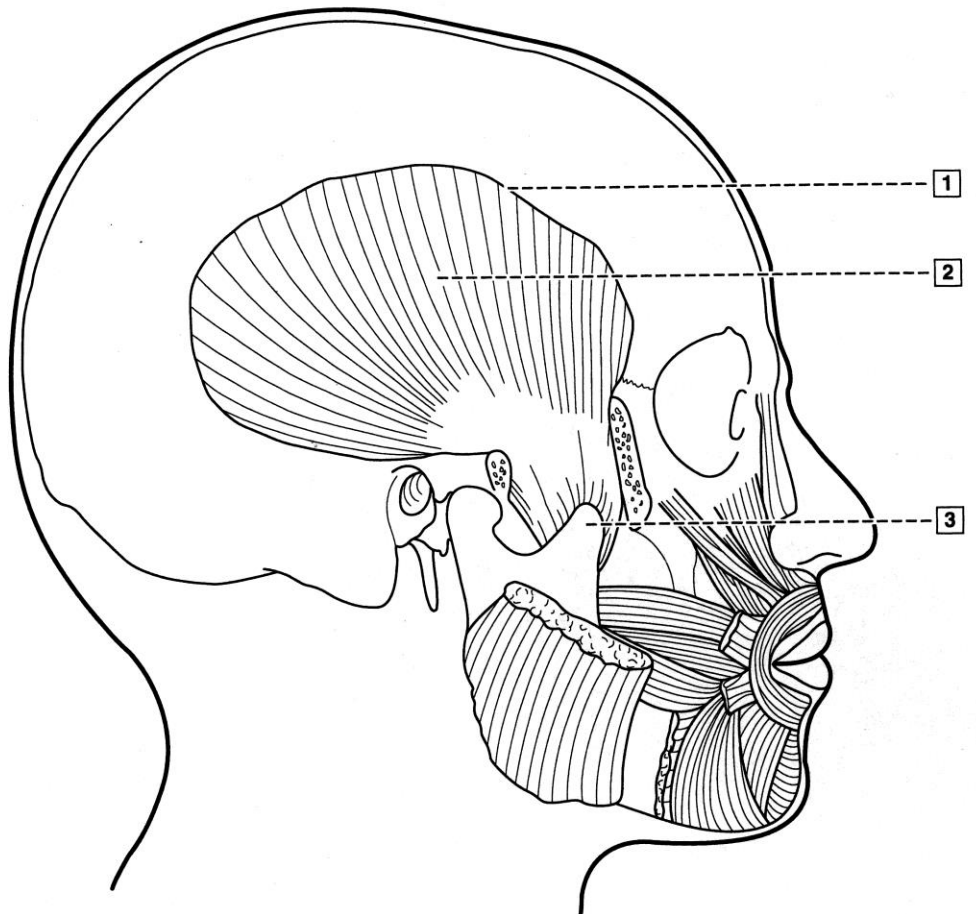
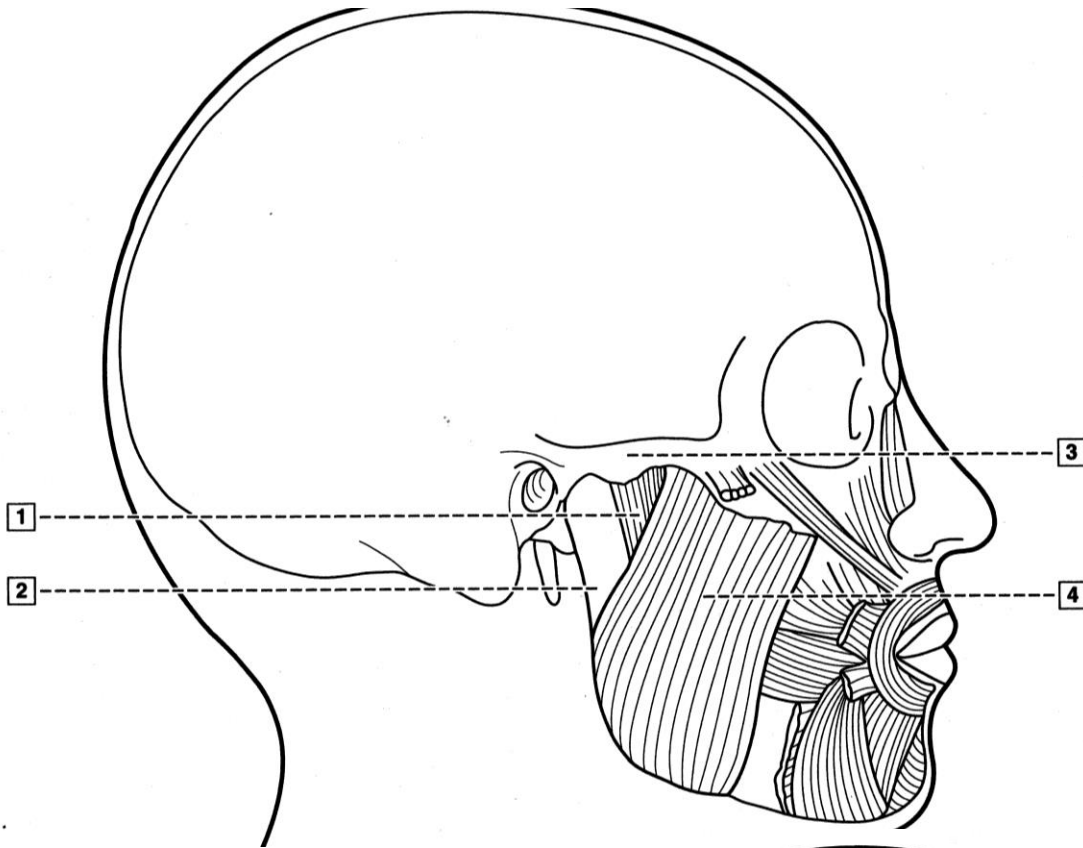
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Summer II



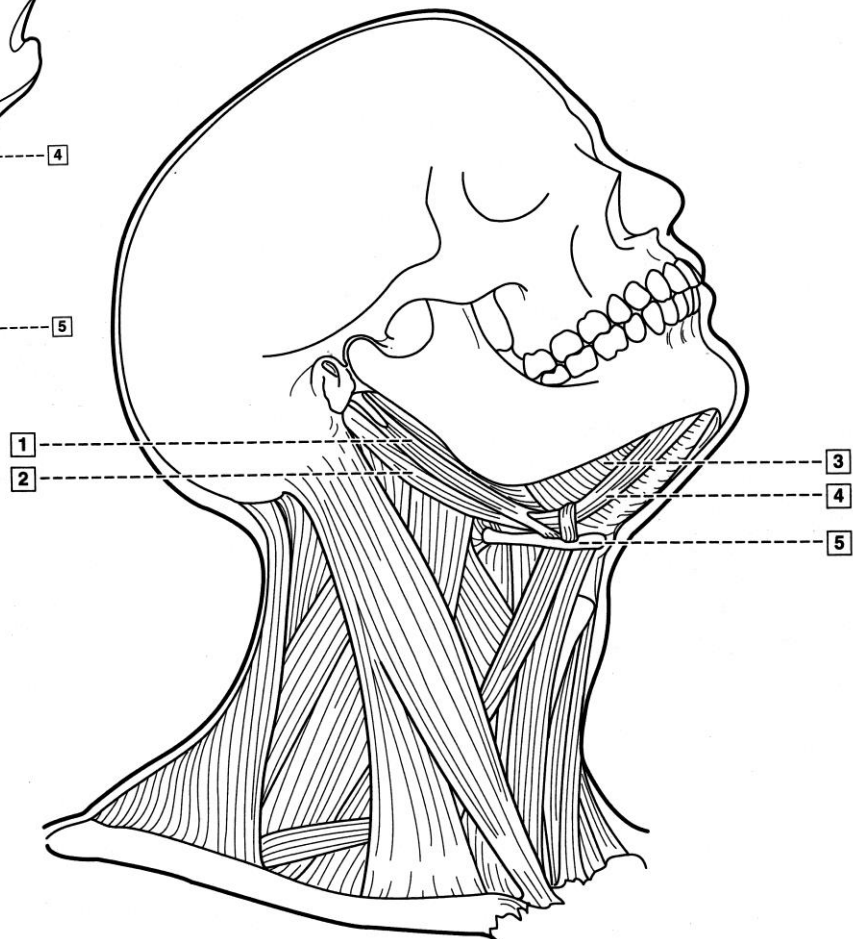
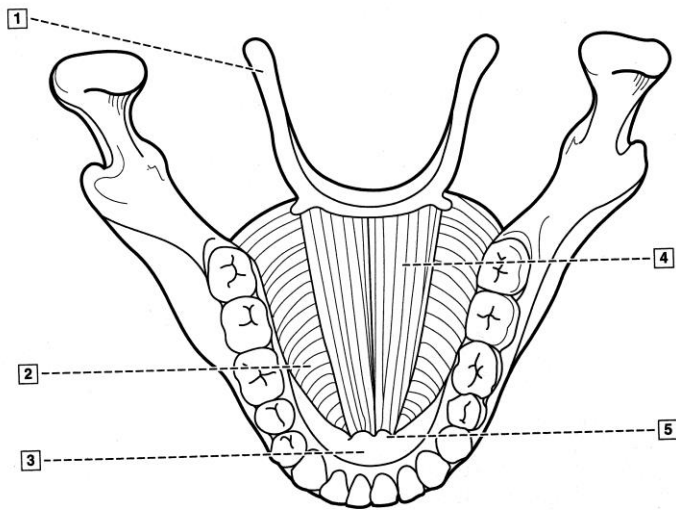
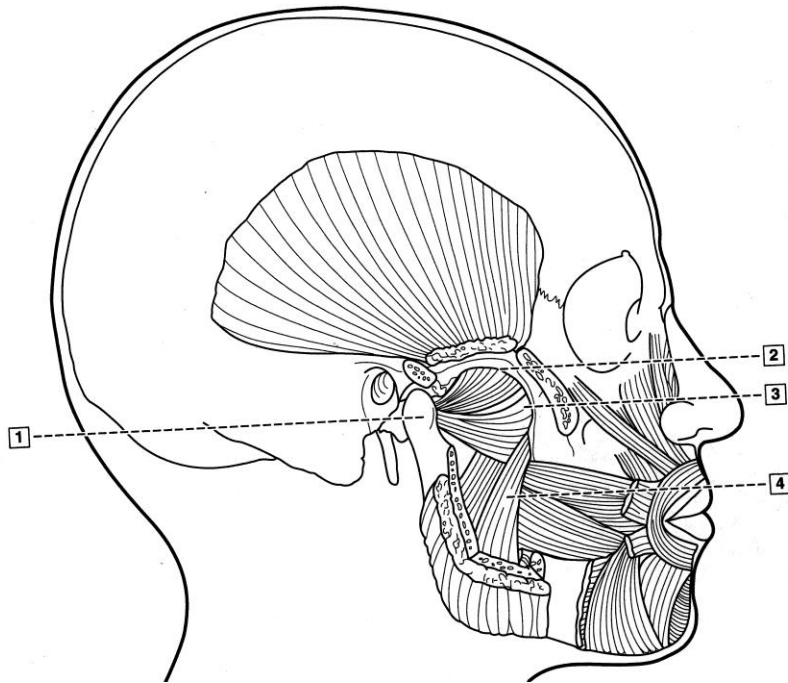
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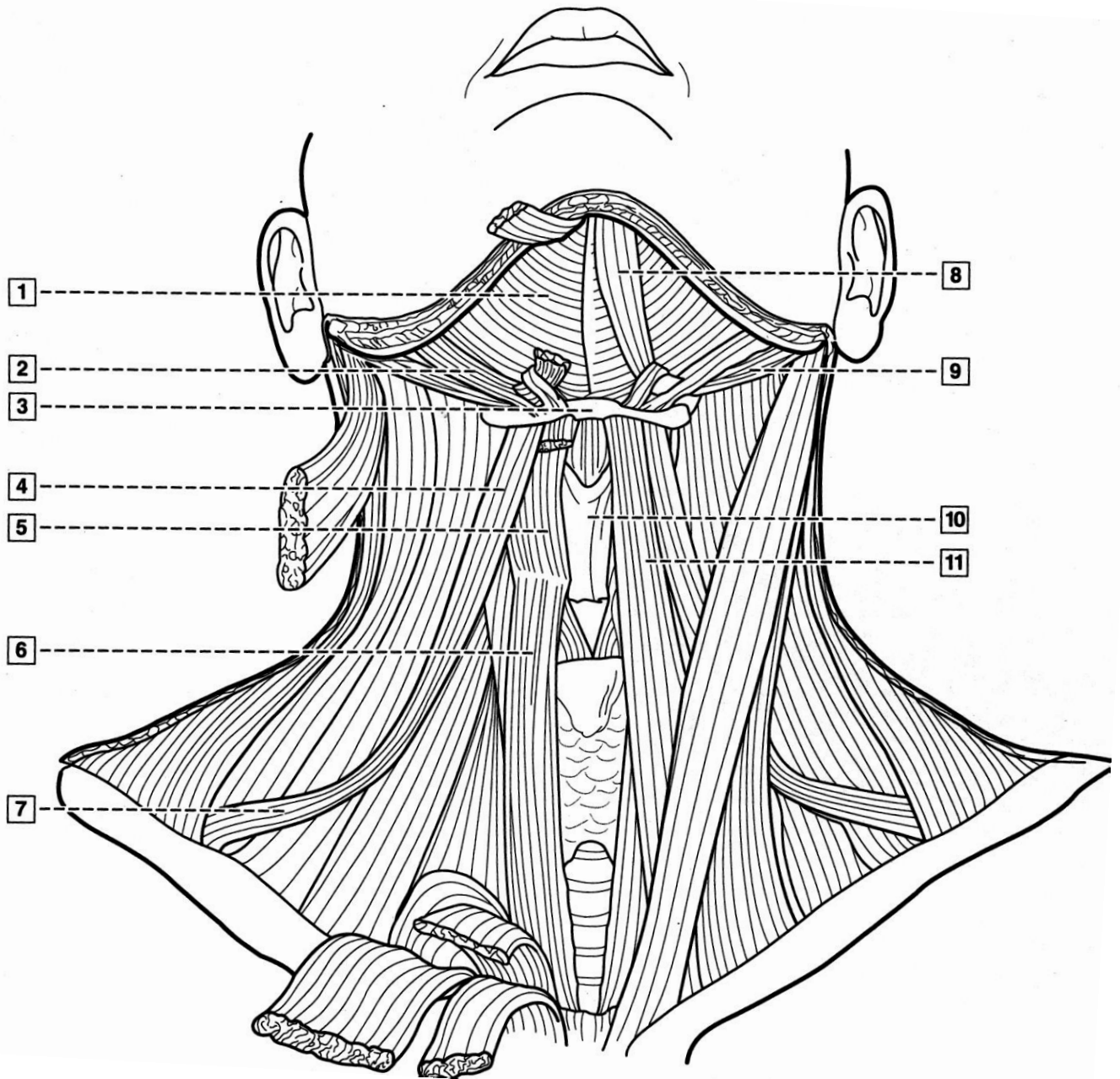
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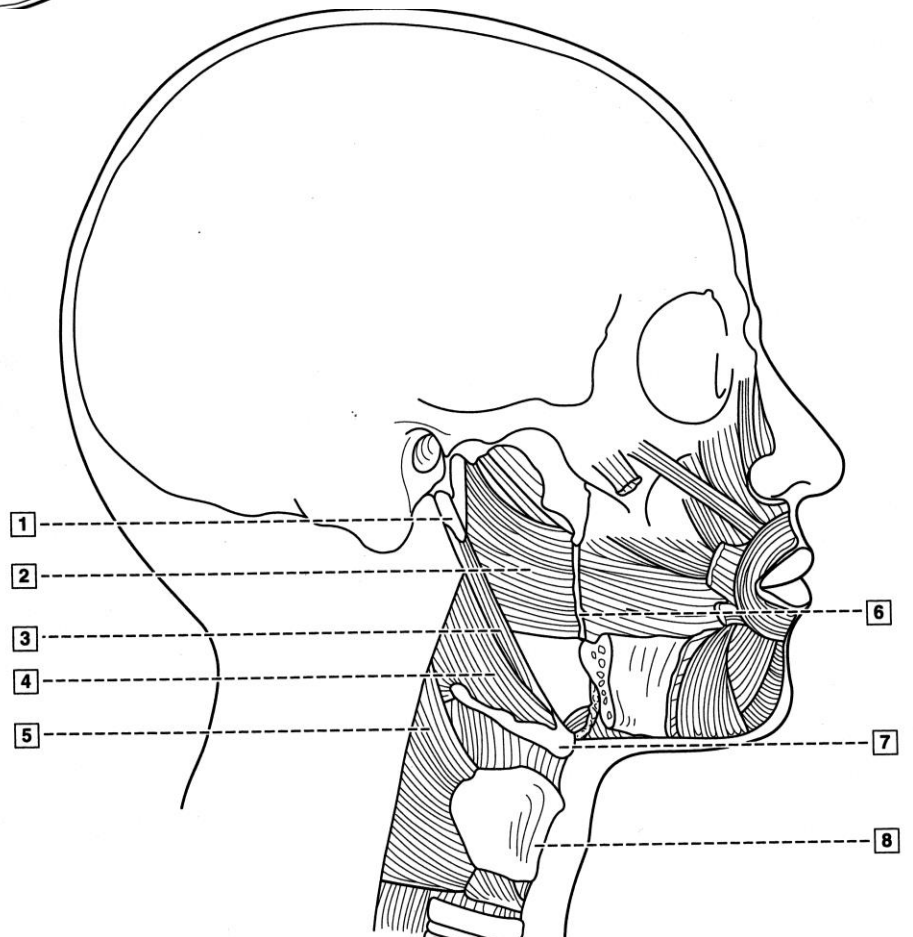
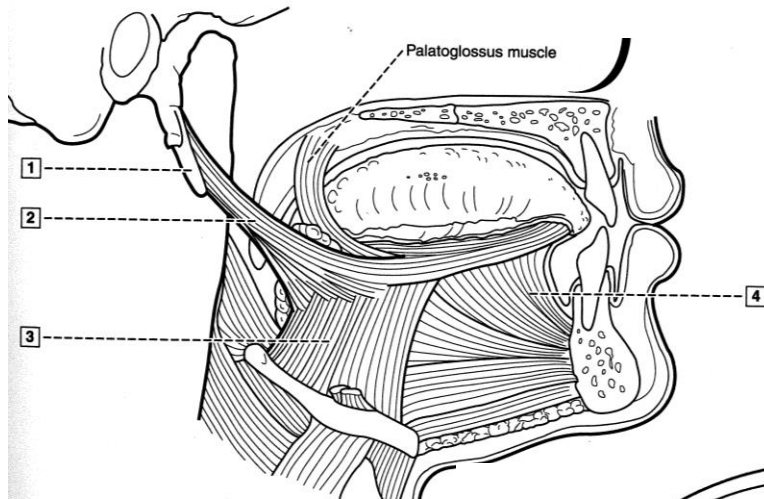
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Laboratory Assignment: Permanent Anterior Teeth

Dates: Week 3

1. Identify the permanent anterior teeth using the Learner Objectives on pgs. 19-20.
2. Complete the tooth modules on anterior teeth
3. Complete the **TOOTH PROJECT WORKSHEET** pgs. 50-51
4. Complete the CD-ROM **New Mentor Anatomy – Tooth Morphology** anterior teeth

Laboratory Assignment: Permanent Posterior Teeth

Dates: Week 4

1. Identify the permanent posterior teeth using the Learner Objectives on pg. 20.
2. Complete the tooth modules on posterior teeth.

Laboratory Assignment: Primary Dentition

Dates: Week 5

1. Identify the deciduous teeth using the Learner Objectives on pg. 20-21.
2. Complete the tooth modules on deciduous teeth.

Laboratory Assignment: Occlusion

Dates: Week 5

1. Identify the occlusion on sample models using the Learner Objectives on pg. 21-22
2. Complete the occlusion modules.

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TOOTH PROJECT WORKSHEET

On your typodont identify the following morphological characteristics using various colored markers (permanent Sharpie markers work best). Indicate the color used for each item in the space provided on the worksheet. The same color may be used to identify more than one non-related characteristic. (Ex: Red may be used to identify one of the grooves, one of the ridges, etc.)

A. On the maxillary and mandibular right, identify:

Name of MORPHOLOGICAL CHARACTERISTIC

**COLOR
USED**

CENTRAL FOSSA	
MESIAL TRIANGULAR FOSSA	
DISTAL TRIANGULAR FOSSA	
MESIOLINGULAR FOSSA	
DISTOLINGULAR FOSSA	
LINGUAL FOSSA	
INCISAL EDGE	
CINGULUM	
ROOT DEPRESSION (S)	
FURCATIONS	
OBLIQUE RIDGE	
TRANSVERSE RIDGE	

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B. On the maxillary and mandibular left identify:

Name of MORPHOLOGICAL CHARACTERISTIC **COLOR USED**

TIP OF EACH CUSP	
MESIAL CUSP RIDGE	
DISTAL CUSP RIDGE	
EACH MESIAL MARGINAL RIDGE	
EACH DISTAL MARGINAL RIDGE	
EACH TRIANGULAR RIDGE	
EACH CERVICAL RIDGE	
EACH BUCCAL RIDGE	
EACH LINGUAL RIDGE	
EACH LABIAL RIDGE	
CENTRAL GROOVE	
BUCCAL GROOVE	
MESIAL MARGINAL GROOVE	
MESIOLINGUAL GROOVE	
DISTOLINGUAL GROOVE	
LINGUAL GROOVE	
DISTOBUCCAL GROOVE	

**Orofacial Anatomy, Histology and Embryology (DHYG 1301)
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DHYG 1301 GRADE COMPUTATION SHEET**

Student Name _____

Exams _____, _____, _____, _____, _____, _____ = Avg. _____ x .85 = _____

Participation _____ x .15 = _____

Completion

 Tooth and Occlusion Modules _____

 Head and Neck Anatomy CD-ROM Quizzes _____

 Landmark Identification Quizzes _____

FINAL GRADE
