OROFACIAL ANATOMY, HISTOLOGY AND EMBRYOLOGY (DHYG 1301.2A3)(DHYG 1301.5A3)

LAMAR INSTITUTE OF TECHNOLOGY

CREDIT
3 Semester Credit Hours (3 hours lecture, 3 hours lab)

MODE OF INSTRUCTION
Online

PREREQUISITE/CO-REQUISITE:
Prerequisite: 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 OBJECTIVES
Upon completion of this course, the student will be able to

- Locate the major structures of the head and neck.
- Describe in detail the development of facial structures.
- 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.
- Describe enamel: composition, thickness, importance, CEJ relationships, density, color, and solubility.
- Describe the physical and chemical properties of dentin including its unique structural components and patterns.
- Describe the functions, components, formation, and properties of cementum.
- Describe the functions, components, and properties of the pulp and apical foramen.
- Describe the functions of the periodontal ligament, the seven principal fibers, and identify the blood, lymph and nerve supply to the periodontal ligament.
- Describe the functions and components of the alveolar process.
- Locate each salivary gland, describe the type of secretion, and determine whether major or minor gland.
- Describe masticatory mucosa in terms of function, texture, and color.
- State the function of the epithelial attachment.
- Describe lining mucosa and identify areas covered by lining mucosa.
- Describe specialized mucosa and identify areas covered by or comprised of specialized mucosa.
- Describe the arterial and venous blood flow through the head and neck.
- Identify and state the functions of the muscles of the head and neck.
    - Identify the nerves that supply the head and neck region.
    - Demonstrate knowledge of dental nomenclature.
- Compare and differentiate in form, function, and position all deciduous and permanent teeth in the human dentition.
- Determine occlusion classification and deviations from normal in the deciduous and permanent dentitions according to the Angle's classification of occlusion.

- Describe the temporomandibular joint and its movements.
- Identify the histological and embryological development of the orofacial structures.

END OF COURSE OUTCOME:
Identify the histological and embryological development of the orofacial structures; label the major structures of the head and neck; and compare and contrast various teeth including the crown and root morphology.

INSTRUCTOR CONTACT INFORMATION

Instructor:	Kristina Mendoza, RDH, DDS, Professor
Email:	kmmendoza@lit.edu
Office Phone:	409-247-5070
Office Location:	Multi-Purpose Center 208
Office Hours:	By appointment

REQUIRED TEXTBOOK AND MATERIALS

- J., Fehrenbach, M. *Illustrated Anatomy of the Head and Neck*. Available from: Elsevier, (7th Edition). Elsevier - Evolve, 2025. ISBN: 9780443124426
- Tracy, Popowics,, and Fehrenbach, Margaret J.. *Illustrated Dental Embryology, Histology, and Anatomy*. Available from: Elsevier, (6th Edition). ISBN: 9780443104244
- Siggard, Felicia, *Head and Neck by Numbers,* 3rd Edition. ISBN: 9788440014665

REFERENCES

- **Bonebox – Dental Lite app by iSO-FORM, LLC**
- **Primal Pictures, Pharma Intelligence Informa**

ONLINE REFERENCES

- https://www.wisc-online.com
- https://anatomy.elpaso.ttuhsc.edu
- https://www.innerbody.com
- https://teachmeanatomy.info
- https://training.seer.cancer.gov
- https://faculty.washington.edu
- https://columbia.edu
- https://cdn.ymaws.com
- https://dentodontics.com
- https://www.dentistryiq.com
- https://pocketdentistry.com
- https://studyblue.com
- https://www.intechopen.com
- https://vcdental.com.au
- https://dentalcare.com
- https://YouTube.com

COURSE CALENDAR

UNIT	TOPIC	READINGS	ACTIVITIES/ASSIGNMENTS Due Dates @ 10:30pm CST
Wednesday, May 27, 2026, 6:00 pm			
Start Here	Orientation to the course Virtual Office – Live Session via Bb Collaborate	**Read:** Syllabus	• Attend Bb Collaborate Session at 6:00 pm **DUE: Wednesday, June 3 @ 10:30 pm** • Watch Study Tips from LIT DH Students • Submit Course Contract in Bb. • Discussion: Self-Introduction
Week 1: June 1 to June 5			
MODULE 1 **LECTURE:** Units 1 and 2 **LAB:** Unit 4	**LECTURE:** • **Introduction to Head and Neck Anatomy** • **Surface Anatomy**	**LECTURE:** **Read:** • Illustrated Anatomy of the Head and Neck (IAHN) Chapters 1 and 2 • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapters 1 and 2 • Head and Neck by Numbers Figure 1 **Watch:** • Kaltura Media • YouTube Videos. **Visit:** • Website Links	**DUE: Friday, June 5 @ 10:30 pm** **LECTURE:** • **Chapter 1 Quiz** (Opens 6/1 at 8:00 am via Respondus Lockdown Browser and Monitor) • **Chapter 2 Quiz** (Opens 6/1 at 8:00 am via Respondus Lockdown Browser and Monitor) • **LEC EXAM 1**: Covers **Units 1 and 2** (Opens **June 5 at 12:00 pm until June 6 at 10:30 pm** via Respondus Lockdown Browser and Monitor)
	LAB: • **Bones of the Head and Neck**	**LAB:** **Read:** • Illustrated Anatomy of the Head and Neck (IAHN) Chapter 3 • Head and Neck by Numbers Figures 2, 3, 4, 5 and 6 **Watch:** • YouTube Videos **View:** • 3D Pictures	**LAB:** • **Skeletal System Lab Quiz Part 1** (Opens 6/1 at 8:00 am via Respondus Lockdown Browser and Monitor)
Week 2: June 8 to June 12			
MODULE 2 **LECTURE:** Units 3 and 5 **LAB:** Cont. Unit 4	**LECTURE:** • **Glandular Tissue** • **Lymphatic System, Fascia and Spaces, Spread of Dental Infection**	**LECTURE:** **Read:** • Illustrated Anatomy of the Head and Neck (IAHN) Chapters 7, 10, 11 and 12 • Illustrated Dental Embryology, Histology and	**DUE: Friday, June 12 @ 10:30 pm** **LECTURE:** • **Chapter 7 Quiz** (Opens 6/8 at 12:00 am via Respondus Lockdown Browser and Monitor)

		Anatomy (IEHA) Chapter 11 • Head and Neck by Numbers Figures 20, 21, 24, 25 **Watch:** • Kaltura Media • YouTube Videos **View:** • 3D Pictures **Visit:** • Website Links	• **Chapter 10 Quiz** (Opens 6/8 at 12:00 am via Respondus Lockdown Browser and Monitor) • **Chapter 11 and 12 Quiz** (Opens 6/8 at 12:00 am via Respondus Lockdown Browser and Monitor) • **Individual Assignment: Lymphatic System Worksheet** (Opens 6/8 at 12:00 am) • **LEC EXAM 2: Covers Units 3 and 5** (Opens **June 12 at 12:00 pm until June 13 at 10:30 pm** via Respondus Lockdown Browser and Monitor)
	LAB: • **Bones of the Head and Neck (cont'd)**	**LAB:** **Read:** • Illustrated Anatomy of the Head and Neck (IAHN) Chapter 3 • Head and Neck by Numbers Figures 2, 3, 4, 5 and 6 **Watch:** • YouTube Videos **View:** • 3D Pictures	**LAB:** • **Skeletal System Lab Quiz Part 2** (Opens 6/1 at 8:00 am via Respondus Lockdown Browser and Monitor)
Week 3: June 15 to June 19			
MODULE 3 **LECTURE:** Units 7 and 8 **LAB:** Unit 6	**LECTURE:** • **Blood Supply** • **Nerves**	**LECTURE:** **Read:** • Illustrated Anatomy of the Head and Neck (IAHN) Chapters 6 and 8 • Head and Neck by Numbers Figures 13, 14, 15, 16, 17, 18 and 19 **Watch:** • Kaltura Media and YouTube Videos **View:** • 3D Pictures **Visit:** • Website Links	**DUE: Friday, June 19 @ 10:30 pm** **LECTURE:** • **Individual Assignment: Nervous System Worksheet** (Opens 6/15 at 12: 00 am) • **Individual Assignment: Vascular System Worksheet** (Opens 6/15 at 12: 00 am) • **LEC EXAM 3: Covers Units 7 and 8** (Opens **June 19 at 12:00 pm until June 20 at 10:30 pm** via Respondus Lockdown Browser and Monitor)
	LAB: • **Muscles (Identification of the Muscles of the Head and Neck)**	**LAB:** **Read:** • Illustrated Anatomy of the Head and Neck (IAHN) Chapter 4 • Head and Neck by Numbers Figures 7, 8, 9, 10, 11, 12 and 22	**LAB:** • **Individual Assignment: Muscles of the Head and Neck Worksheet (**Opens 6/15 at 12:00 am and **due on 6/26 at 10:30 pm)** • **Muscles of the Head and Neck Lab Quiz** (Opens 6/15 at 12:00 am via

		Watch: • Kaltura Media and YouTube Videos **View:** • 3D Pictures • Actions of the Muscles of the Head and Neck	Respondus Lockdown Browser and Monitor)
Week 4: June 22 to June 26			
MODULE 4 **LECTURE:** Unit 12 **LAB:** Cont. Unit 6	**LECTURE:** • **Development of the Face, Neck and Orofacial Structures**	**LECTURE:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapters 3, 4 and 5 **LECTURE:** **Watch:** • YouTube Videos **View:** • 3D Pictures **Visit:** • Website Links	**DUE: Friday, June 26 @ 10:30 pm** **LECTURE:** • **Individual Assignment: Embryonic Orofacial Development** (Opens 6/22 at 12:00 am) • **Chapter 4 Quiz** (Opens 6/22 at 12:00 am via Respondus Lockdown Browser and Monitor) • **Chapter 5 Quiz** (Opens 6/22 at 12:00 am via Respondus Lockdown Browser and Monitor) • **LEC EXAM 4: Covers Unit 12** (Opens **June 26 at 12:00pm until June 27 at 10:30pm** via Respondus Lockdown Browser and Monitor)
	LAB: • **Muscles (Identification of the Muscles of the Head and Neck) (cont'd)**	**LAB:** **Read:** • Illustrated Anatomy of the Head and Neck (IAHN) Chapter 4 • Head and Neck by Numbers Figures 7, 8, 9, 10, 11, 12 and 22 **Watch:** • Kaltura Media and YouTube Videos **View:** • 3D Pictures • Actions of the Muscles of the Head and Neck	**LAB:** • **Individual Assignment: Muscles of the Head and Neck Worksheet (**Opens 6/15 at 12:00 am and **due on 6/26 at 10:30 pm)** • **LAB EXAM 1: Covers Units 4 and 6** (Opens **June 27 at 12:00pm until June 28 at 10:30pm** via Respondus Lockdown Browser and Monitor)
Week 5: June 29 to July 3			
MODULE 5 **LECTURE:** Unit 13 **LAB:** Overview of the Dentition	**LECTURE:** • **Tooth Development and Eruption**	**LECTURE:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapter 6 **Watch:** • YouTube Videos	**DUE: Friday, July 3 @ 10:30 pm** **LECTURE:** • **Group Assignment: Tooth Development and Eruption Worksheet (**Opens 6/29 at 12:00 am) • **LEC EXAM 5: Covers Unit 13** (Opens **July 3 at 12:00pm until**

			July 5 at 10:30pm via Respondus Lockdown Browser and Monitor)
	LAB: • **Overview of the Dentition**	**LAB:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapters 15 **Watch:** • YouTube Videos **View:** • 3D Pictures	**LAB:** • **Individual Assignment: Dental Anatomy Worksheet (**Opens 6/29 at 12:00 am)
Week 6: July 6 to July 10			
MODULE 6 **LECTURE:** Units 15 and 16 **LAB:** Unit 9	**LECTURE:** • **Orofacial Structures** • **Gingival and Dentinogingival Functional Tissues**	**LECTURE:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapter 7, 9 and 10 **Watch:** • YouTube Videos **View:** • 3D Pictures	**DUE: Friday, July 10 @ 10:30 pm** **LECTURE:** • **Individual Assignment: Orofacial Structures Worksheet** (Opens 7/6 at 12:00am) • **Chapter 10 Quiz** (Opens 7/6 at 12:00 am via Respondus Lockdown Browser and Monitor) • **LEC EXAM 6: Covers Units 15 and 16** (Opens **July 10 at 12:00pm until July 11 at 10:30pm** via Respondus Lockdown Browser and Monitor)
	LAB: **Permanent Anterior Teeth**	**LAB:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapter 16 **Watch:** • YouTube Videos **View:** • 3D Pictures **Visit:** • Website Links	**LAB:** • **Individual Assignment: Permanent Anterior Teeth Worksheet** (Opens 7/6 at 12:00am)
Week 7: July 13 to July 17			
MODULE 7 **LECTURE:** Units 17 **LAB:** Unit 10	**LECTURE:** • **Enamel**	**LECTURE:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapters 12 **Watch:** • YouTube Videos **View:** • 3D Pictures **Visit:**	**DUE: Friday, July 17 @ 10:30 pm** **LECTURE:** • **Individual Assignment: Enamel Worksheet** (Opens 7/13 at 12:00am) • **LEC EXAM 7: Covers Unit 17** (Opens **July 17 at 12:00pm until July 18 at 10:30pm** via Respondus Lockdown Browser and Monitor)

		• Website Links	
	LAB: • **Permanent Posterior Teeth**	**LAB:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapter 17 **Watch:** • YouTube Videos **View:** • 3D Pictures **Visit:** • Website Links	**LAB:** **Individual Assignment: Permanent Posterior Teeth Worksheet** (Opens 7/13 at 12:00am)
Week 8: July 20 to July 24			
MODULE 8 **LECTURE:** Unit 18 **LAB:** Unit 11	**LECTURE:** • **Dentin and Pulp**	**LECTURE:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapters 13 **Watch:** • YouTube Videos **View:** • 3D Pictures	**DUE: Friday, July 24 @ 10:30 pm** **LECTURE:** • **Individual Assignment: Dentin and Pulp Worksheet** (Opens 7/20 at 12:00am) • **LEC EXAM 8: Covers Unit 18** (Opens **July 24 at 12:00pm until July 25 at 10:30pm** via Respondus Lockdown Browser and Monitor)
	LAB: • **Primary/Deciduous Teeth (Anterior and Posterior)**	**LAB:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapter 18 **Watch:** • YouTube Videos **View:** • 3D Pictures **Visit:** • Website Links	**LAB:** • **Individual Assignment: Primary Teeth Worksheet** (Opens 7/20 at 12:00am)
Week 9: July 27 to July 31			
MODULE 9 **LECTURE:** Unit 19 **LAB:** Exam 2	**LECTURE:** • **Periodontium: Cementum, Alveolar Process, Periodontal Ligament**	**LECTURE:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapter 14 **Watch:** • YouTube Videos **View:** • 3D Pictures	**DUE: Friday, July 31 @ 10:30 pm** **LECTURE:** • **Individual Assignment: Cementum, PDL and Alveolar Bone Worksheet** (Opens 7/27 at 12:00am) • **LEC EXAM 9: Covers Unit 19** (Opens **July 31 at 12:00pm until August 1 at 10:30pm** via Respondus Lockdown Browser and Monitor)

	LAB: • **Complete Exam 2**	**LAB:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapters 16, 17, 18 **Watch:** • YouTube Videos from previous weeks **View:** • 3D Pictures from previous weeks **Visit:** • Website Links from previous weeks	**LAB:** • **LAB EXAM 2: Covers Units 9, 10 and 11** **(Opens August 1 at 12:00pm until August 2 at 10:30pm** via Respondus Lockdown Browser and Monitor)
Week 10: August 3 to August 7			
MODULE 10 **LECTURE:** Units 14 and 20 **LAB:** **Web Assignment (dentalcare.com)**	**LECTURE:** • **Occlusion** • **TMJ**	**LECTURE:** **Read:** • Illustrated Dental Embryology, Histology and Anatomy (IEHA) Chapter 19 and 20 **Watch:** • YouTube Videos	**DUE: Friday, August 7 @ 10:30 pm** **LECTURE:** • **Individual Assignment: TMJ Worksheet** (Opens 8/3 at 12:00am) • **Individual Assignment: Occlusion Worksheet** (Opens 8/3 at 12:00am) • **LEC EXAM 10: Covers Units 14 and 20** (Opens **August 7 at 12:00pm until August 8 at 10:30pm** via Respondus Lockdown Browser and Monitor)
	LAB: • **An overview of Dental Anatomy**	**LAB:** **Read:** • dentalcare.com article • Chapter	**LAB:** • **Individual Web Assignment: dentalcare.com assignment** (Opens 8/3 at 12:00 am) • **Individual Assignment: Anatomy of Local Anesthesia**
Week 11: August 10 to August 14			
MODULE 11 **LECTURE and LAB Comprehensive Final Exam**	**LECTURE and LAB:** **Review previous topics**	**LECTURE and LAB:** **Read:** • Illustrated Anatomy of the Head and Neck (IAHN) • Illustrated Dental Embryology, Histology and Anatomy (IEHA)	**DUE: Thursday, August 13 @ 12 noon** • **COMPREHENSIVE FINAL EXAM (Opens August 12 @ 12noon to August 13 @ 12noon)** • **Course Evaluations** (Opens **August 11 @ 12:00 am**)

****Schedule might change as deemed necessary. Please allow up to 48-72 hours for the assignments to be graded and returned.**

ATTENDANCE POLICY

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. It is the responsibility of the student to attend class, clinic or lab. The instructor expects each student to be present at each session.

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.

If students 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**. **An absence will be considered unexcused if the student fails to notify the course faculty prior to the start of class, clinic, or lab. Attendance through Blackboard Collaborate is considered an absence. The course instructor must be notified at least one hour prior to the beginning of class/lab if the student plans to attend through Blackboard Collaborate.** The student is responsible for all material missed at the time of absence. Extenuating circumstances will be taken into account to determine if the absence is excused. Extenuating circumstances might include but are not limited to funeral of immediate family member, maternity, hospitalization, etc. If the student has surgery, a debilitating injury, or an extended illness, a doctor's release will be required before returning to clinic.

Summer Sessions:

Regular class attendance is expected. Be sure to sign in on a regular basis to check for any additional assignment openings, and to be sure your coursework is being completed. Also, be sure to check your gradebook regularly for missing or inaccurate grades. Bring any grade questions to the instructor immediately upon noticing them.

Fall/Spring Semesters:

Dental hygiene students will be allowed **two excused 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 = notification in Starfish

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

Two (2) points will be deducted from the final course grade for each unexcused absence.

Tardiness

Tardiness is disruptive to the instructor and the students in the classroom. A student is considered tardy if not present at the start of class, clinic or lab. 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 = notification in Starfish

Tardy 2 times = is considered an unexcused absence. (See the definition of an unexcused absence)

If a student is more than 15 minutes late to any class period, it will be considered an unexcused absence.

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.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process by the specified drop date as listed on the Academic Calendar. If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

STUDENT EXPECTED TIME REQUIREMENT

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16- week session OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time in this course as in the traditional, face-to-face class.

TEACHING METHODS

Teaching methods will include:

Slides, Handouts, Kaltura Videos, YouTube Videos, Virtual sessions, Website links
Interactive 3D apps and software (Primal Pictures and BoneBox)
Blackboard Learn discussions, activities, assignments, quizzes, exams
Reading Assignments

COURSE REQUIREMENTS

- Examinations and Comprehensive Final Exam
- Quizzes
- Web Assignment: dentalcare.com
- Assignments (Individual and Group)

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Exam: 12 **Lecture: 10** **Lab: 2** *12 exams x 5% each = 60%	**60%**
Comprehensive Final Exam	**15%**
Quizzes (lecture and lab) *All quizzes are weighted equally	**10%**
Assignments (lecture and lab) *All assignments are weighted equally	**10%**
Web Assignment (dentalcare.com)	**5%**
TOTAL	**100%**

GRADING SCALE

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

LIT does not use +/- grading scales
**A grade of C must be acquired to pass this course

ACADEMIC DISHONESTY

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's Academic Dishonesty Policy available in the Student Catalog & Handbook at http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty.

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

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. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

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.

ADDITIONAL COURSE POLICIES/INFORMATION

Examination and Quiz Policy

Examinations will be based on objectives, lecture notes, handouts, assigned readings, audiovisual material and class discussions. Major examinations will consist of multiple choice, true/false, matching, short answer, and case study questions. No questions will be allowed during exams.

Students are expected to complete examinations as scheduled. 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. All make-up examinations must be taken within two (2) weeks from the scheduled exam date. All examinations will be kept on file by the instructor. Students may have access to the examination by appointment during the instructor's office hours. Exams may be reviewed up to two (2) weeks following the exam date. **You may not copy, reproduce, distribute or publish any exam questions**. This action may result in dismissal from the program. A grade of "0" will be recorded for all assignments due on the day of absences unless prior arrangements have been made with the instructor.

Students must use their personal equipment, such as computer, MacBook, laptop, iPad, to take their exams and must not use their classmates'. School computers may be used if personal equipment is not available. Respondus Lockdown Browser and Respondus Monitor will be used for examinations and quizzes, therefore, a webcam is required to take the test. The student is required to show the testing environment at the beginning of the exam to assure the instructor that it is clear of any study materials. Failure to do so will result in a 10-point exam grade deduction. If you need online assistance while taking the test, please call Online Support Desk at 409-951-5701 or send an email to lit-bbsupport@lit.edu.

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, electronic communication devices (including optical), and earphones connected to or used as electronic communication devices. It may also include the following: plagiarism, falsification and fabrication, use of A.I, abuse of academic materials, complicity in academic dishonesty, and personal misrepresentation. 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. This policy applies to assignments and quizzes

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.

Individual and Group Assignments

To maintain fairness and uphold academic standards, the following policy applies to all coursework: Individual Assignments: These must be completed independently. Students are not permitted to collaborate, share answers, or submit identical or substantially similar work. Each student is expected to produce their own original responses. Sharing work or submitting work that is not your own will result in a grade of zero (0) for the assignment, with no opportunity for resubmission.

Group Assignments: These are designed to be collaborative. All group members are expected to contribute meaningfully and work together to complete the assignment.

Mandatory Tutoring

If a student receives a failing grade on any major exam, the student will be required to meet with the course instructor within 2 weeks of the failed exam. A review of the exam by appointment with the course instructor will be provided and/or written academic warning when a student is failing to meet minimal requirements in the classroom setting.

Electronic Devices

Electronic devices are a part of many individual's lives today. Students must receive the instructor's permission to operate electronic devices in the classroom and lab. Texting on cell phones will not be allowed during class or clinic.

Late coursework

Assignments, quizzes, tests and projects must be completed by the due date. Late submissions or completion will not be accepted and will result in a zero for that assignment/quiz/test/project.

Remediation

Remediation is available by appointment.
See Student Handbook for more information about remediation policies.

*** Faculty has the authority to modify the above policies if unusual circumstances mandate change. Please refer to the Student Handbook for a complete listing of program policies.**

COURSE OUTLINE

1. Introduction to Head and Neck Anatomy
    a. Anatomic Study
    b. Clinical considerations with head and neck anatomy
    c. Anatomic nomenclature
    d. Clinical considerations with anatomic variation
2. Surface Anatomy
    a. Surface Anatomy Overview
    b. Regions of the head
    c. Regions of the neck
3. Skeletal System
    a. Skeletal System Overview
    b. Head and neck bones
4. Muscular System
    a. Muscular System Overview
    b. Head and Neck Muscles
        i. Cervical muscles
        ii. Muscles of facial expression
        iii. Muscles of mastication
        iv. Hyoid muscles
        v. Muscles of the tongue
5. Vascular System
    a. Vascular System Overview

    b. Arterial Blood Supply to Head and Neck
        i. Origins to the head and neck
    c. Venous Drainage of Head and Neck
        i. Facial vein
    d. Venous Sinuses
    e. Pathways to the heart from the head and neck
6. Glandular Tissue
    a. Glandular tissue Overview
        i. Lacrimal Glands
        ii. Salivary Glands
        iii. Thyroid Glands
        iv. Parathyroid Gland
        v. Thymus Gland
7. Nervous System
    a. Nervous System Overview
        i. Central nervous system
        ii. Peripheral nervous system
        iii. Cranial nerves
    b. Nerves to the oral cavity and associated structures
        i. Trigeminal nerve
        ii. Facial nerve
8. Anatomy of Local Anesthesia
    a. Anatomic considerations of local anesthesia
        i. Maxillary nerve anesthesia
        ii. Mandibular nerve anesthesia
9. Lymphatic System
    a. Lymphatic System Overview
    b. Lymph nodes of the head
        i. Occipital Lymph Nodes
        ii. Posterior Auricular, Anterior Auricular, and Superficial Parotid Lymph Nodes
        iii. Facial Lymph Nodes
            1. Deep lymph nodes of head
        iv. Cervical lymph nodes
            1. Superficial cervical lymph nodes
            2. Deep cervical lymph nodes
            3. Accessory and supraclavicular lymph nodes
            4. Tonsils
10. Fascia and Spaces
    a. Fascia and Spaces Overview
        i. Fasciae of the Head and Neck
        ii. Spaces of the Head and Neck
11. Spread of Dental Infections
    a. Infection Process Overview
    b. Odontogenic Infection
    c. Spread of Odontogenic Infection
    d. Prevention of Spread of Infection
12. Orofacial Structures
    a. Face and neck regions
    b. Oral cavity and pharynx

13. Dental Embryology
    a. Prenatal development
    b. Face and neck development
    c. Orofacial development
        i. Palatal development
        ii. Tongue development
    d. Tooth development and eruption
        i. Tooth development
            1. Initiation stage
            2. Bud stage
            3. Cap stage
            4. Bell stage
            5. Apposition and maturation stages
        ii. Root development
            1. Root dentin production
            2. Cementum and pulp formation
            3. Multirooted tooth development
        iii. Periodontal ligament and alveolar process development
        iv. Primary tooth eruption and shedding
        v. Permanent tooth eruption
14. Dental Histology
    a. Basic cells properties and processes
        i. Cell properties
        ii. Cell division
        iii. Extracellular materials
        iv. Intercellular junction
    b. Basic tissue properties and processes
        i. Basic tissue properties and processes
        ii. Basement membrane properties
        iii. Connective tissue properties
        iv. Muscle properties
        v. Nerve tissue properties
    c. Oral Mucosa
        i. Oral Mucosa Properties
            1. Lining mucosa
            2. Masticatory mucosa
            3. Specialized mucosa
            4. Epithelium of oral mucosa
            5. Lamina propria of oral mucosa
    d. Regional differences in oral mucosa
        i. Labial mucosa and buccal mucosa
        ii. Alveolar mucosa
        iii. Ventral surface of the tongue and floor of the mouth
        iv. Soft palate
        v. Hard palate
        vi. Attached gingiva
    e. Tongue and lingual papillae properties
        i. Filiform lingual papillae
        ii. Fungiform lingual papillae

iii. Foliate lingual papillae
iv. Circumvallate lingual papillae
f. Oral mucosa localized pigmentation
g. Oral mucosa turnover time and repair

15. Gingival and Dentogingival Junctional Tissues
    a. Gingival tissues properties
    b. Dentogingival junctional tissues properties
16. Enamel
    a. Enamel properties
    b. Enamel matrix formation
    c. Enamel matrix maturation
    d. Enamel histology
17. Dentin and Pulp
    a. Dentin-pulp complex
    b. Dentin properties
        i. Dentin matrix production
        ii. Dentin matrix maturation
        iii. Mature dentin components
        iv. Dentin types
        v. Dentin histology
    c. Pulp properties and development
        i. Pulp anatomy
        ii. Pulp histology
        iii. Pulp zones
18. Periodontium: Cementum, Alveolar Bone, Periodontal Ligament
    a. Periodontium properties
    b. Cementum Properties
        i. Cementum development
        ii. Cementum histology
        iii. Cementum types
    c. Alveolar process properties
        i. Jaw development
        ii. Jaw anatomy and histology
    d. Periodontal ligament properties
        i. Periodontal ligament cells
        ii. Periodontal ligament fiber group
19. Dental Anatomy
    a. Overview of Dentition
        i. Dentition
        ii. Dentition periods
        iii. Dental anatomy terminology
        iv. Tooth form
        v. Considerations for dental anatomy study
    b. Permanent Anterior Teeth
        i. Permanent anterior teeth properties
            1. Permanent incisors general features
                a. Permanent maxillary incisors general features
                b. Permanent mandibular incisors general features
            2. Permanent canines general features

a. Permanent maxillary canines
b. Permanent mandibular canines

c. Permanent Posterior teeth
    i. Permanent posterior teeth properties
        1. Permanent premolars
            a. General features
            b. Permanent maxillary premolars
            c. Permanent mandibular premolars
        2. Permanent molars
            a. General features
            b. Permanent maxillary molars
            c. Permanent mandibular molars

d. Primary Dentition
    i. Primary teeth properties
        1. Primary incisors
        2. Primary canines
        3. Primary molars

20. Temporomandibular Joint
    a. Temporomandibular Joint Overview
        i. Joint bones
            1. Temporal bone
            2. Mandible
        ii. Joint capsule
        iii. Joint disc
        iv. Ligaments associated with joint
    b. Jaw movements
21. Occlusion
    a. Occlusion properties
    b. Centric occlusion
        i. Arch form
        ii. Dental curvatures and angulations
        iii. Centric stops
        iv. Centric relation
        v. Lateral and protrusive occlusion
        vi. Physiologic rest position
    c. Primary Occlusion
    d. Malocclusion
        i. Malocclusion classification

COURSE OBJECTIVES

<u>UNIT 1: Introduction to Head and Neck Anatomy</u>

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

1. Anatomic Nomenclature
2. Anatomic Position
3. Anatomic Terms
    a. Anterior and Posterior
    b. Ventral and Dorsal
    c. Superior and Inferior

d. Apex
e. Sagittal and midsagittal or median plane
f. Coronal or frontal plane
g. Transverse or axial plane
h. Medial/mesial/median and lateral
i. Proximal and distal
j. Sagittal section and midsagittal section or median section
k. Coronal or frontal section
l. Transverse or axial section
m. Ipsilateral and contralateral
n. Superficial and deep
o. Internal and external

4. Anatomic Variation

UNIT 2: Surface and Intraoral Anatomy

Upon completion of this unit the student should be able to locate and identify the following on living subjects, 3D models and/or pictures:

1. Regions of the Head
    a. Frontal Region
        i. Supraorbital ridge (superciliary)
        ii. Glabella
        iii. Frontal eminence
    b. Parietal and Occipital Regions
    c. Temporal and Auricular Regions
        i. Auricle
        ii. External Acoustic Meatus
        iii. Helix
        iv. Lobule
        v. Tragus
        vi. Antitragus
        vii. Intertragic notch
    d. Orbital Region
        i. Orbit
        ii. Sclera
        iii. Iris
        iv. Pupil
        v. Medial and lateral canthi
        vi. Conjunctiva
    e. Nasal Region
        i. Root of the nose
        ii. Bridge of the nose
        iii. Nasal septum
        iv. Ala
        v. Naris
        vi. Apex of the nose
    f. Infraorbital, Zygomatic, and Buccal Regions
    g. Oral Region
        i. Nasolabial sulcus
        ii. Labiomental groove

iii. Vermilion zone
iv. Vermilion border
v. Philtrum
vi. Tubercle of the upper lip
vii. Labial commissure
viii. Mental protuberance
ix. Oral Cavity
    1. Labial frenum
    2. Vestibules
    3. Vestibular fornix
    4. Mucobuccal folds
    5. Gingiva
    6. Attached gingiva
    7. Mucogingival junction
    8. Mucobuccal fold
    9. Marginal gingiva
    10. Gingival sulcus
    11. Interdental gingiva or papilla
    12. Maxillary tuberosity
    13. Retromolar pad
    14. Parotid papilla
x. Palate
    1. Hard palate
    2. Incisive papilla
    3. Palatine rugae
    4. Soft palate
    5. Uvula
    6. Median palatine raphe
    7. Pterygomandibular fold
xi. Tongue
    1. Tongue (apex, body, base)
    2. Dorsal, ventral, and lateral surfaces of the tongue
    3. Medial lingual sulcus
    4. Sulcus terminalis
    5. Foramen cecum
    6. Lingual tonsils
    7. Plica fimbriata
    8. Lingual papillae
        a. Foliate
        b. Fungiform
        c. Filiform
        d. Circumvallate
    9. Deep lingual veins
xii. Floor of the mouth
    1. Lingual frenum
    2. Sublingual fold
    3. Sublingual caruncle
xiii. Pharynx
    1. Nasopharynx, oropharynx, laryngopharynx

2. Epiglottis
3. Palatine Tonsils
4. Fauces
    a. Anterior faucial pillar
    b. Posterior faucial pillar

h. Mental Region
    i. Mental protuberance

2. Regions of the Neck
    a. Anterior cervical triangle
    b. Posterior cervical triangle
    c. Thyroid cartilage
    d. Superior thyroid notch
    e. Larynx
    f. Hyoid bone
    g. Submandibular triangle
    h. Carotid triangle
    i. Muscular triangle
    j. Submental triangle
    k. Occipital triangle
    l. Subclavian triangle

UNIT 3: Glandular Tissue

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

1. Define exocrine and endocrine glands
2. Discuss the lacrimal gland properties, the ducts associated with it, innervation, lymphatic drainage and blood supply.
3. Discuss the salivary gland properties, including histologic features and development.
4. Identify the functions of salivary glands.
5. Identify two types of secretory cells and describe their secretory products.
6. Identify the two major groups of salivary glands.
7. Define serous, mixed, and mucous secretion.
8. Identify the major salivary glands; give the location and secretion of each; name their main ducts and give their percentage of total salivary volume.
9. Identify the minor salivary glands.
10. Describe the location of Von Ebner's glands and give its secretion.
11. State the part of the central nervous system which controls the salivary glands.
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:

1. Locate and identify the following:
    a. Cranial bones
        i. Occipital bone
            1. Foramen magnum
            2. Occipital condyles
            3. Jugular notch

4. Hypoglossal canals

ii. Frontal bone
    1. Supraorbital ridge
    2. Supraorbital notch
    3. Glabella
    4. Zygomatic process of the frontal bone
    5. Coronal suture

iii. Parietal bones
    1. Sagittal suture
    2. Lambdoidal suture
    3. Squamosal suture

iv. Temporal bones
    1. Squamous Portion
        a. Zygomatic process of the temporal bone
        b. Articular fossa (mandibular)
        c. Articular eminence
        d. Postglenoid process
        e. Temporal fossa
    2. Tympanic Portion
        a. External acoustic meatus
        b. Petrotympanic fissure
    3. 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

v. Sphenoid bone
    1. Body of the sphenoid
        a. Hypophyseal fossa
    2. Lessor wing of the sphenoid
        a. Optic canal (foramen)
        b. Superior orbital fissure
    3. Greater wing of the sphenoid
        a. Inferior orbital fissure
        b. Foramen rotundum
        c. Foramen ovale
        d. Foramen spinosum
        e. Spine of the sphenoid bone
        f. Infratemporal crest
    4. Pterygoid process of the sphenoid
        a. Lateral pterygoid plate
        b. Medial pterygoid plate
        c. Pterygoid fossa
        d. Hamulus

vi. Ethmoid Bone

1. Perpendicular plate
2. Superior nasal conchae
3. Middle nasal conchae
4. Orbital plate
5. Cribriform plate
6. Crista galli

b. Facial Bones
   i. Vomer
      1. Nasal septum
   ii. Lacrimal bones (2)
      1. Nasolacrimal duct
   iii. Nasal bones (2)
   iv. Inferior nasal conchae (2)
   v. Zygomatic bones
      1. Frontal process
      2. Temporal process
      3. Maxillary process
         a. Infraorbital rim
      4. Zygomatic arch
         a. Zygomatic process of the temporal bone
         b. Temporal process of the zygomatic bone
      5. Palatine bones
         a. Horizontal plate
         b. Median palatine suture
         c. Transverse palatine suture
         d. Greater palatine foramen
         e. Lesser palatine foramen
         f. Posterior nasal apertures
      6. Vertical plate
         a. Orbital process
   vi. Maxillary bones
      1. 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)
      2. Frontal process of the maxilla
         a. Medial orbital rim
      3. Alveolar process
         a. Canine eminence
      4. Zygomatic process
         a. Infraorbital rim
      5. Palatine process
         a. Median palatine suture
         b. Incisive foramen

vii. Mandible
    1. Body of the mandible
    2. Mental protuberance
    3. Symphysis
    4. Ramus
    5. Angle of the mandible
    6. Mental foramen
    7. External oblique line
    8. Coronoid notch
    9. Mandibular notch
    10. Coronoid process
    11. Condyle
    12. Articulating surface of the condyle
    13. Genial tubercles (mental spines)
    14. Mylohyoid line (ridge)
    15. Mylohyoid groove
    16. Sublingual fossa
    17. Submandibular fossa
    18. Mandibular foramen
    19. Lingula
    20. Pterygoid fovea
    21. Retromolar triangle
2. Describe the hyoid bone and identify the body and greater and lesser cornu.
3. Discuss how the hyoid bone functions and what unique characteristic enables it to be mobile.
4. Identify the paranasal sinuses and discuss their functions.
5. State the number of bones in the skull.
6. Identify bones as either cranial or facial bones.
7. Describe the function/purpose of foramina, canals, fissures, and other bony openings.
8. Define articulation.
9. List and define the words used to describe bony prominences.
10. List and define the words used to describe bony depressions.
11. Identify the paranasal sinuses, their locations, and functions.

Unit 5: Lymphatics, Fascia and Spaces and 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 and discuss the lymphatic system and its components.
3. Locate and identify the lymph nodes of the head and neck on a diagram and patient.
4. Locate and identify the tonsils of the head and neck on a diagram and patient.
5. Identify the lymphatic drainage patterns for the head and neck.
6. Identify on a picture and on a diagram the major groups of lymph nodes that drain the head and neck and specify the areas that they drain.
7. Define "primary", secondary", and "tertiary" nodes.
8. Define lymphadenopathy.
9. Describe and discuss pathology of lymphoid tissue associated with the head and neck.
10. Locate and identify the fasciae of the head and neck on a diagram, skull, and patient.
11. Locate and identify the major spaces of the head and neck on a diagram, skull, and patient.
12. Discuss the communication between the major spaces of the head and neck.

13. Discuss the spread of odontogenic infection to the sinuses and by the vascular system, lymphatic system, and spaces in the head and neck region.
14. Trace the routes of odontogenic infection in the head and neck region on a diagram, skull, and patient.
15. Discuss the complications that can occur with the spread of odontogenic infection in the head and neck region.
16. Discuss the prevention of the spread of odontogenic infection during patient dental care.
17. Integrate an understanding of the head and neck lymphatic system into clinical dental practice.
18. Integrate an understanding of fasciae and spaces into the overall study of head and neck anatomy as well as a clinical dental practice.
19. Integrate an understanding of the anatomic considerations for the spread of odontogenic infection into clinical dental practice.

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 3D picture to identify or label any of the following features:
        i. contours of any surface or margin of a surface
        ii. structural entities such as:
            1. cingulum
            2. developmental lines (depressions)
            3. fossae
            4. imbrication lines
            5. incisal edge
            6. linguogingival fissure
            7. linguogingival groove
            8. marginal ridges
            9. root grooves
        iii. 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 3D picture whether a given incisor or canine is maxillary or mandibular, left or right, and central or lateral.
6. Determine the correct designation for a given incisor or canine diagram, description, photograph or 3D Picture using any numbering system previously covered.
7. Recognize the developmental anomaly present when given a 3D picture 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 feature.
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 3D picture to identify or label any of the following features:
        i. contours of any surface or margin of a surface
        ii. structural entities such as:
            1. cusps
            2. cusp ridges

3. developmental grooves (lines/depressions)
4. fossae
5. longitudinal root grooves
6. marginal ridges
7. pits
8. roots or central groove

iii. 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 3D picture 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 3D picture using any numbering system previously covered.
7. Recognize the developmental anomaly present when given a 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: Primary/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
    c. or identifying from a diagram or 3D picture, any of the following features:
        i. contours of any surface, or margin of any surface
        ii. structural entities such as grooves, pits, ridges cusps, fossae, etc.
        iii. relative dimensions and shapes
        iv. root numbers, location, and contours
        v. 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, 3D pictures, 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 or description 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 the key terms in the 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. maxillary process and midface
    c. mandibular arch and lower face
    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 clinical considerations with the disturbances in each stage.
4. Identify the cell layers of the tooth during the Bell Stage, a description of the layers and their role in tooth formation.
5. Describe the opposition and maturation stages of tooth development including formation of preameloblasts, odontoblasts and dental matrix, ameloblasts, dentinoenamel function and enamel matrix.
6. Explain the process of root development including root dentin, cementum, and pulp formation.
7. Describe the development of the periodontal ligament and alveolar bone development.
8. Explain the differences in root formation for multirooted teeth.
9. Explain the tooth eruption process and the shedding of the primary teeth.
10. 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, growth, and ultimate alignment of the teeth.
2. Describe the effect which muscle forces have on the alignment of the teeth.
3. Define the terms:
    a. Occlusion
    b. Static occlusion
    c. Functional occlusion
    d. Centric occlusion

    e. Centric relation
    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 malocclusion 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. Interprismatic region
    c. Lines of Retzius
    d. Nasmyth's membrane

e. Tome's processes
f. Reduced enamel epithelium
g. Enamel rods

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 spindles
    c. Enamel lamellae
    d. DEJ
    e. Enamel tufts
    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.
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.

UNIT 21: Anatomy of Local Anesthesia

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

1. Define and pronounce both the key terms and anatomic terms in this chapter.
2. List the tissue and structures anesthetized by each type of local anesthetic injection and describe the related target areas.
3. Locate and identify the anatomic structures used to determine injection site for the needle for each type of local anesthetic injection on the skull and a patient.
4. Identify the tissue involved during the insertion of the needle for each type of local anesthetic injection.
5. Discuss the indications of clinically effective anesthesia and possible complications associated with anatomic considerations for each type of injection.
6. Integrate an understanding of the anatomy of the trigeminal nerve with associated tissue into the administration of local anesthesia in clinical dental practice.

LABORATORY

Laboratory: Bones
Weeks 1 and 2

Identify the landmarks of the skull, foramen, fissures, other holes, and what goes through them using Unit 4 Learner Objectives.

a. on the 3D pictures of the Skull on Blackboard Learn (AnatomyTV).
b. on the diagrams on Chapter 3 of the Illustrated Anatomy of the Head and Neck book.
c. on the diagrams on pages 6-14 of the Head and Neck by Numbers.

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

Superior Orbital Fissure	Oculomotor nerve III Trochlear nerve IV Ophthalmic division of the trigeminal V1 Abducens VI Superior ophthalmic vein Lacrimal, frontal and nasociliary nerves
Foramen Rotundum	Maxillary division of the Trigeminal V2
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)
Cribriform Plate	Olfactory nerve I
Internal Acoustic Meatus	Facial nerve VII (to the stylomastoid foramen) Vestibulocochlear nerve VIII
Jugular foramen	Glossopharyngeal nerve IX Vagus nerve X Accessory nerve XI
Hypoglossal Canal	Hypoglossal nerve XII
Incisive Foramen	Greater palatine vessels
Greater Palatine Foramen	Greater palatine vessels Greater palatine nerve
Pterygomaxillary Fissure	Maxillary artery Maxillary nerve
Petrotympanic Fissure	Branches of the Maxillary Artery Chorda Tympani
Stylomastoid Foramen	Facial Nerve (from the internal acoustic meatus)
Inferior Orbital Fissure	Infraorbital arteries Maxillary division of the trigeminal V
Infraorbital Canal	Infraorbital vessels and nerve Anterior superior alveolar artery
Infraorbital foramen	Infraorbital nerve and vessels

Mental Foramen	Mental artery and vein Mental nerve
Mandibular Foramen	Inferior alveolar artery and vein Inferior alveolar nerve
Posterior Superior Alveolar Foramina	Posterior superior vessels and nerves
Optic Canal	Optic nerve Nasopalatine nerve
Carotid Canal	Internal Carotid Artery
Foramen Spinosum	Middle Meningeal artery

Laboratory: Muscles
Lab Exam 1 via Respondus Lockdown Browser and Monitor
Week 3 and 4

Identify the muscles of the Head and Neck region using the Unit 6 Learner Objectives.

a. on the 3D pictures of the muscles on Blackboard Learn (AnatomyTV).
b. on the diagrams on Chapter 4 of the Illustrated Anatomy of the Head and Neck book.
c. on the diagrams on pages 16 - 27 of the Head and Neck by Numbers.

Learn the origin, insertion, action, blood supply, and nerve supply of the muscles of the head and neck and complete and submit the Muscles on Head and Neck Worksheet posted on Blackboard Ultra.

Laboratory: Overview of the Dentition
Week 5

Learn the dentition periods, dental anatomy terminology, tooth form and considerations of dental anatomy study using the Overview of the Dentition Learning Objectives and complete and submit the Dental Anatomy Worksheet posted on Blackboard Ultra.

Laboratory: Permanent Anterior Teeth
Week 6

Learn the permanent anterior teeth using the Unit 9 Learner Objectives.
Complete and submit the Permanent Anterior Teeth Worksheet posted on Blackboard Ultra.

Laboratory: Permanent Posterior Teeth
Week 7

Learn the permanent posterior teeth using the Unit 10 Learner Objectives.
Complete and submit the Permanent Posterior Teeth Workshop posted on Blackboard Ultra.

Laboratory: Primary/Deciduous Dentition
Week 8

Learn the deciduous teeth using the Unit 11 Learner Objectives.
Complete and submit the Primary Teeth Worksheet posted on Blackboard Ultra.

Laboratory: Lab Exam 2 via Respondus Lockdown Browser and Monitor
Week 9

Laboratory: An Overview of Dental Anatomy
Week 10
Complete the dentalcare.com assignment. Instructions are posted on Blackboard Ultra.

Laboratory: Student Course Evaluation and Comprehensive Final Exam
Week 11
Complete Online Course Evaluation and submit proof of completion on Blackboard Ultra.
Take the Comprehensive Final Exam (combined Lecture and Lab).

Worksheet Assignment

Lymphatic System Worksheet
(Individual Assignment)

Learning Objectives:

1. Discuss the drainage pattern of the lymph system in the head and neck region.
2. Define "primary", "secondary", and "tertiary" nodes.
3. Integrate an understanding of the head and neck lymphatic system into clinical dental practice.

Purpose:

- The lymphatic system is a part of the immune system that consists of vessels, nodes, ducts, and tonsils. It helps fight disease processes such as infection and cancer and also serves other functions in the Body. As dental professionals, we need to have an understanding of the head and neck lymphatic system. Lymph nodes are bean-shaped bodies groups in clusters along the connecting lymphatic vessel. They are involved in production of lymphocytes and removal of toxins to fight the disease processes in the body. Primary node is the lymph node draining lymph from particular region. Secondary node is the lymph node draining lymph from primary lymph node. Tertiary node is the lymph node draining lymph from secondary lymph node. As dental professionals need to check carefully for any palpable nodes during an extraoral examination because palpable lymph nodes may help determine where a disease process is active.

Complete the table with the regional lymphatic drainage pattern of the structures given.

This assignment is due on June 12 at 10:30pm.
This is an INDIVIDUAL ASSIGNMENT.

Vascular System Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Identify and trace the routes of the blood vessels of the head and neck in a diagram, skull, and patient.
2. Integrate an understanding of the head and neck vascular system into clinical dental practice.

PURPOSE:

- The vascular system of the head and neck consists of an arterial blood supply, a capillary network and venous drainage. Arterial Blood Supply begins at the heart and carries oxygenated blood away from it. Venous Drainage drains blood from the area, travels back to the heart and carries deoxygenated blood to it. As dental professionals, we need to keep in mind the possibilities of vascular lesions when treating patients with vascular disease or dental-related infections.

Complete the diagram of the pathway of blood from heart and back to heart. You can type inside the box.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on June 19 at 10:30pm.
This is an INDIVIDUAL ASSIGNMENT.

Nervous System Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Identify and trace the routes of the cranial nerves on a diagram and skull.
2. Discuss each of the structures innervated by each of the cranial nerves.
3. Identify and trace the routes of the nerves to the oral cavity and associated structures of the head and neck on a diagram, skull, and patient.
4. Describe the structures innervated by each of the nerves of the head and neck.

PURPOSE:

- The nervous system is an extensive intricate network of neural structures that activates, coordinates, and controls all functions of the body.
- The nervous system causes the muscles to contract resulting in facial expressions and joint movements, such as those involved in mastication and speech.
- The nervous system stimulates the glands to secrete and regulate other systems of the body.
- The nervous system allows sensation to be perceived, such as touch and also pain if present during dental treatment.
- Understanding the nervous system and its component is important to the dental professional as this system allows for the function of the muscles, the temporomandibular joint and the glands of the head and neck.
- A thorough understanding of certain nerve is also important in pain management that involves administering local anesthesia during dental treatment.
- The dental professional must understand the pathology associated with nerves of the head and neck for effective dental care.

Complete the table of the cranial nerves.
Complete the table that is attached to this assignment. More instructions can be found on the document.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on June 19 at 10:30 pm.
This is an INDIVIDUAL ASSIGNMENT.

Muscles of the Head and Neck Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Locate and identify the muscles of the head and neck on a diagram, skull, and patient.
2. Describe the origin, insertion and action, and innervation of each muscle of the head and neck.
3. Integrate an understanding of the muscles of the head and neck into the clinical dental practice.

PURPOSE:

- The muscular system includes skeletal muscle tissue. A muscle within the muscular system shortens under neural control causing soft tissue and bony structures of the body to move. Each muscle is attached at both ends of these moving structures, with each end categorized according to its role in movement. The origin is the end of the muscle that is attached to the least movable structure. The insertion is the other end of the muscle and is attached to the more movable structure. The insertion of the muscle moves toward the origin where the muscle begins when the muscle is contracted. The movement is accomplished when the muscle fibers or fascicles contract is the action of the muscle.

- The dental professional needs to determine the location and the action of the skeletal muscles of the head and neck in order to perform a thorough patient assessment. This information is important because the placement of other structures such as bones, nerves, blood vessels and lymph node are related to location of these skeletal muscles. These muscles may also malfunction and be involved in temporomandibular joint disorders, occlusal trauma and certain nervous system diseases. Muscles of the head and neck and their attachments define many of the spaces in the face and neck and are also a consideration in the spread of dental infections.

Complete the table with the origin, insertion, action, and innervation of the muscles of the head and neck.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on June 26 at 10:30pm.
This is an INDIVIDUAL ASSIGNMENT.

Embryonic Orofacial Development Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Outline the preimplantation period, including the major events that occur during this first week of prenatal development.
2. Integrate a study of the preimplantation period of prenatal development into the development of the orofacial structures and the clinical considerations due to developmental disturbances associated with these structures.
3. Outline the second week of prenatal development during the embryonic period, including the major events that occur.
4. Outline the third week of prenatal development during the embryonic period, including the major events that occur.
5. Outline the fourth week of prenatal development during the embryonic period, including the major events that occur.
6. Integrate the study of the embryonic period of prenatal development into orofacial development and the clinical considerations due to developmental disturbances associated with these structures.
7. Outline the fetal period of prenatal development, including the major events that occur after the eighth week until birth within this period.
8. Identify the structures present during prenatal development on a diagram.
9. Integrate the study of the fetal period of prenatal development into orofacial development and the clinical considerations due to developmental disturbances associated with these structures.
10. Outline the events that occur during facial development, describing each step in its formation.
11. Integrate the study of the facial development into understanding the observed orofacial structures and the clinical considerations due to developmental disturbances of these structures.
12. Outline the events that occur during neck development, describing each step in its formation.
13. Integrate the study of neck development into understanding the observed orofacial structures and the clinical considerations due to developmental disturbances of these structures.
14. Outline the events that occur during palatal development, describing each step of its formation.
15. Integrate the study of palatal development into understanding the present structure and the clinical considerations due to developmental disturbances involved in palatal development.
16. Outline the events that occur during nasal cavity and nasal septum development.
17. Integrate the study of nasal cavity and nasal septum development into understanding the present structure.
18. Outline the events that occur during the tongue development, describing each step of its formation.

19. Identify the structures present during tongue development on a diagram.
20. Integrate the study of tongue development into understanding the present structure and the clinical considerations due to developmental disturbances involved in tongue development.

PURPOSE:

- Dental professionals need to have a clear understanding of the major events of prenatal development in order to understand the development of the structures of the face, neck, and oral cavity and the underlying relationships among these structures.
- Dental professionals must have a clear understanding about the development of the face to further relate the underlying structural relationships to any developmental disturbances that maybe present.
- Dental professionals must have a clear understanding about the development of the oral structures to relate to their present structure as well as to any developmental disturbances that may be present.

Complete the table on Embryonic Orofacial Development using the Illustrated Dental Embryology, Histology and Anatomy book.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on June 26 at 10:30pm.
This is an INDIVIDUAL ASSIGNMENT.

Tooth Development and Eruption Worksheet
(Group Assignment)

LEARNING OBJECTIVES:

1. Define and pronounce the key terms in this chapter.
2. Outline the five stages of tooth development.
3. Integrate the study of tooth development into understanding the present tooth anatomy and the clinical considerations due to developmental disturbances.
4. Outline the process of root development.
5. Integrate the study of root development into understanding the present tooth anatomy and the clinical considerations due to developmental disturbances.
6. Discuss periodontal ligament and alveolar process development.
7. Identify the structures present during tooth crown and root development as well as the periodontal ligament and alveolar process development on a diagram.
8. Outline the events that occur during tooth eruption.
9. Identify the structures present during tooth eruption on a diagram.
10. Integrate the study of tooth eruption into understanding the present tooth anatomy and the clinical considerations due to developmental disturbances.

PURPOSE:

- Odontogenesis is the process of tooth development. Dental professionals must have a clear understanding of the stages of odontogenesis and the physiologic basis of each stage. Developmental disturbances can occur within each stage of odontogenesis, affecting the physiologic processes taking place. These developmental disturbances can have ramifications that may affect the dental care of a patient.

Answer the questions correctly.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on July 3 at 10:30pm.
This is a GROUP ASSIGNMENT. Only one member of the group is required to submit the completed worksheet on Blackboard.

Dental Anatomy Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Recognize tooth types and outline the tooth numbering systems.
2. Assign the correct universal or international number for a tooth and its correct dentition period on a diagram or a skull and for a tooth model or a patient.
3. Define each dentition period and discuss the clinical considerations concerning each dentition period, integrating it into patient care.
4. Use the correct dental anatomy terminology and discuss the clinical considerations concerning tooth anatomy, integrating it into patient care.
5. Use the correct orientational tooth terms and discuss the clinical considerations concerning tooth surfaces, integrating it into patient care.
6. Identify tooth forms and discuss the clinical considerations concerning them, integrating it into patient care.

PURPOSE:

- The oral cavity and its surrounding and supporting structures not only affect our digestive processes, but also affect our speech and appearance. In order to identify problems in the oral cavity, the dental professional must first recognize normal anatomy as well as the normal appearance of the surrounding areas. In addition, it is essential the dental professional be able to evaluate the health of the teeth as well as the supporting tissues and periodontium. Even though the dentist is responsible for diagnosis, all dental professionals should be able to recognize deviations from normal in order to determine the need for further investigation by the dentist.

Complete the table.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on July 3 at 10:30pm.
This is an INDIVIDUAL ASSIGNMENT.

Orofacial Structures Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. List and describe the types of oral mucosa, characterizing each type of epithelium associated with the oral cavity.
2. Identify the components of each type of oral mucosa on a diagram.
3. List and discuss the clinical correlations associated with the regional differences in the oral mucosa, integrating it into patient care.
4. Discuss tongue and lingual papillae properties as well as oral mucosa pigmentation and the clinical considerations for each.

5. Discuss the turnover times for regions of the oral cavity and associated clinical correlations as well as repair and aging considerations, integrating it into patient care.

PURPOSE:

- Dental professionals must have a clear understanding of the basic histology of the oral mucosa, its regional differences, and any related clinical considerations. Only then will they be able to further understand the clinical considerations involved with the process of aging as well as injury to the oral mucosa. This injury to the oral mucosa can include that which occurs with trauma, inflammation, infection, and cancer. With this information, they then can promote the health of the oral mucosa.

Answer the questions correctly.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on July 10 at 10:30pm.
This is an INDIVIDUAL ASSIGNMENT.

Permanent Anterior Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Define and pronounce the key terms in this chapter.
2. Identify the permanent anterior teeth and discuss their properties and the clinical considerations concerning them, integrating it into patient care.
3. Assign the correct names and universal or international tooth number for each permanent anterior tooth on a diagram or a skull and for a tooth model or a patient.
4. Demonstrate the correct location of each permanent anterior tooth on a diagram, a skull, and a patient.
5. Identify the permanent incisors and their general features and discuss their clinical considerations, integrating it into patient care.
6. Describe the general and specific features of the permanent maxillary incisors and discuss the clinical considerations concerning them, integrating it into patient care.
7. Describe the general and specific features of the permanent maxillary canines and discuss the clinical considerations concerning them, integrating it into patient care.
8. Describe the general and specific features of the permanent mandibular canines and discuss the clinical considerations concerning them, integrating it into patient care.
9. Assign the correct names and universal or tooth number for each permanent anterior tooth on a diagram or a skull and for a tooth model or a patient.
10. Demonstrate the correct location of each permanent anterior tooth on a diagram, a skull, and a patient.

PURPOSE:

- Dental anatomy is defined as the study of the development, morphology, function, and identity of each of the teeth in the human dentitions, as well as the way in which the teeth relate in shape, form, structure, color, and function to the other teeth in the same dental arch and to the teeth in the opposing arch. The study of dental anatomy, physiology, and occlusion provides one of the basic components of the skills needed to practice all phases of dentistry and dental hygiene. The dental practitioner must have knowledge of the morphology, occlusion, esthetics, phonetics, and functions of these teeth to undertake such treatment. Dental students should learn sufficient dental anatomy to distinguish normal from abnormal eruption patterns, determine approximate age, and distinguish normal from abnormal tooth structure.

Complete the table of the permanent anterior teeth and definition of terms.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on July 10 at 10:30pm.
This is an INDIVIDUAL ASSIGNMENT.

Permanent Posterior Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Define and pronounce the key terms in this chapter.
2. Assign the correct names and universal or international tooth number for each permanent posterior tooth on a diagram or a skull and for a tooth model or a patient.
3. Demonstrate the correct location of each permanent posterior tooth on a diagram, a skull, and a patient.
4. Identify the permanent posterior teeth and discuss their properties and the clinical considerations concerning them, integrating it into patient care.
5. Identify the permanent premolars and their general features and discuss their clinical considerations, integrating it into patient care.
6. Describe the general and specific features of the permanent maxillary premolars and discuss the clinical considerations concerning them, integrating it into patient care.
7. Describe the general and specific features of the permanent mandibular premolars and discuss the clinical considerations concerning them, integrating it into patient care.
8. Identify the permanent molars and their general features and discuss their clinical considerations, integrating it into patient care.
9. Describe the general and specific features of the permanent maxillary molars and discuss the clinical considerations concerning them, integrating it into patient care.
10. Describe the general and specific features of the permanent mandibular molars and discuss the clinical considerations concerning them, integrating it into patient care.

PURPOSE:

- Dental anatomy is defined as the study of the development, morphology, function, and identity of each of the teeth in the human dentitions, as well as the way in which the teeth relate in shape, form, structure, color, and function to the other teeth in the same dental arch and to the teeth in the opposing arch. The study of dental anatomy, physiology, and occlusion provides one of the basic components of the skills needed to practice all phases of dentistry and dental hygiene. The dental practitioner must have knowledge of the morphology, occlusion, esthetics, phonetics, and functions of these teeth to undertake such treatment. Dental students should learn sufficient dental anatomy to distinguish normal from abnormal eruption patterns, determine approximate age, and distinguish normal from abnormal tooth structure.

Complete the table of the permanent posterior teeth and definition of terms.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on July 17 at 10:30pm.
This is an INDIVIDUAL ASSIGNMENT.

Enamel Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Define and pronounce the key terms in this chapter.
2. Describe the enamel properties and the clinical considerations concerned with enamel structure, integrating it into patient care.
3. Discuss the processes involved in the apposition and maturation stages of enamel as well as the clinical considerations concerned with enamel formation and pathology, integrating it into patient care.
4. Identify the components of the enamel on a diagram.
5. Discuss the histology of enamel and the clinical considerations for dental procedures concerning enamel, integrating it into patient care.

PURPOSE:

- Preservation of the enamel of every tooth during a patient's lifetime is one of the goals of every dental professional because it is not a renewable tissue. Dental professionals must take into consideration the properties and histology of enamel when diagnosing enamel caries, deciding the caries risk for patients, counseling patients and communities on fluoride use, applying enamel sealants as well as restorations, and using and recommending polishing or toothpaste agents

Answer the questions correctly.
More instructions are written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on July 17 at 10:30 pm.
This is an INDIVIDUAL ASSIGNMENT.

Dentin and Pulp Worksheet
(Individual Assignment)

LEARNING OBJECTIVE:

1. Define and pronounce the key terms in this chapter.
2. Discuss the dentin-pulp complex.
3. Describe the properties of dentin and the clinical consideration for dentin structure, integrating it into patient care.
4. Describe the processes involved in the stages of apposition and the maturation of dentin.
5. Outline the types of dentin and discuss the clinical considerations for dentin pathology, integrating it into patient care.
6. Discuss the histology of dentin.
7. Describe pulp properties, including its anatomic components.
8. Identify the components of both the dentin and the pulp on a diagram.
9. Discuss the histology of pulp and the clinical considerations for pulp pathology and repair, integrating it into patient care.

PURPOSE:

- Unlike enamel, both dentin and pulp cannot be viewed clinically if the teeth and associated periodontium are healthy. That is because both dentin and pulp make up the inner parts of the tooth and are not exposed to the oral environment except when certain dental pathology exists. In addition, due to their shared developmental background from the dental papilla, close proximity in the tooth, and tissue interdependence, both dentin and pulp form a dentin-pulp complex.

- Dental professionals must have a clear understanding of the histology of these two types of tissue. In the past, these two inner types of dental tissue were thought of as being analogous to a “black box” that was opened only during restorative treatment or endodontic therapy and hidden the rest of the time. With the advent of expanded responsibilities and increased preventive concerns for patients, all dental professionals must be able to know about these two interesting and challenging dental tissue types.

Answer the questions correctly.

More instructions are written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on July 24 at 10:30 pm.
This is an INDIVIDUAL ASSIGNMENT.

Primary Teeth Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Define and pronounce the key terms in this chapter.
2. Assign the correct name and universal number for each primary tooth on a diagram and a patient.
3. Demonstrate the correct location of each primary tooth on a diagram and a patient.
4. Discuss primary teeth properties and the clinical considerations for primary dentition, integrating it into patient care.
5. Describe the general features of primary teeth and each primary tooth type as well as the specific features of each primary tooth.
6. Discuss the clinical considerations concerning primary molars, integrating it into patient care.

PURPOSE:

- Dental anatomy is defined as the study of the development, morphology, function, and identity of each of the teeth in the human dentitions, as well as the way in which the teeth relate in shape, form, structure, color, and function to the other teeth in the same dental arch and to the teeth in the opposing arch. The study of dental anatomy, physiology, and occlusion provides one of the basic components of the skills needed to practice all phases of dentistry and dental hygiene. The dental practitioner must have knowledge of the morphology, occlusion, esthetics, phonetics, and functions of these teeth to undertake such treatment. Dental students should learn sufficient dental anatomy to distinguish normal from abnormal eruption patterns, determine approximate age, and distinguish normal from abnormal tooth structure.

Complete the table of the primary teeth.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on July 24 at 10:30 PM.
This is an INDIVIDUAL ASSIGNMENT.

Cementum, PDL and Alveolar Bone Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Define and pronounce the key terms in this chapter.
2. Give an overview of periodontium properties, including its components.
3. Identify each individual component of the periodontium on a diagram.
4. Discuss cementum properties and the clinical considerations with cementum structure, integrating it into patient care.
5. Discuss cementum development, histology, types, and repair as well as the clinical considerations for cementum pathology, integrating it into patient care.
6. Discuss alveolar process properties, including jaw anatomy and histology.
7. Discuss the clinical considerations with the alveolar process, integrating it into patient care.
8. Describe periodontal ligament properties.
9. Identify the fiber groups of the periodontal ligament on a diagram and discuss the functions assigned to each of them.
10. Discuss the clinical considerations for periodontal ligament pathology and repair, integrating it into patient care.

PURPOSE:

- To understand the pathologic changes that occur during the disease states involving the periodontium, dental professionals must first appreciate the histology of the healthy periodontium. Thus, the underlying histologic features of these components provide a clue to the clinical appearances noted with the periodontium, whether in a healthy or diseased state.
- The periodontium consists of both the supporting soft and hard dental tissue between the tooth and the alveolar process as well as parts of the tooth and alveolar process. The periodontium serves to support the tooth in its ongoing relationship to the alveolar process. Thus, the periodontium includes the cementum, alveolar process, and periodontal ligament (PDL), as well as each of the individual components of each type of tissue. Some clinicians may include various types of gingival tissue in the category of the periodontium, but it has only a minor role in the support of the tooth.

Answer the questions correctly.

More information is written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on July 31 at 10:30pm.
This is an INDIVIDUAL ASSIGNMENT.

TMJ Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Define and pronounce the key terms in this chapter.
2. Locate and identify the specific anatomic landmarks of the temporomandibular joint on a diagram, a skull, and a patient.
3. Describe the histology of each component of the temporomandibular joint and how it relates to its clinical features.
4. Outline the movements of the temporomandibular joint as well as demonstrating them on a skull, a dentition model, and a patient.
5. Discuss the clinical considerations for joint pathology and temporomandibular joint disorders, integrating it into patient care.

PURPOSE:

- The temporomandibular joint (TMJ) is a joint located on each side of the head that allows for movement of the mandible for mastication, speech, and respiratory movements; it is the most complex set of joints in the body. The TMJ can be palpated just anterior to each ear. Patients may have a disorder associated with the TMJ, which is discussed later in this chapter. Thus, dental professionals must understand the anatomy, histology, and movements of the TMJ before being able to understand any disorders associated with the joint.

Complete the table below with information about the TMJ.

More instructions are written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on August 7 at 10:30 pm.
This is an INDIVIDUAL ASSIGNMENT.

Occlusion Worksheet
(Individual Assignment)

LEARNING OBJECTIVES:

1. Define and pronounce the key terms in this chapter.
2. Discuss occlusion and centric occlusion and its relationship to functional movements and patterns of the mandible.
3. Discuss arch form and the phases of arch development.
4. Describe dental curvatures and angulations.
5. Discuss centric relation, lateral and protrusive occlusions, and the mandibular rest position and how to achieve each of them on a skull, a dentition model, and a patient.
6. Demonstrate the movements of the mandible related to occlusion.
7. Discuss primary occlusion and the clinical considerations concerning it, integrating it into patient care.
8. Identify the key concepts of occlusion on a diagram, a dentition model, and a patient.
9. Discuss malocclusion and outline Angle classification and how it relates to patientcare, including clinical considerations concerning parafunctional habits.

PURPOSE:

- The dental hygienist has several roles as a primary oral healthcare provider. One of the roles is being a clinician and utilizing ADPIE (assessment, diagnosis, planning, implementation, and evaluation), the process of care module, to develop an individualized, person-centered care plan. A key element in formulating a plan is identifying risk factors that might indicate, progress to or predict diseases. However, risk factors associated with an occlusal assessment are often overlooked, with the main reported restraint being time limitations.
- Malocclusion can negatively affect quality of life, self-esteem, and the health of the periodontium.
- Dental hygienists have the potential to make a significant impact on their clients' oral health by identifying malocclusion early and making referrals.
- Establishing an occlusal assessment during dental hygiene appointments reinforces comprehensive client care and provides greater opportunities for interprofessional collaboration.

Complete the table below with information about Occlusion.

More instructions are written on the actual worksheet that is attached to this assignment. Please read and understand carefully. The rubric can be found on the worksheet.

This assignment is due on August 7 at 10:30 pm.
This is an INDIVIDUAL ASSIGNMENT.

WORKSHEET RUBRIC

DHYG 1301 Worksheet Rubric				
SUBMITTED ON TIME	25 Submitted on or before the deadline.			
FOLLOWED INSTRUCTIONS	25 All submission instructions followed (formatting, file naming, required parts included).	20 Minor errors in formatting or naming, but overall instructions were mostly followed.	15 Several instructions not followed or missing components.	10 Instructions largely ignored or disorganized/missing major parts.
ACCURACY OF THE ANSWERS	25 All questions answered correctly and thoroughly.	20 Most answers correct, with only 1–2 small mistakes.	15 Multiple errors or incomplete responses; shows partial understanding.	10 Many incorrect answers; shows major misunderstandings or very little effort.
EFFORT AND COMPLETENESS	25 Work is neat, detailed, and clearly shows strong effort; all parts completed.	20 Good effort and mostly complete; minor areas could be improved.	15 Some effort shown, but work appears rushed or has several incomplete parts	10 Minimal effort, messy or very incomplete work.
TOTAL **/100**				

dentalcare.com Assignment
An Overview of Dental Anatomy Assignment

To access this assignment, you need to create an account and register.
The link below will take you to the website's main page. You will see "REGISTER" on the top right.

https://www.dentalcare.com/en-us

Once you logged in, scroll down and in the field that says "Enter Assignment Number", enter Assignment Number: **192409.** This will locate the dentalcare.com course that you will complete for this assignment. Once you have completed the course, you will again enter the assignment number when submitting your assignment test, in order to receive credit.

Assignment Number: 192409
Course Number: 500
Course Title: An Overview of Dental Anatomy

YOU WILL SUBMIT YOUR CERTIFICATE on Blackboard and the grade that you will make online is your grade for this assignment.

This assignment is due on August 7 at 10:30 PM.
This is an Individual Assignment.

Netiquette Guidelines

Netiquette is a set of rules for behaving properly online. Your instructor and fellow students wish to foster a safe online learning environment. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Working as a community of learners, we can build a polite and respectful course community.

- Do not dominate any discussion.
- Give other students the opportunity to join in the discussion.
- Do not use offensive language. Present ideas appropriately.
- Be cautious in using Internet language. For example, do not capitalize all letters since this suggests shouting.
- Popular emoticons such as 😊 or / can be helpful to convey your tone but do not overdo or overuse them.
- Avoid using vernacular and/or slang language. This could possibly lead to misinterpretation.
- Never make fun of someone's ability to read or write.
- Share tips with other students.
- Keep an "open-mind" and be willing to express even your minority opinion. Minority opinions have to be respected.
- Think and edit before you push the "Send" button.
- Do not hesitate to ask for feedback.
- Using humor is acceptable.

The following netiquette tips will enhance the learning experience for everyone in the course:

Adapted from:

Mintu-Wimsatt, A., Kernek, C., & Lozada, H. R. (2010). *Netiquette: Make it part of your syllabus*. Journal of Online Learning and Teaching, 6(1). Retrieved from http://jolt.merlot.org/vol6no1/mintu-wimsatt_0310.htm

Shea, V. (1994). Netiquette. Albion.com. Retrieved from: http://www.albion.com/netiquette/book/

STUDY GROUPS

Group 1	Group 2	Group 3	Group 4	Group 5

***The study group list is posted on Blackboard.**

DHYG 1301 GRADE COMPUTATION SHEET

Name_____

Exams (10 lecture, 2 lab)	= Avg. _____x .60	= _____
Comprehensive Final Exam	_____x .15	= _____
Quizzes (lecture and lab)	= Avg. _____x .10	= _____
Assignments (lecture and lab)	= Avg. _____x .10	= _____
Web Assignment (dentalcare.com)	_____x .05	= _____
TOTAL		= _____

Class Expectations

What is Expected of You (the student)

- As students, you are expected to treat each other and the instructor with courtesy and respect.
- Only individuals registered and enrolled in this course may access the course materials, lectures, group discussions, etc. in the online environment. Links to course materials, including video meetings, should not be shared with individuals who are not enrolled in the course unless otherwise approved by the instructor.
- Offensive or inappropriate language or images should not be used in any form of communication e.g., emails, discussion postings, group projects, and submitted assignments. This includes background images and settings in Blackboard Collaborate and other video platforms.
- The discussion area of the course is reserved for postings related to course work only. Postings of a personal or non-academic nature are not permitted and may be removed by the instructor should they appear.
- Grades and personal issues should be handled by private email or chat to the instructor.
- Emails or chats to the instructor that are considered offensive or inappropriate will be sent back to the student with a request to rewrite and resubmit.
- If students receive inappropriate emails or chats from others in the class, they should notify the instructor immediately.
- Read your syllabus. Your instructor will detail what is acceptable and not acceptable for classwork, homework, papers, and exams.
- Contact your instructor. It is important to engage in self-advocacy. If you have questions about what is expected or allowed for work, ask your instructor.
- Plan ahead. Leave yourself plenty of time to study for exams and assignments.
- Always do your own work. Unauthorized collaboration on assignments or exams could constitute academic dishonesty. If you are unsure about what collaboration is allowed, ask your professor.
- Follow testing instructions. Ensure you are following the requirements from your instructor about completing exams.

What is Expected of Me (your instructor)

- To be prepared and have current knowledge of the subject matter.
- To reply to e-mails within 24 hours on weekdays and 48 hours on weekends.
- To grade and return assignments within 48 - 72 hours to ensure that you have ample time to review my feedback to help you achieve the course objectives.
- To be courteous, civil, fair, respectful in my interactions with students.
- To give adequate notification of assignments, examinations, changes in syllabus.
- To establish an open learning environment, where questions, comments, and interaction are encouraged.

Good luck, Class of 2028.