



SCHOOL OF DENTAL HYGIENE

COURSE NUMBER & TITLE: DNTH 405: Advanced Ultrasonic Instrumentation and Theory

CURRICULUM LEVEL: Undergraduate Senior Level

COURSE CREDIT HOURS: Three (3) hours

CLASS LOCATION: ODU main campus, Health Sciences Bldg, Room 300

CLASS DAY & TIME: Tuesdays 10:30am to 11:30am (EST)

COURSE DESCRIPTION & PURPOSE: Study of the techniques and theory involved in ultrasonic periodontal debridement therapy. The purpose of this course is to prepare dental hygiene students with cognitive knowledge and theory on practical ultrasonic instrumentation to be effective dental hygiene professionals. This course will provide dental hygiene professionals knowledge of the skills needed to use ultrasonics on implants, which instrument selection is needed for specific patients, and positioning and technique specific to ultrasonics.

PREREQUISITES: DNTH 304, DNTH 306, and DNTH 308.

INSTRUCTOR: Assistant Professor Diana Stoute, RDA, EDDA, RDH, BSDH
Office Location: ODU Main Campus, Health Sciences Building, Room 3306
Office Hours: Mondays from 1:00pm to 4:00pm (EST)
Office Phone: (757) 908-7407
Email Address: dstou005@odu.edu (emergencies only)

INSTRUCTOR EMAIL POLICY: Please contact me using only the Canvas course messaging system. Only use my faculty email for emergency situations. Messages will be checked daily and responded to as soon as possible. Please be patient with responses during weekends and holidays. **Email:** Canvas Course Messaging System (preferred); dstou005@odu.edu (emergencies only). I will periodically send out course messages to the class, and you are expected to regularly check for messages by using the “*Email/Messages*” tab in Canvas.

METHODS OF DELIVERY: This is an on-campus face-to-face course that will utilize lectures, class participation, audio-visual aids, individual and collaborative group work, written assignments, reading assignments, videos, Internet activities, and handouts will be 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.:

George, Marie D., Botbyl, Dani, Donley, Timothy G., Preshaw, Philip M. (2024). Ultrasonic periodontal debridement: theory and technique (2nd ed.). Wiley-Blackwell.: Hoboken. ISBN 978-1-119-83106-8

SUPPLEMENTAL READINGS: Additional readings that students are expected to complete will be provided in Canvas (other books, articles, websites, etc.) under the selected modules in the assigned readings tab.

RECOMMENDED TEXTS: Some assignments for this course require the use of APA style referencing. It is strongly recommended that you obtain the book: Publication Manual of the American Psychological Association (latest edition).:

American Psychological Association. (2019). Publication manual (Official) of the American Psychological Association (7th ed.). Washington, D.C. ISBN 9781433832161

METHODS OF EVALUATION: Throughout the semester, students will be assessed for achievement of course goals and objectives by a variety of methods including tests, group and individual projects and assignments, group/partner projects, homework, written work, tests, and a final exam. All assignments will be graded. Regardless, completion of all is expected. 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.	<u>Professional Paper</u> – Research information on and write a 5-page paper about how ultrasonic instrumentation may be utilized effectively in the clinic with patients daily.
2.	<u>Case Project & Presentation</u> - Develop an appropriate treatment plan involving ultrasonic and hand instrumentation for a periodontally involved complex patient case according to course criteria.
3.	<u>Homework Assignments</u> – Discussion questions based on ultrasonic instrumentation methods, design, patient assessment and techniques.
4.	<u>Group In-Class Assignments</u> -In-class teamwork based on ultrasonic instrumentation, methods, techniques and patient assessments and case studies.
5.	Three (3) tests -Each will be multiple-choice and in person
6.	Final Examination (comprehensive) – multiple-choice and in person

TESTING PROTOCOL: Tests may cover lecture materials, assigned readings, PowerPoints, and handouts. The final exam will be comprehensive. Tests and exams will be administered using Canvas Respondus Lockdown Browser.

- Hardware Requirements: Fully charged laptop, a webcam, a microphone (built-in or external). NOTE: tablets and Chromebooks are not compatible with some Canvas 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 Respondus Lockdown application for Windows or Mac. Make sure to update your Respondus Lockdown browser 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 computer and click on the Respondus Lockdown 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 Respondus Lockdown browser. There is also a link to test your audio and video on your computer. There will be a practice session to check devices and talk about how we will use Respondus Lockdown browser for tests and exams.

<https://www.odu.edu/technology-services/respondus/ldb>

GRADING CRITERIA:

ASSIGNMENT WEIGHTS:

Assignment	Undergraduate DNTH 405
Professional Paper (individual activity)	25%
Case Project & Presentation (individual activity)	20%
Homework Assignments	5%
In-Class Group/Partner Work	5%
Test #1	10%
Test #2	10%
Test #3	10%
Final Examination	15%
Total Grade	100%

GRADING SCALE:

95 - 100	A
92-94	A-
89-91	B+
86-88	B
83-85	B-
80-82	C+

77-79	C
74-76	C-
71-73	D+
68-70	D
0-67	F

ATTENDANCE POLICY: Attendance to in person classes is required as part of your class participation, and you will be required to attend a minimum of 85% of the in class meetings. If arriving to class more than 30 minutes late, your attendance will be marked absent for the day. If you have an emergency, please contact me on the Canvas messaging system as well as through the ODU email at dstou005@odu.edu. I will require official physician documentation for illness-related absences. After missing more than 85% of in-class meetings, your grade will be deducted by 1% point for each unexcused absence. An unexcused absence is one without official documentation from a physician or professor.

MISSED TESTS & EXAMS: If a student misses an exam with an excused absence, a re-take exam will be arranged with the student and professor. An excused absence is one with a physician's documentation involved. If there is an unexcused absence involved, a zero will be given. This policy is regulated by the School of Dental Hygiene at ODU.

SUBMITTING ASSIGNMENTS: Assignments will be submitted online on Canvas for ODU on Saturday evenings by 11:59pm the date they are due. The assignments will be submitted to the tab on Canvas labeled Assignments. Submissions will be submitted in Word document format. If technical problems are encountered upon submission, please email me at dstou005@odu.edu with the document and explain to me what has happened upon submission. You may also contact the IT help desk at (757) 683-3192 or itshelp@odu.edu. Your work should be labeled with the date of submission and your last name for each assignment: 020525Stoute.doc as an example.

LATE ASSIGNMENTS: Late assignments will have 5 points deducted per day if arrangements are not made with the professor ahead of time. Assignments that are submitted incomplete will not be accepted, and a grade of zero will be given.

STUDENT EXPECTATIONS:

- Students will behave in a professional manner whilst in class
- Students will respect both the instructor and other students in the class
- Students will perform in an ethical manner towards students and professors.
- Students will be responsible for his/her own work, and work will be done alone and not in groups.
- Students will utilize effective communication whilst in class and outside of class towards students and the instructor in this class.
- Students will be responsible for his/her success in this class.

COMPUTER AND CELL PHONE USE IN CLASS: Computers and tablets are allowed for note-taking only during class times. Volume must be muted during class time. Cell phones are allowed in your pockets or backpacks, but must be muted and not utilized during class times. You will be asked to leave class if your cell phone rings during class time or you are caught texting or playing games while in class. Your attendance will be marked as zero for the day if asked to leave because of a cell phone.

GENERAL COMPUTER AND TECHNICAL REQUIREMENTS: Computers are required for testing purposes only. It is the student's responsibility to have an updated computer that supports Canvas Respondus Lockdown Browser. You will need a computer with internet access, activated ODU email and MIDAS ID accounts. You will need Respondus Lockdown Browser downloaded on your computers.

**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 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.

College life can be a wonderful time of self-discovery, but for many, it is also a time when the awareness of mental health conditions increases. 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. Develop an appropriate treatment plan involving ultrasonic and hand instrumentation for a periodontally involved complex patient case according to course criteria.
2. Distinguish how ultrasonic instrumentation may be utilized effectively in the clinic with patients daily.
3. Describe the differences between SRP and periodontal debridement therapies.
4. Compare and contrast the differences between periodontal debridement treatment modalities.
5. Evaluate how to care for dental implants using ultrasonic treatments.
6. Assess periodontal treatment modalities for different periodontal patients.
7. Determine ultrasonic tip and design for periodontal treatment.
8. Debate the different aerosol management systems for periodontal debridement therapy.
9. Justify periodontal treatment modalities for various periodontal patients.
10. Formulate treatment modalities for periodontal case studies provided.

SPECIFIC OBJECTIVES BY CHAPTER & TOPIC:

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

1. Chapter 1 ; “Shifting from SRP to periodontal debridement”:
 - a. Classify the development of periodontal therapy instrumentation concepts.
 - b. Examine how the evolution of endotoxins led to the development root planing, which was previously used to remove calculus and cementum.
 - c. Analyze the role of plaque biofilm in the development of periodontal inflammation and the inflammatory host response.
 - d. Evaluate the development of modern periodontal strategies from the knowledge of periodontal pathogenesis.
 - e. Recommend evidence that supports the shift from scaling and root planing to periodontal debridement.
2. Chapter 2; “Comparing Periodontal debridement instrumentation modalities”:
 - a. Define the methods of periodontal debridement.
 - b. Classify manual instrumentation versus ultrasonic instrumentation.
 - c. Determine which instrumentation techniques cause the most damage to root surfaces.
 - d. Formulate different instrumentation techniques for periodontal debridement.
 - e. Categorize methods for periodontal debridement instrumentation.
3. Chapter 3; “Maintenance of dental implants”:
 - a. Define peri-implant health, peri-implant mucositis and peri-implantitis.
 - b. Classify the prevalence and pathogenesis of peri-implant diseases.
 - c. Assess peri-implant health.
 - d. Evaluate the methods for dental implant maintenance.

- e. Demonstrate a commitment for the treatment options of peri-implant mucositis and peri-implantitis.
4. Chapter 4; "Patient assessment":
- a. Differentiate parts of patient periodontal history that are relevant to the management of periodontitis.
 - b. Determine clinical parameters for examining a patient.
 - c. Analyze the classification of periodontal disease in relation to tooth prognosis.
 - d. Debate the factors involved in determining which sites to treat and how to treat them.
 - e. Suggest how implantable devices are utilized in ultrasonic therapy.
5. Chapter 5; "Ultrasonic Instrumentation":
- a. Define ways that ultrasonic instruments remove calculus deposits from the tooth surface.
 - b. Differentiate between magnetostrictive and piezoelectric ultrasonics.
 - c. Analyze the operational variables of the ultrasonic unit.
 - d. Evaluate the acoustic power levels needed for proper treatment modalities.
 - e. Display an interest in the relationship between operator variables and acoustic power of ultrasonic units.
6. Chapter 6; "Ultrasonic tip design and selection":
- a. Identify design elements common to ultrasonic tips.
 - b. Classify key elements common to ultrasonic tips.
 - c. Correlate the design of the ultrasonic tip to its performance capabilities.
 - d. Analyze variables which influence ultrasonic tip selection.
 - e. Advocate for tip design necessary for treatment modalities and sites.
7. Chapter 7; "Aerosol management":
- a. Match characteristics of aerosol generation with the source.
 - b. Compare different aerosol sources.
 - c. Evaluate the risk of disease transmission during aerosol generation.
 - d. Determine why evacuation is necessary for safe and effective ultrasonic debridements.
 - e. Recommend elements that may influence particle capture during an ultrasonic periodontal debridement.
8. Chapter 8; "Ultrasonic instrumentation technique":
- a. Identify the basic principles involved in periodontal ultrasonic techniques.
 - b. Differentiate instrumentation techniques involved in ultrasonic usage.
 - c. Create different instrumentation techniques for deposit removal and root preservation.
 - d. Defend the staged method for ultrasonic periodontal instrumentation.
 - e. Promote ultrasonic instrumentation technique.

9. Chapter 9; “Ultrasonic instrumentation clinician-patient positioning”:
 - a. Formulate the clinician-patient positions for all six sextants of the mouth.
 - b. Compare and contrast grasping of the ultrasonic instrument using direct and indirect vision.
 - c. Classify the clinician responsibilities for unassisted ultrasonic instrumentation.
 - d. Deduce the clinician responsibilities for assisted ultrasonic instrumentation.
 - e. Reflect upon the theory behind the different patient positions of ultrasonic instrumentation.
10. Chapter 10; “Ultrasonic instrumentation technique modules”:
 - a. Critique ultrasonic instrumentation technique based on tip design.
 - b. Analyze tip adaptation throughout the treatment areas.
 - c. Classify instrumentation sequencing strategies.
 - d. Design a sequence of instrumentation to improve efficiency.
 - e. Adopt a sequence of instrumentation and tip adaptation for effective ultrasonic instrumentation.
11. Chapter 11; “Case studies in ultrasonic debridement”:
 - a. Define ultrasonic debridement.
 - b. Classify the different types of ultrasonic periodontal debridements utilized in the case studies.
 - c. Evaluate how different stages and grades of periodontal disease have necessary forms of periodontal debridements.
 - d. Determine which tip, treatment modality and instrumentation is necessary for each case study.
 - e. Reflect upon the case studies and how they relate to real life periodontal instrumentation.

SYLLABUS COURSE SCHEDULE:

This schedule is based on the Spring semester of 2025 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:	Have items in this column completed BEFORE class. For assignment details, look in "Assignments & Submissions" tab. Complete any additional reading assignments and activities listed within each module.
WEEK 1	Tues., 1-21-25 10:30-11:30am	Class introduction Discuss syllabus Chapter 1 "Shifting from SRP to periodontal debridement" Teacher Lecture	READ: pages 3-21 DUE: Homework #1 "Discussion: Compare and contrast SRP to periodontal debridement."
WEEK 2	Tues., 1-28-25 10:30-11:30am	Chapter 2 "Comparing Periodontal debridement instrumentation modalities" Teacher Lecture	READ: pages 22-32 In class partner activity: "Compare and contrast the different periodontal debridement instrumentation modalities."
WEEK 3	Tues., 2-04-25 10:30-11:30am	Chapter 3 "Maintenance of dental implants" Teacher Lecture	READ: pages 33-47
WEEK 4	Tues., 2-11-25 10:30-11:30am	Chapter 4 "Patient assessment" Teacher Lecture	READ: pages 48-70 DUE: Homework #2 "Patient Assessment Worksheet" In-class Group Activity: Patient Assessment
WEEK 5	Tues., 2-18-25 10:30-11:30am	TEST #1	
WEEK 6	Tues., 2-25-25 10:30-11:30am	Chapter 5 "What is ultrasonic instrumentation" Teacher Lecture	READ: pages 73-93 Homework #3 "Discussion: Name the elements of ultrasonic instrumentation and how they can be utilized on various periodontal patients."

WEEK 7	Tues., 3-04-25 10:30-11:30am	Chapter 6 “Ultrasonic tip design and selection” Teacher Lecture	READ: pages 94-114 In-class Partner Activity: “Compare and contrast tip design and tip selection for ultrasonic periodontal debridement.” DUE: Professional Paper VIDEO: “How to reduce aerosols.”
WEEK 8	Tues., 3-11-25 10:30-12:00pm	TEST #2	
WEEK 9	Tues., 3-18-25 10:30-11:30am	SPRING BREAK No assignments; No class	SPRING BREAK No assignments; No class
WEEK 10	Tues., 3-25-25 10:30-11:30am	Chapter 7 “Aerosol management” Teacher Lecture	READ: pages 115-128
WEEK 11	Tues., 4-01-25 10:30-11:30am	Chapter 8 “Ultrasonic instrumentation and technique” Teacher Lecture	READ: pages 131-154 DUE: Homework #4 “Discussion: Explain how different forms of ultrasonic instrumentation and techniques can vary depending upon the type of periodontal patient you are presented”
WEEK 12	Tues., 4-08-25 10:30-11:30am	Chapter 9 “Ultrasonic instrumentation clinician-patient positioning” Teacher Lecture	READ: pages 155-185 DUE: Case Project & Presentation
WEEK 13	Tues., 4-15-25 10:30-11:30am	TEST #3	
WEEK 14	Tues., 4-22-25 10:30-11:30am	Chapters 10 “Ultrasonic instrumentation technique modules” Teacher Lecture	READ: pages 186-225 DUE: Homework #5 “Discussion: Determine the ultrasonic instrumentation techniques needed depending on the type of periodontal patient you are presented in the modules. Explain your choices.”
WEEK 15	Tues., 4-29-25 10:30-11:30am	Chapters 11 “Case studies in ultrasonic debridement”	READ: pages 226-256 In-class Group Work: Role Play with patient assessments In-class Group Work: Case studies using ultrasonic debridement.

		Teacher Lecture/Presentation	
WEEK 16	Tues., 5-06-25 2pm – 4pm	FINAL EXAM	

SYLLABUS COURSE ACTIVITY SHEET:

WEEKS		Teacher Lecture	Group Work	Partner Work "Teach-OK"	Individual Work	Video Media	Student Oral Presentation	Test	Exam
1		x			Homework #1				
2		X		Periodontal Instrument Modalities					
3		x							
4		X	Patient Assessment		Homework #2				
5								Test #1	
6		X			Homework #3				
7		X		Tip design and tip selection	Professional Paper	How to reduce aerosols			
8								Test #2	
9		Spring Break							
10		x							
11		X			Homework #4				
12		x					Case Project & Presentation		
13								Test #3	
14		X			-Homework #5				
15		x	Role Play and Case Studies						
16									Final Exam
TOTAL:		11	2	2	6	1	1	3	1