



SCHOOL OF DENTAL HYGIENE

COURSE NUMBER & TITLE: DH 401 – Local Anesthesia & Nitrous Oxide Oxygen Sedation for the Dental Hygienist

CURRICULUM LEVEL: Undergraduate Senior Level

COURSE CREDIT HOURS: Three (3) hours

CLASS LOCATION: ODU main campus, Health Sciences Bldg, Room 1500

CLASS DAY & TIME: Mondays, 8:00am to 9:00am (EST)

COURSE DESCRIPTION & PURPOSE: This course is designed to provide dental hygiene students with the knowledge and skills necessary to safely and effectively administer local anesthesia and nitrous oxide oxy sedation. Emphasizing patient assessment, pharmacology, anatomy, pain management techniques, and emergency procedures, the course combines classroom instruction with hands-on clinical practice. Upon successful completion, students will be prepared to meet state certification requirements and integrate these modalities into comprehensive patient care, enhancing comfort, safety, and overall treatment outcomes.

PREREQUISITES:

Courses: DH 120 and DH 315

Knowledge: A firm understanding of oral dental anatomy and pharmacology are expected to be successful in this course.

INSTRUCTOR: Tiffany Conry RDH, BSDH

Office Location: ODU Main Campus, Health Sciences Building, Room 135

Office Hours: Tuesdays from 1:00pm to 4:00pm (EST)

Office Phone: (615)555-5555

Email Address: tcon001@odu.edu

INSTRUCTOR EMAIL POLICY: Please contact me using only the Canvas course messaging system. I will try to respond within 2 hours, unless I am in class or clinic. Please be patient with responses during weekends and holidays; they will be addressed on the next business day.

METHODS OF DELIVERY: This is an on-campus face-to-face course that will utilize various methods of content delivery, including: lectures, class participation, individual and group work, written assignments, reading assignments, videos, and handouts utilized as needed. The Canvas learning management system provided to you by ODU is where course content will be housed.

REQUIRED TEXTBOOK:

The following required textbook is available for purchase or rent at the ODU university bookstore: Malamed, S. F. (2020). *Handbook of Local Anesthesia* (7th ed.). Elsevier. ISBN 978-0-3235-8208-7

SUPPLEMENTAL READINGS: If additional supplemental articles are provided, students are expected to complete the reading. They can be found within the modules, as well as the files section of Canvas.

RECOMMENDED TEXTS: APA referencing style is required for some coursework. It is recommended that you obtain the book:

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, D.C. ISBN 978143380561

METHODS OF EVALUATION: Throughout the semester, students will be assessed for comprehension, understanding, and achievement of course goals and objectives by a variety of methods including weekly quizzes, group and individual projects and assignments, homework, oral presentation, discussions, a midterm exam, and a final exam. A list of graded requirements is below:

List of Graded Assessments:	
	The following is a list of graded assessments. Due dates can be found in the schedule and will be discussed in class.
1.	Homework Assignments – Homework assignments will be required most weeks, with a few exceptions. Please watch due dates.
2.	Research Paper – Research information on and write a 5-page paper arguing a local anesthesia block versus a field infiltration technique. You will be assigned which you are pro and which one you are opposing.
3.	Oral Presentation - Groups will be created based on their research paper topics. Each group will collaborate and discuss their findings to prepare for a debate where they will present their side and defend it against the opposing view point (s).
4.	Weekly Quizzes - Each will be multiple-choice
5.	Midterm Examination – Includes all materials from weeks 1-8
6.	Discussions – Weekly discussion will be posted to reinforce the weeks covered topics. Thoughtful peer replies may be required.

7.	Final Examination – Includes all material from weeks 1-15 (comprehensive)
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TESTING PROTOCOL: Tests will cover lecture materials, assigned readings, PowerPoints, and handouts. The final exam will be comprehensive. Tests and exams will be administered using Respondus Lockdown Browser and recorded by Zoom proctoring (cell phone with a camera) to ensure testing integrity. Download of the Respondus Lockdown Browser is required. Please do so in advance of your first exam to ensure you have no issues, or to allow time for troubleshooting.

- **Hardware Requirements:** Desktop computer or fully charged laptop, a webcam, a microphone (built-in or external), and a fully charged smartphone (iPhone or Android) with camera. NOTE: tablets and Chromebooks are not compatible with some Blackboard testing options. You will also need a reliable internet connection (preferably a wired connection).
- **Software Requirements:** Chrome, Firefox, Edge, or Safari. You will also need to download the Zoom application for Windows or Mac. Make sure to update your Zoom application.
How to take tests: **1)** Put your smartphone in airplane mode. **2)** On the day of a test and during our regularly scheduled class period, log into Canvas with your smart phone and click on the zoom session link for that day. **3)** Enable your camera and adjust it so that I can see you. **4)** Use your desktop/laptop computer to log into Canvas and access the “Tests & Exam” tab. **5)** Within that tab, you will open the appropriate test/exam once I verbally announce that it is time to begin.

Tests are not released. For questions regarding tests, please make a Zoom appointment.

Tests may only be reviewed until the next test date. Grades will not be changed for student errors on tests. Below are links for the Zoom app for iPhone and Android and these applications work in the same manner as your computer. There is also a link to test your audio and video on your phone. There will be a practice session to check devices and also talk about how we will use Zoom for tests and exams.

<https://apps.apple.com/us/app/zoom-cloud-meetings/id546505307>

https://play.google.com/store/apps/details?id=us.zoom.videomeetings&hl=en_US

<https://zoom.us/test>

GRADING CRITERIA:

ASSIGNMENT WEIGHTS:

Assignment	Undergraduate DNTH 400
Discussions	10%
Homework	10%
Project & Presentation (group activity)	12%
Quizzes	15%
Library Resource Paper	12%
Midterm	20%
Final Examination	21%
Total Grade	100%

GRADING SCALE:

93 - 100	A
85 - 92	B
77 - 84	C
70 - 76	D
69 and below	F

ATTENDANCE POLICY: Attendance and timeliness are expected in the dental hygiene program. If a situation arises, send an email to notify me of the situation in advance. Doctor's notes will be needed for excused absences. Please refer to your student handbook regarding attendance.

MISSED TESTS & EXAMS: Program policy states that, in the event of an absence, you may make up a missed quiz, test, midterm, or final exam with an excused doctor's note. If class is missed due to tardy, oversleeping, vacations, etc., this is considered unexcused and may not be made up. The student will receive a "zero" grade for that missed item. Any make-up needed due to illnesses or pre-arranged situations will be at the instructor's discretion.

SUBMITTING ASSIGNMENTS: Assignments are due at 11:59pm on the date specified in the assignment description. Assignments must be submitted as a digital file in Canvas, as one of the following file format options: .doc, .docx, .pdf, .jpeg. Any other file formats will not be accepted a given a "zero" grade. Students should include their name, date, course number, and assignment title in each submission. If an error is encountered with submitting assignments, students should contact IT Support at (877)348-6503 or the ODU Online Help Desk: <http://www.odu.edu/its> .

LATE ASSIGNMENTS: Dental Hygiene Program Policy states that late assignments are accepted, however there will be a loss of -5 points per day that it is late. Incomplete assignments will not be accepted.

STUDENT EXPECTATIONS: I will work with each student to the best of my abilities to provide them with a path for success. Students are expected to strive for their individual success in the following ways:

- **Professionalism:** Attend classes on the required days, arrive on time, and be prepared having completed necessary written assignments and reading assignments.
- **Active Participation:** actively engage in classroom activities and discussions.
- **Critical Thinking:** Continually strive to use critical thinking skills to solve problems and understand new concepts.
- **Social Interaction:** Participate in positive social interactions, being respectful and kind to peers and instructors.

- **Positive Communication:** Keep the instructor informed of any issues or hardships that may interfere with student responsibilities so that proactive solutions may be reached.

COMPUTER AND CELL PHONE USE IN CLASS: Computers and cell phones should only be used for class related activities during class times. Texting and social media activities are not permitted during class time unless previously approved. All ringers and notifications must be placed on silent as to not cause any disruptions. Failure to comply with these guidelines may result in a loss of professionalism points.

GENERAL COMPUTER AND TECHNICAL REQUIREMENTS: A computer, laptop, or tablet device with internet access, activated ODU email and MIDAS ID accounts are required. Zoom, Canvas, and Respondus Lockdown Browser must be accessible on any devices being used.

IMPORTANT ADDITIONAL UNIVERSITY & SCHOOL OF DENTAL HYGIENE STATEMENTS:

STATEMENT OF STUDENT RESPONSIBILITIES AND ACCOUNTABILITIES:

The school of dental hygiene supports Old Dominion University in its commitment to the **holistic development of its students, fostering an environment that is safe, secure, and inclusive**. This commitment encourages student accountability, academic integrity, student engagement, and success. The University expects students and student organizations/groups to uphold and follow the behavioral standards of the Code of Student Conduct ("the Code"). These behavioral expectations are embodied within core values, including personal and academic integrity, fairness, **respect**, community, and responsibility. The student accountability process exists to protect University interests and educate and respond to students and student organizations/groups whose behavior does not align with those expectations.

Attendance: Due to the unique responsibilities and accountabilities associated with becoming a competent professional healthcare provider, the progressive nature of the curriculum, the legal issues associated with providing patient/client care, the provision of quality health services and future employability, attendance and class participation are required. Should an absence be necessary, the student must email the course director immediately as well as department Chair, Ann Bruhn, abruhn@odu.edu and Director of Clinical Affairs, Lauren Eusner, leusner@odu.edu

- A note on official stationery from a physician or other appropriate healthcare provider that saw you or treated you on the day(s) you were absent must be submitted to your course director(s), the department Chair, and Director of Clinical Affairs the day you return verifying the need to be excused from class, lab and/or clinic, and date(s) for the required absence. Notes will not be accepted after final grades have been submitted.
- In the case of medical-related illness when the student feels well enough to attend virtually, a concurrent Zoom option may be considered by the course director with

advance notice of 24 hours. In the event the student is unable to give advance notice for a medical-related illness, Zoom may not be available. Zoom is not available for other circumstances without advance notice and approval from the Course Director.

- Students who are absent and fail to provide an acceptable excuse (see criteria above) on the day of their return, may be asked to meet with the course director, meet with the SODH Chair and Entry-level Program Director, and/or may be referred to ODU Cares for a follow up.
- Each unexcused absence will result in a grade penalty of one percentage point reduction from the final grade in the course(s) missed.
- Make up for clinic and lab time missed, and academic exercises (assignments, quizzes, tests, exams, practicals, etc.) will not be given for unexcused absences.
- Late arrivals to class are considered unexcused absences.
- Students who miss a regularly scheduled test are to follow the steps below:
 1. For an unexcused absence, a grade of zero (0) will be recorded for the quizzes, tests, exams, practicals, and for attendance.
 2. For an excused absence, make-up quizzes, tests, exams, and practicals must be taken within two days of returning from a documented excused absence. Failure to do so will result in a zero (0) for that quiz, test, exam or practical. Make-up test format will be decided by the course director. Possible formats will include but are not limited to:
 - a. oral exam
 - b. essay
 - c. short answer
 - d. listing
 - e. demonstration/performance
 - f. combination of these

Meeting Established Deadlines: All course related academic exercises are to be submitted as directed by the course director on the established due dates. Academic exercises submitted after the established deadlines will be penalized by the grade. Students are encouraged to keep a duplicate copy of all submitted academic exercises.

Honor Code: By attending Old Dominion University, you have signed a pledge accepting the responsibility to abide by the following Honor Code: "We the students of Old Dominion University, aspire to be honest and forthright in our academic endeavors. Therefore, we will practice honesty and integrity and be guided by the tenets of the Monarch Creed. We will meet the challenge to be beyond reproach in our actions and our words. We will conduct ourselves in a manner that commands the dignity and respect that we also give to others." This is an institutional policy approved by the Board of Visitors. The University Honor Code applies to all academic exercises by students.

Academic Misbehavior:

A. Academic Sabotage: An intentional effort to corrupt or negatively impact another student's academic work.

B. Cheating: Copying, collaborating, or completing an academic exercise with or for other students or parties without permission from the class-assigned faculty member; paying

someone to complete assignments; using any unauthorized materials to assist on assignments; misusing study aids such as Chegg, Quizlet, Course Hero, etc., to complete or pass class assignments; using test banks or copying answers from another source or student. This also includes unauthorized use of artificial intelligence sites including, but not limited to, ChatGPT, Dall-E, Alpha Code, Tensor Flow, Scribe, etc., and any act or behavior that gives the student an unfair advantage.

C. **Fabrication:** Inventing, altering, falsifying, creating data, citation, or information in an academic exercise or for any improper purpose. Knowingly presenting false or falsified official documentation such as transcripts, doctor's notes, supervisor evaluations, application materials, etc.

D. **Facilitation:** Helping another person participate in any act of academic misbehavior (including, but not limited to, sharing course materials without permission).

E. **Misrepresentation:** Misleading an instructor as to the condition under which the work was prepared, including, but not limited to, undisclosed Artificial Intelligence (AI) use, substituting for another student, or permitting another person to substitute for oneself on any academic work.

F. **Plagiarism:** According to the ODU Code of Student Conduct, plagiarism is “Intentional or unintentional use of someone else's scholarly or academic work, language, ideas, or other material as your own without proper citation in an academic exercise (whether reproduced or presented verbatim or in paraphrased or summary form); recycling a previous assignment as a new assignment without appropriate citation or notification and approval from faculty members”. Therefore, all academic exercises submitted are expected to be the result of each student’s own thought, research, and self-expression. A student will have committed plagiarism if he or she reproduces someone else’s work without acknowledging its source; or if a source is cited which the student has not cited or used. Examples of plagiarism include but are not limited to: submitting a research paper obtained from a commercial research service, the Internet, or from another student as if it were original work; making simple changes to borrowed materials while leaving the organization, content, or phraseology intact; or copying material from a source, supplying proper documentation, but leaving out quotation marks. Plagiarism also occurs in a group project if one or more of the members of the group does none of the group’s work and participates in none of the group’s activities but attempts to take credit for the work of the group.

All allegations of academic misbehavior in the SODH are investigated and follow the Academic Integrity Resolution Options form found here:

<https://www.odu.edu/sites/default/files/documents/acad-integrity-report-form-19-20.pdf>.

Findings/outcomes are protected by Federal Privacy law and are unable to be disclosed.

For more information, visit the Office of Student Accountability & Academic Integrity (OSAAI) webpage <https://www.odu.edu/student-conduct-academic-integrity>

Test Protocol: Tests may be comprehensive, beginning with the first lecture session. During any test, exam, or quiz administered in this course, the student must adhere to the following instructions:

- The student must abide by the ODU Honor Code and Student Handbook.
- Students are not permitted to access their personal belongings during testing. The testing area must be completely cleared except for approved items.
- NO hoods or hats are permitted.
- NO notes, books, lecture materials, powerpoints, assignments, etc. may be referenced or used during the exam/quiz.
- NO other electronics are allowed to be turned on or used during the exam, except for use of a laptop to take test.
- Students are not allowed to talk during testing or following testing until all students have completed and submitted the quiz/test/exam.
- Students are not permitted to ask the course director or GTA any questions regarding the content during the quiz/test/exam.
- Getting up during testing is not allowed. The student must finish the exam in one sitting.
- Students are required to use a privacy screen on laptops for entire duration of test, quiz, or exam.
- This course will implement testing using Canvas Respondus Lockdown browser. In the event testing becomes virtual, recorded zoom proctoring will be used to ensure testing integrity. Therefore, students will be required to have a microphone, camera, and the Respondus LockDown browser in order to complete quizzes, tests, and exams. This will require you to have Zoom on another device (i.e smart phone) with camera and microphone turned on and the Canvas webpage and examination on a computer/laptop

Artificial Intelligence (AI) Software Use: The use of AI software to create your assignments is prohibited. Turnitin, the web-based plagiarism detection tool integrated with Canvas and supported by ODU incorporates an AI Writing detection feature, that allows identification of instances where students may have used AI writing tools. According to the ODU Code of Student Conduct, undisclosed use of AI is a form of cheating and misrepresentation.

Code of Student Conduct: All students are **expected to abide by the Code of Student Conduct** as found in the Old Dominion University Student Handbook and University Catalog. The School of Dental Hygiene **provides persons treated in the Dental Hygiene Care Facility with safe, ethical, and evidence-based oral healthcare. Endangering health and welfare by use of unsafe and unethical practices and/or not following standard dental hygiene treatment protocols is grounds for the removal of students from the dental hygiene program.** According to the Code of Student Conduct, academic exercises can include but are not limited to items submitted for drafts, extra credit, grading, continuance, graduation, honors, awards, scholarships, or recognition at the university as well as materials submitted to other institutions, associations, or organizations for evaluation (e.g., awards, scholarships, or publication). Academic

exercises include all forms of work: oral, written, electronic, or otherwise submitted by students and may be used anonymously for necessary review without notification.

Student Class Expectations on Conduct: Appropriate conduct by students is an absolute requirement in the college and includes distance education courses. The university operates with a **policy of zero tolerance for any disruptive behavior**. The term 'disruptive behavior' means any behavior that **substantially interferes with the conduct of a class**. Disruptive behavior may include but is not limited to:

- Persistent late arrivals or leaving early in a manner that disrupts the regular flow of the class.
- Talking while the course director is talking.
- Speaking in class without first obtaining recognition and permission to speak.
- Use of any electronic equipment such as cell phones, computers, digital tablets, digital audio players, earphones, etc. in a manner that disrupts the class.
- **A student who becomes belligerent or verbally abusive when confronted as a result of his/her inappropriate behavior.**

Students do not have the right to engage in behavior that is disruptive in the classroom. The **faculty has the authority to maintain appropriate classroom behavior** in all courses offered by Old Dominion University, whether in traditional or distance/virtual modes. **Faculty have the right to immediately confront any student causing disruptive behavior, and request cessation of the behavior.** A **follow-up conversation with the student(s) is recommended to reinforce the faculty member's expectations** for appropriate conduct in the classroom. **In situations in which students are cooperative with the faculty member's request to cease disruptive behavior, the faculty member need only report the incident to the department chair.** **Should any student choose not to respond to a request to cease disruptive behavior, the faculty member should ask the student to leave the classroom to prevent further disruption to the class.** **A disruptive student should be reported to the Office of Student Accountability and Academic Integrity for disciplinary action under the Student Disciplinary Policies and Procedures.**

Students engaged in classroom disruption will normally be charged with:

1. **Failure to comply with the directions of university officials, their authorized agents, and local police agencies acting in the performance of their duties; and/or**
2. **Obstruction or disruption of university activities.**

Accommodations: Students are encouraged to self-disclose disabilities that have been verified by the Office of Educational Accessibility (OEA) by providing Accommodation Letters to their course directors early in the semester to start receiving accommodations. Accommodations will not be made until the Accommodation Letters are provided to course directors each semester. You may visit the OEA's website at:

<https://www.odu.edu/accessibility> to schedule an appointment or register for services.

ODU's Office of Counseling Services:

ODU's Office of Counseling Services (OCS) is a university agency with competent, diverse, and multidisciplinary professional staff. We are committed to supporting the emotional well-being, social development, and academic progress of all students at Old Dominion University.

OCS services are available to assist with addressing mental health concerns that a student may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via our website at: <http://www.odu.edu/counselingservices>. All services are free to ODU students.

School of Dental Hygiene Policy on Professionalism in the Use of Social Media:

The Internet has created the ability for dental hygiene students and oral health professionals (dental hygienists and dentists) to communicate and share information quickly to reach millions of people easily. Participating in social networking and other similar Internet opportunities can support students' and dental hygienists' personal expression, enable individuals to have a professional presence online, foster collegiality and camaraderie within the profession, provide opportunity to disseminate public health and other health messages. Social networks, blogs, and other forms of communication online also create new challenges to the patient-oral health provider relationship. Oral health professionals and students must weigh a number of considerations when maintaining a presence online.

- (a) Standards of patient and colleague privacy and confidentiality must be maintained in all environments, including online, and oral health professionals and students must refrain from posting identifiable person information online.
- (b) When using the Internet for social networking, oral health professionals and students must use privacy settings to safeguard personal information and content to the extent possible, but realize that privacy settings are not absolute and that once on the Internet, content is likely there permanently. Thus, oral health professionals and students should routinely monitor their own Internet presence to ensure that the personal and professional information on their own sites and, to the extent possible, content posted about them by others, is accurate and appropriate.
- (c) If interacting with patients on the Internet, oral health professionals and students must maintain appropriate boundaries of the patient-oral health provider relationship in accordance with professional ethical guidelines just as they would in any other context.
- (d) To maintain appropriate professional boundaries oral health professionals and students should consider separating personal and professional content online.
- (e) When oral health professionals or students see content posted by colleagues that appear unprofessional or a violation of the Code of Ethics of the American Dental Hygienists' Association, they have a responsibility to bring that content to the attention of the individual, so that he or she can remove it and/or take other appropriate actions. If the behavior significantly violates professional norms and the individual does not take appropriate action to resolve the situation, the dental hygienist and or students

should report the matter to appropriate authorities, e.g., the State Board of Dentistry, the University Honor Council.

- (f) Oral health professionals and students must recognize that actions online and content posted may negatively affect their reputations among patients, colleagues, employers and potential employers and may have consequences for their careers now and in the future, and can undermine public trust in the dental hygiene profession.

Adapted heavily from the AMA Policy: Professionalism in the Use of Social Media Approved - May 17, 2012.

Course Disclaimer: Every attempt is made to provide a syllabus that is complete and that provides an accurate overview of the course. However, circumstances and events may make it necessary for the instructor to modify the syllabus during the semester. This may depend, in part, on the progress, needs, and experiences of the students.

GENERAL COURSE OBJECTIVES:

At the completion of this course, the student should be able to:

1. Describe the basic functions of the nervous system in local anesthesia.
2. Discuss the use of local anesthetic in dentistry.
3. Discuss the use of vasoconstrictors in dentistry.
4. Interpret the clinical actions of specific agents.
5. List the parts of a syringe.
6. Identify the parts of a needle.
7. Recall the components of a cartridge.
8. Summarize the additional armamentarium components.
9. Reflect on the importance of the preparation of the armamentarium.
10. Suggest an effective patient physical and psychological evaluation prior to local anesthesia administration in dentistry.
11. Follow guidelines for basic injection techniques.
12. Describe anatomic considerations.
13. State the techniques of maxillary anesthesia.
14. State the techniques of mandibular anesthesia.
15. Analyze supplemental injection techniques.
16. Identify anesthetic considerations in dental specialties.
17. Discuss local complications.
18. Describe systemic complications.
19. State problems in achieving pain control.
20. Explain recent advances in local anesthesia.
21. Examine future trends in pain control.
22. Identify frequently asked questions in pain control.
23. Evaluate legal considerations regarding pain management.

SPECIFIC OBJECTIVES BY CHAPTER & TOPIC:

Upon completion of each instructional unit, the student should be able to:

1. Chapter 1; Neurophysiology:
 - a. Describe the process of nerve impulse generation and transmission in relation to local anesthesia.
 - b. Analyze the mechanism of action of local anesthetics in inhibiting nerve conduction and preventing pain signals from reaching the brain.
 - c. Discuss the structure and classification of neurons and differentiate between afferent and efferent nerves.
 - d. Explain the basic structures and functions of a sensory neuron.
 - e. Share the mode of action of local anesthetic agents on nerves.
2. Chapter 2; Pharmacology of Local Anesthetics:
 - a. Explain the desirable properties of local anesthetics.
 - b. Evaluate the importance of onset time and duration of action in local anesthetics

for clinical practice

- c. State the mechanism of action of local anesthetics
- d. Analyze the factors influencing local anesthetic activity.
- e. Recommend ways to increase local anesthetic efficiency in the presence of inflammation.

3. Chapter 3; Pharmacology of Vasoconstrictors:

- a. Name the two vasoconstrictors that are added to local anesthetics that are available in the United States.
- b. Discuss the use of vasoconstrictors in dentistry.
- c. Explain the problems associated with the vasodilatory properties of local anesthetics.
- d. Examine the pharmacological properties of common vasoconstrictors.
- e. Suggest ways to avoid potential adverse effects associated with vasoconstrictors.

4. Chapter 4; Clinical Action of Specific Agents:

- a. List the composition elements of local anesthetic agents.
- b. Define amide local anesthetic agents.
- c. Explain ester local anesthetic agents.
- d. Describe the factors that determine duration of action in local anesthetic agents.
- e. Recommend specific considerations for using local anesthetic agents in special patient populations.

5. Chapter 5; The Syringe:

- a. Define the parts of a dental syringe.
- b. Compare and contrast the different types of local anesthetic syringes.
- c. Discuss maintenance of reusable syringes.
- d. Analyze the criteria for an acceptable local anesthetic syringe.
- e. Support the use of a manual aspirating syringe versus a self-aspirating syringe in dentistry.

6. Chapter 6; The Needle:

- a. Name the parts of a dental needle.
- b. Discuss the proper handling of dental needles.
- c. Explain the proper disposal of dental needles.
- d. Identify problems related to the dental needle that can occur.
- e. Advocate for or against the use of safety needles in dentistry.

7. Chapter 7; The Cartridge:

- a. Name the components of a dental anesthetic cartridge.
- b. List the contents of a dental anesthetic cartridge.
- c. Explain the color coding of dental local anesthetic cartridges.
- d. State the information found on the label of a dental cartridge.

- e. Share problems related to the dental cartridge that can occur.
8. Chapter 8; Additional Armamentarium:
 - a. Name the additional items that are part of the local anesthetic armamentarium.
 - b. Explain the purpose of topical antiseptics.
 - c. Describe the purpose of topical anesthetic.
 - d. Define the use of hemostats during local anesthetic delivery.
 - e. Offer various ways to ensure safe recapping of dental needles.
 9. Chapter 9; Preparation of the Armamentarium:
 - a. List the steps for preparing a tray for local anesthetic delivery.
 - b. Explain the steps in loading an anesthetic syringe.
 - c. State how to reload an anesthetic syringe.
 - d. Describe how to safely disassemble an anesthetic syringe.
 - e. Share the possible negative outcomes of using damaged local anesthetic cartridges.
 10. Chapter 10; Physical and Psychological Evaluation:
 - a. Explain the purpose of performing a physical and psychological evaluation prior to the administration of local anesthesia.
 - b. Determine a patient's ability to tolerate the stress of planned treatment.
 - c. Analyze what type of pain management will be indicated.
 - d. Deduce whether contraindications exist prior to treatment.
 - e. Propose a solution for a patient who may not be able to psychologically handle local anesthesia.
 11. Chapter 11; Basic Injection Technique:
 - a. List the steps for basic injections.
 - b. Explain when the dental needle should be changed.
 - c. Discuss how to communicate with a patient during local anesthetic delivery.
 - d. Justify why the use of a firm hand is needed.
 - e. Recommend pertinent information to include in the patient's dental chart following local anesthesia.
 12. Chapter 12; Anatomic Considerations:
 - a. Identify the skull bones that are relevant to the administration of local anesthesia.
 - b. Describe landmarks of maxillary injections.
 - c. Explain landmarks of mandibular injections.
 - d. Name the branches of the trigeminal nerve relevant to the administration of local anesthesia.
 - e. Share the routes of local anesthesia from the nerve trunks to the terminal nerve endings.

13. Chapter 13; Techniques of Maxillary Anesthesia:
 - a. Discuss the clinical effectiveness of maxillary nerve block.
 - b. Explain the importance of understanding the anatomy of the maxillary nerve and its branches when it comes to the utilization of local anesthesia within the maxillary arch.
 - c. Identify the target location for the maxillary injections.
 - d. Determine possible complications.
 - e. Recommend alternatives to maxillary nerve blocks.

14. Chapter 14; Techniques of Mandibular Anesthesia:
 - a. Discuss the clinical effectiveness of mandibular nerve blocks.
 - b. Explain the importance of understanding the anatomy of the mandibular nerve and its branches when it comes to the utilization of local anesthesia within the mandibular arch.
 - c. Identify the target location for the mandibular injections.
 - d. Determine possible complications.
 - e. Recommend alternatives to mandibular nerve blocks.

15. Chapter 15; Supplemental Injection Techniques'
 - a. Evaluate the indications and contraindications for supplemental injection techniques.
 - b. Compare and contrast the various supplemental injection techniques.
 - c. Analyze the mechanism of action, onset time, and duration of anesthesia for the periodontal ligament injection technique.
 - d. Examine the technique, advantages, and potential complications of intrapulpal injections.
 - e. Recommend supplemental injection techniques in place of standard maxillary and mandibular blocks.

16. Chapter 16; Anesthetic Considerations in Dental Specialties:
 - a. Define the use of local anesthesia in endodontics.
 - b. Explain the special considerations of using local anesthesia in pediatric dentistry.
 - c. State the use of local anesthesia in periodontics.
 - d. Describe the scope of practice for dental hygienists to administer local anesthesia.
 - e. Recommend uses for local anesthesia in postsurgical pain control.

17. Chapter 17; Local Complications:
 - a. Discuss how to avoid needle breakage.
 - b. Explain how paresthesia occurs.
 - c. Identify the most common locations for hematomas to occur.
 - d. Evaluate the best ways to avoid soft tissue trauma.
 - e. Share techniques to avoid burning on injection.

18. Chapter 18; Systemic Complications:
 - a. Define signs and symptoms of local anesthetic overdose.
 - b. Describe effects of local anesthetic allergies.
 - c. Explain dental management in the presence of alleged local anesthetic allergy.
 - d. State the time and onset of possible symptoms.
 - e. Indicate a commitment to establishing safe administration of local anesthetic.

19. Chapter 19; Problems in Achieving Pain Control:
 - a. List the problems in achieving pain control in the maxillary arch.
 - b. Name the problems in achieving pain control in the mandibular arch.
 - c. Describe the problems in achieving pain control in the palate.
 - d. Explain management of pulpally involved teeth.
 - e. Suggest ways to avoid exceeding maximum recommended doses in patient having trouble achieving pain control.

20. Chapter 20; Recent Advances in Local Anesthesia:
 - a. Explain computer controlled local anesthesia delivery.
 - b. Discuss the positive attributes of Articaine Hydrochloride.
 - c. Analyze the effectiveness of buffering local anesthetics.
 - d. Describe the use of nasal mist anesthesia.
 - e. Suggest ways to have Phentolamine Mesylate utilize more widely.

21. Chapter 21; Future Trends in Pain Control:
 - a. Describe long-acting local anesthetic agents.
 - b. Explain light activated local anesthetic agents.
 - c. Analyze light inactivated local anesthetic agents.
 - d. Identify new trends dental pain management.
 - e. Recommend use for ultra-long acting local anesthetics.

22. Chapter 22; Frequently Asked Questions:
 - a. Defend why intravascular administration of local anesthetics is dangerous.
 - b. Explain why the rate of injection matters.
 - c. List any contraindications for local anesthesia.
 - d. State what type of syringe is recommended for safety.
 - e. Suggest a routine that ensures dental professionals identify possible contraindications with their patients.

23. Chapter 23; Legal Considerations:
 - a. Explain contract law.
 - b. Analyze criminal law.
 - c. Describe tort law.
 - d. Discuss the importance of the Health Insurance Portability and Accountability Act of 1996.
 - e. Share legal considerations relating to local anesthesia administration.

SYLLABUS COURSE SCHEDULE:

This schedule is based on the Spring semester of 2026 for a 16-weeks long course. **The schedule is subject to change due to unforeseen events.**

SEMESTER WEEK NUMBER:	DAY/DATES/TIMES OF THE WEEK:	CHAPTERS, TOPICS:	MODULE ACTIVITIES Due by Sunday 11:59pm
WEEK 1	Mon., 1-19-26 8am – 9am	Martin Luther King, Jr. Day No assignments; No class	Martin Luther King, Jr. Day No assignments; No class
WEEK 2	Mon., 1-26-26 8am – 9am	Class introduction Discuss syllabus Chapters 1, 10, 12 in Malamed Textbook Teacher Lecture	READ: Chapters 1, 10, 12 DUE: Introduction Discussion DUE: Homework #1 - Nerves
WEEK 3	Mon., 2-2-26 8am – 9am	Chapter 5-9 Malamed Textbook Teacher Lecture	READ: Chapters 5-9 QUIZ: Chapters 1, 10, 12 Discussion: Armamentarium
WEEK 4	Mon., 2-9-26 8am – 9am	Chapters 2-4 Malamed Textbook Teacher Lecture	READ: Chapters 2, 3, 4 DUE: Homework #2 - Guide for Outstanding Dental Injections QUIZ: Chapters 5-9
WEEK 5	Mon., 2-16-26 8am – 9am	Oral Presentations	DUE: Project & Presentation: Dental Nerves PowerPoint & Model Head
WEEK 6	Mon., 2-23-26 8am – 9am	Chapters 11 & 15 Malamed textbook Teacher Lecture	READ: Chapters 11 & 15 Discussion - Anesthetic & Vasoconstrictor Considerations DUE: Homework #3 - Medical Considerations for Safe Anesthesia Administration
WEEK 7	Mon., 3-2-26 8am – 9am	Chapter 13 Malamed Textbook Teacher Lecture	READ: Chapter 13 QUIZ: Chapters 11 & 15 Discussion: Maxillary Anesthesia DUE: Midterm Review
WEEK 8	Mon., 3-8-26 8am – 9am	MIDTERM	
WEEK 9	Mon., 3-16-26	SPRING BREAK	SPRING BREAK No assignments; No class

		No assignments; No class	
WEEK 10	Mon., 3-23-26 8am – 9am	Chapters 13, 14 Malamed Textbook Teacher Lecture	READ: Chapter 13, 14 Discussion – Mandibular Anesthesia DUE: Research Paper
WEEK 11	Mon., 3-30-26 8am – 9am	Chapters 16, 17 Malamed Textbook Teacher Lecture	READ: Chapters 16, 17 DUE: Homework #4 - Local Anesthesia as an Antimicrobial Ally QUIZ: Chapters 13, 14
WEEK 12	Mon., 4-6-26 8am – 9am	Chapter 18, 19 Malamed Textbook Teacher Lecture	READ: Chapters 18, 19 Discussion: Palata Anesthesia QUIZ: Chapters 16, 17
WEEK 13	Mon., 4-13-26 8am – 9am	Chapters 20, 21 Malamed Textbook Teacher Lecture	READ: Chapters 20, 21 Discussion – Future Trends in Anesthesia QUIZ: Chapters 18, 19
WEEK 14	Mon., 4-19-21 8am – 9am	Chapters 22, 23 Malamed Textbook Teacher Lecture	READ: Chapters QUIZ: Chapters 20, 21 Discussion – Legal Considerations for Dental Hygienists
WEEK 15	Mon., 4-26-21 8am – 9am	Review for Cumulative Final Exam	REVIEW: Chapters 1-23 DUE: Homework #5 – Study Guide
WEEK 16	Mon., 5-3-21 2pm – 4pm	FINAL EXAM	

SYLLABUS COURSE ACTIVITY SHEET:

WEEKS	Teacher Lecture	Discussions	Homework	Student Oral Presentation	Quiz/Test/Exam
1	MLK, Jr. Day				
2	X	X	Homework #1 – Nerves Worksheet		
3	X	X			
4	X		Homework #2- Guide for Outstanding Dental Injections		
5			Project & Presentation	Nerves PowerPoint & Model Head Presentations	
6	X	X	Homework #3 - Medical Considerations for Safe Anesthesia Administration		
7	X	X	-Research Paper		
8					MIDTERM
9	Spring Break				
10	X	X			
11	X		Homework #4 - Local Anesthesia as an Antimicrobial Ally		
12	X	X			
13	X	X			
14		X			
15			Homework #5 - Study Guide		
16					FINAL EXAM
TOTAL:	9	8	7	1	2