

Laura Smith
DNTH 660
SP21



SCHOOL OF DENTAL HYGIENE

COURSE NUMBER & TITLE: DNTH 205; Pharmacology for the Dental Hygienist

CURRICULUM LEVEL: Undergraduate Junior Level

COURSE CREDIT HOURS: Three (3) hours

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

CLASS DAY & TIME: Wednesdays, 10:00am to 11:00am (EST)

COURSE DESCRIPTION & PURPOSE: This course will discuss the impact of pharmaceutical drugs as related to the clinical practice of dental hygiene. Students will learn the therapeutic uses, adverse effects, and impact of pharmaceutical drugs. Topics will include absorption, distribution, metabolism, interactions, and drug action in the body. Anesthetics and pain management will be reviewed. Students will conduct research into pharmaceutical agents used in dentistry.

PREREQUISITES: DNTH 305, DNTH 306, and DNTH 316.

INSTRUCTOR: Associate Professor Laura Smith, BA, BS, RDH
Office Location: ODU Main Campus, Health Sciences Building, Room 3102
Office Hours: Tuesdays from 1:00pm to 4:00pm (EST)
Office Phone: 410-375-7625
Email Address: lsmit063@odu.edu

INSTRUCTOR EMAIL POLICY: Please contact me using only official ODU email. Personal email accounts will not be responded to. Please note, Blackboard course messaging system can also be used. However, I will check the ODU email regularly. If you have sent a message through blackboard messaging system and it has not been responded to in one business day, please send a follow up message via ODU email. Please be patient with responses during weekends and holidays. If there is an emergency, please contact me on my office phone.

METHODS OF DELIVERY: This is an on-campus face-to-face course that will utilize lectures, guest speakers, active learning activities, group work, reading assignments, quarterly quizzes, and handouts will be utilized as needed. The Blackboard learning management system provided to you by ODU is where course content will be housed. It will be required that students read required coursework prior to class, and engage in coursework discussions and activities.

REQUIRED TEXTBOOK:

The following required textbook is available for purchase or rent at the ODU university bookstore.:

Author, A. A. & Author, A. A. (2021). The art and science of being a dental hygienist (5th ed.). Bradshaw & Bradshaw: Norfolk. ISBN 001-0-0100-1001-1

Haveles, E. B., (2020). Applied Pharmacology for the dental hygienist (8th ed.). Elsevier Saunders: St. Louis, MO. ISBN 978-0-323-59539-1

SUPPLEMENTAL READINGS: Supplemental readings in the form of dental hygiene periodical can journal articles for continuing education (CE) will be incorporated into the course. Please note these can be found under Blackboard, “Supplemental Resources” Module. These will be provided in both PDF form and weblinks.

RECOMMENDED TEXTS: It is also encouraged to retain a copy of texts from perquisite course, including, but not limited to:

Wilkins, E. M., (2019). Clinical practice of the dental hygienist, (12th ed.). Wolters Kluwer. Philadelphia, PA. ISBN 978-1-4511-9311-4

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, homework, oral presentation, written work, tests, and an exam. Some of these will be graded and some will not 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>Drug Card Project</u> – Students will work individually to create a directory of drug cards. These will be used a mini reference in clinical practice.
2.	<u>Case Study Brochure & Presentation</u> - Students will work in pairs to present a case study involving a medication with an oral manifestation or dental alert. Students will create a trifold brochure to accompany the oral condition or the medication dental side effect.
3.	Four (4) unit exams -Each will be multiple-choice
4.	Final Examination (comprehensive)

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 Blackboard Respondus Lockdown Browser and recorded by Zoom proctoring (cell phone with a camera) to ensure testing integrity.

- **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 Blackboard 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 Blackboard 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
Drug Card Project (individual activity)	25%
Case Project & Presentation (group activity)	20%
Unit Test #1	10%
Unit Test #2	10%
Unit Test #3	10%
Final Examination (cumulative)	25%
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 active engagement with coursework and lectures is crucial to student success in this course. If a student cannot attend class, it is expected that the student will inform the professor as a courtesy. If a student is absent from class, it is their responsibility to make up any missed work or material. Attendance does not count towards the grade calculation.

MISSED TESTS & EXAMS: If an exam is missed, the student must coordinate with the instructor a time to make up the exam at the testing center on campus. Make up exams will be different questions than the original exam, but same format, content, and point value. If an exam is missed and there is no advance notification via ODU email, there will be a 5-point deduction. This point deduction does not apply if advance arrangements are given. Exams must be made up within a week of the original exam date. The week after the original exam date, a 5-point per day deduction will incur until exam is taken.

SUBMITTING ASSIGNMENTS: Assignments will be submitted via Blackboard. Assignments MUST be saved with a file name that contains the student name, assignment name, and date. Example: "SmithBrochure1.22.2021.docx". Assignments cannot be accepted via email. Assignments are due the course week listed on the course schedule by midnight on Friday. If a technical error occurs, please contact ODU Technology services, and send an email to the instructor.

LATE ASSIGNMENTS: It is encouraged for students to start assignments early, and submit on time. Late assignments will be accepted with a late penalty. A 5-point deduction will be taken away for each calendar day that an assignment is late. Please communicate via email with the instructor as soon as an assignment is late.

STUDENT EXPECTATIONS: Students are expected to engage in active learning. Learning will be facilitated by the instructor, however ultimately learning and mastery of course objectives is the responsibility of the student. A few guidelines to encourage successful learning outcomes:

- Arrive to class on time.
- Ask questions.
- Be respectful of other classmates.
- Read text chapters before attending class.
- Do not wait until the last minute to start assignments.
- Take advantage of instructor office hours.
- Have an open mind, and be positive.

COMPUTER AND CELL PHONE USE IN CLASS: Technology will be incorporated during in class activities and lessons. Laptop and smart device use are encouraged to help a student enhance their education. Only course work should be accessed during class time (no social media or off topic classwork). Please turn devices to silent mode to help prevent distractions to instructors and other classmates. No video recording of class is allowed. Photographs of slides or worksheets is encouraged. Please note, technology use in the classroom must abide by all honor code and copyright laws.

GENERAL COMPUTER AND TECHNICAL REQUIREMENTS: Students are required to have a computer with strong internet access. If a student does not have a personal laptop, one may be borrowed from the classroom laptop cart, and must be returned and plugged in to charge upon completion of class. The campus library and computer lab can be accessed during non-class times if a student is in need of reliable internet, technology, and quiet study space. This course will use technologies of ODU email, Blackboard, Loom video recordings, google suite products, and Respondus lockdown browser. If you have technology issues, please first contact the ODU technology services.

**IMPORTANT ADDITIONAL UNIVERSITY & SCHOOL OF DENTAL HYGIENE STATEMENTS:
STATEMENT OF STUDENT RESPONSIBILITIES AND ACCOUNTABILITIES:**

Attendance. Due to the unique responsibilities and accountabilities associated with becoming a competent professional provider of health care, 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 contact the course instructor immediately via email and call the School of Dental Hygiene at 757-683-3338.

- A note on official stationery from a physician or other appropriate healthcare provider must be submitted to your instructor(s) the day you return verifying the need to be excused from class, lab and/or clinic, and date(s) for the required absence.
- 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 quizzes, tests and exams 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 instructor. Possible formats will include but not be 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 assignments are to be submitted to the course instructor on the established due dates. Work submitted after the established deadlines will be penalized by the grade. Students are encouraged to keep a duplicate copy of all assignments submitted.

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 assignments.

Plagiarism. All academic work submitted to fulfill a course requirement is expected to be 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: 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.

Code of Student Conduct. All students are expected to abide by the Student Code of Conduct as found in the *Old Dominion University Student Handbook* and *University Catalog*. The School of Dental Hygiene undertakes to provide 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. Students' papers and projects may be used anonymously for necessary review without notification.

Accommodations. Students are encouraged to self-disclose disabilities that have been verified by the Office of Educational Accessibility by providing Accommodation Letters to their instructors early in the semester in order to start receiving accommodations. Accommodations will not be made until the Accommodation Letters are provided to instructors each semester.

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.

ODU reign responsibly/commitment to adhering to coronavirus safety guidelines: The university will work to create a campus environment that supports safe behaviors and reduces the spread of COVID-19 (Coronavirus). A healthy environment will only be supported if everyone – students, faculty, staff, and visitors - takes responsibility for their own health and safety and the health and safety of those around them. We all must make a commitment to following current Center for Disease Control and Prevention (CDC) and the Virginia Department of Health guidance and best practices. While Old Dominion University cannot guarantee immunity from sickness, we will do our best to provide a healthy environment. We will be directed by the Governor's guidelines as well as the guidance of health officials. As a Monarch citizen, you are encouraged to reign responsibly by demonstrating such care for protecting yourself and others through your compliance. By adhering to safety guidelines, you are helping to keep your family and friends safe along with other students, faculty and staff and their families—Monarch

Nation is everywhere! COMMITMENT STATEMENT: As a Monarch, I commit to taking the following actions to Reign Responsibly in reducing the spread of the Coronavirus:

1. Staying Informed
 - I commit to completing any Coronavirus related training provided by the University.
 - I commit to visiting the ODU Coronavirus page to stay informed on University guidelines and updates.
2. Following Guidelines
 - I commit to following guidelines set forth by the University and the Commonwealth of Virginia.
 - Wearing face coverings and practicing physical distancing.
 - Cleaning my hands frequently with soap and water for at least 20 seconds or using hand sanitizer that contains at least 60% alcohol.
3. Caring for Yourself
 - I commit to self-monitor for Coronavirus symptoms daily.
 - I commit to avoiding close contact with people.
 - I commit to staying home and contacting my health provider if I am exhibiting any symptoms of the Coronavirus.
4. Caring for others
 - I commit to maintaining a clean space by disinfecting or cleaning frequently touched surfaces daily.
 - I commit to participating in screening and testing to help reduce the spread of the Coronavirus.

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. Examine the role of the dental hygienist and demonstrate the interview process when questioning patients about their medical history.
2. Construct drug cards using a patient's medical history form.
3. Analyze the mechanism of action of drugs, absorption, and metabolism.
4. Examine the biochemical and physiologic actions of drugs.
5. Describe the metabolic effects of a drug after being delivered to body cells.
6. Define pharmacodynamics and pharmacokinetics.
7. Describe autonomic drugs, adverse drugs, and their effects.
9. List and describe drugs that are used in the provision of oral health care.
10. Describe opioids and non-opioids and determine the difference of each category.
11. Interpret the uses for antifungal, antiviral, antimicrobial, and antibacterial drugs.
12. Interpret the uses of pharmacologic agents/drugs in the management of selected oral conditions.
13. Discuss categories of drugs used to control systemic disorders and the effects of the medications and relation to dentistry.
14. Discuss the relationship and effects of drugs used by special populations such as women, cancer patients, substance abusers, and those with joint disorders.

SPECIFIC OBJECTIVES BY CHAPTER & TOPIC:

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

1. Chapter 1; "Information, Sources, Regulatory Agencies, Drug Legislation, and Prescription Writing":
 - a. Discuss the history of pharmacology and its relationship to the dental hygienist.
 - b. Define the ways in which drugs are named and the significance of each.
 - c. Identify the four phases of clinical evaluation involved in drug approval and the five schedules of drugs.
 - d. Define generic equivalence and how it is related to drug substitution.
 - e. Appreciate the regulations of prescription writing to adhere to safe medication use practices.
2. Chapter 2; "Drug Action and Handling":
 - a. Differentiate dose, potency, and efficacy in the context of the actions of drugs.
 - b. Explain the pharmacologic effect of a drug.
 - c. Explain how half-life relates to clinical pharmacokinetics.
 - d. Summarize the various routes of drug administration and the common dose forms used.
 - e. Synthesizes how altering absorption, distribution, metabolism, and excretion can affect clinical pharmacokinetics.

3. Chapter 3; "Adverse Reactions":

- a. Define an adverse drug reaction and name five categories of reaction.
- b. Discuss the risk-to-benefit ratio of the use of a drug for therapeutic effect and its potential adverse reactions.
- c. Explain how the toxic effects of drugs are evaluated.
- d. Discuss the importance of recognizing adverse drug effects.
- e. Discriminates between adverse reaction, allergy, side effect, and toxic reaction.

4. Chapter 4; "Autonomic Drugs":

- a. Discuss the pharmacologic effects, adverse reactions, contraindications, and dental considerations of cholinergic agents that are part of the parasympathetic autonomic nervous system.
- b. Discuss the major neurotransmitters in the sympathetic autonomic nervous system and the importance of receptors.
- c. Discuss the pharmacologic effects, adverse reactions, contraindications, and dental considerations of adrenergic agents and list several specific adrenergic agents.
- d. Explain the workings of adrenergic blocking agents and neuromuscular blocking agents.
- e. Differentiate between "selective" and "nonselective beta blockers.

5. Chapter 5; "Non-opioid (nonnarcotic) Analgesics":

- a. Describe pain and its purpose and main components.
- b. Discuss the classification of analgesic agents and the chemistry, pharmacokinetics, pharmacologic effects, adverse reactions, toxicity, drug interactions, and uses of aspirin.
- c. Define the term *nonsteroidal antiinflammatory drug* and discuss the chemistry, pharmacokinetics, pharmacologic effects, adverse reactions, toxicity, drug interactions, uses, and several examples of these drugs.
- d. Discuss the properties, pharmacologic effects, adverse reactions, drug interactions, uses and dosing of acetaminophen.
- e. Discriminate between uses and mechanisms of actions of NSAIDS and steroidal anti-inflammatory medications

6. Chapter 6; "Opioid (Narcotic) Analgesics and Antagonists":

- a. Explain the classification, mechanism of action, and pharmacokinetics of opioids.
- b. List and describe the pharmacologic effects and potential adverse reactions of opioids.
- c. Discuss the addiction potential of opioids, including treatment.
- d. Name and explain the analgesic actions of the most common opioid agonists.
- e. Discuss the controversial use of opioids to dentistry.

7. Chapter 7; "Anti-infective Agents":

- a. Summarize the principal indications for the use of antimicrobial agents.
- b. Name and describe the major adverse reactions and disadvantages associated with the use of anti-infective agents.

- c. Discuss penicillin, macrolides, tetracyclines, cephalosporins—their chemical makeup, properties, mechanisms of action, uses, and potential adverse reactions—and name several specific types.
- d. Discuss the use of topical antibiotics in dentistry.
- e. Summarize the concept and practice of antibiotic prophylaxis in dentistry.

8. Chapter 8; “Antifungal and antiviral Agents”:

- a. Name several types of antifungal agents and discuss their indications in dentistry and potential adverse reactions.
- b. Discuss the use of antiviral agents in the treatment of herpes simplex.
- c. Describe the various drugs and drug combinations used to treat acquired immunodeficiency syndrome.
- d. Describe the various drugs used to treat chronic hepatitis.
- e. Counsel patients on proper application of topical antiviral medications

9. Chapter 9; “Local Anesthetics”:

- a. Discuss the history and reasons for the use of local anesthetics in dentistry, including:
 - a. List the properties an ideal local anesthetic would possess.
 - b. Describe the importance of understanding the chemistry involved in local anesthetic agents.
- b. Explain the mechanism of action, pharmacokinetics, pharmacologic effects, and adverse reactions of local anesthetics.
- c. Describe the composition of each of the drugs used in local anesthetic solutions and summarize the factors involved in the choice of a local anesthetic.
- d. Briefly discuss the use, types, and doses of topical anesthetics used in dentistry.
- e. Discriminate between the use of local anesthetics and topical anesthetics for periodontal procedures.

10. Chapter 10; “General Anesthetics”:

- a. Summarize the history of general anesthesia in dentistry.
- b. Describe how general anesthesia works and the stages and planes involved, as well as possible adverse reactions associated with its use.
- c. Compare and contrast the classifications of general anesthesia.
- d. Discuss the use of nitrous oxide in dentistry, including how it works, the pharmacologic effects, adverse reactions, and contraindications.
- e. Be sensitive to the ability of anesthetics to be mis-used by dental professionals and patients as an illicit substance.

11. Chapter 11; “Antianxiety Agents”:

- a. Discuss the value of patient relaxation in dentistry.
- b. Describe the pharmacokinetics, mechanism of action, pharmacologic effects, adverse reactions, drug interactions, medical uses and dental relevance of the benzodiazepines and barbiturates.

- c. Name and briefly describe the mechanism of action of the nonbenzodiazepine-nonbarbiturate sedative-hypnotics and the nonbenzodiazepine-nonbarbiturate receptor agonists.
- d. Name a melatonin receptor agonist and summarize its actions.
- e. Discuss some general precautions about which the dental practitioner should be aware with the use of antianxiety agents.

12. Chapter 12; "Drugs for the Treatment of Cardiovascular Disease":

- a. Describe heart failure and identify drugs commonly used to treat it, including the mechanisms of action, pharmacologic effects, and adverse reactions.
- b. Discuss the use of digoxin and the management of dental patients taking it.
- c. Define arrhythmia and dysrhythmia and describe how the heart maintains its normal rhythm.
- d. Define angina pectoris and describe the types of drugs used to treat it; identify the dental implications of these drugs.
- e. Appreciate the clinical application of discontinuing anticoagulant medications prior to dental procedures.

13. Chapter 13; "Drugs for the Treatment of Gastrointestinal Disorders":

- a. List the different types of laxatives and know the advantages and disadvantages of each.
- b. List the medications used to treat diarrhea.
- c. Define the term antiemetic and give examples of drugs used to treat vomiting and nausea.
- d. Discuss the medications used to manage chronic inflammatory bowel disease (IBD).
- e. Summarize the most common types of gastrointestinal diseases and their impact on oral health care.

14. Chapter 14; "Drugs for the Treatment of Seizure Disorders":

- a. Define epilepsy and briefly summarize the various types of seizures.
- b. Discuss drug therapy of patients with epilepsy and describe the general adverse reactions to antiepileptic agents.
- c. Discuss ethosuximide and benzodiazepines (two miscellaneous antiepileptics) and describe the workings of each.
- d. Provide several examples of new types of antiepileptics, including the mechanism of action, indications, and adverse reactions of each.
- e. Outline the dental treatment of patients with epilepsy.

15. Chapter 15; "Drugs for the Treatment of Central Nervous System Disorders":

- a. Name and describe the three categories of functional disorders discussed in this chapter.
- b. Describe the mechanism of action and adverse reactions of selective serotonin reuptake inhibitors.
- c. Describe the mechanism of action and adverse effects of serotonin norepinephrine reuptake inhibitors.

- d. List several drugs used to treat bipolar disorder.
- e. Outline some basic precautions that the dental health care professional should keep in mind when treating patients with psychiatric disorders.

16. Chapter 16 “Adrenocorticosteroids”:

- a. Define adrenocorticosteroids and describe how the body releases them.
- b. Describe the various adverse reactions and uses of adrenocorticosteroids, including their application to dentistry.
- c. List several examples of corticosteroid products and describe the ways in which they are differentiated.
- d. List several dental implications to the use of steroids.
- e. Summarize the classification, administration, mechanism of action, and pharmacologic effects of adrenocorticosteroids.

17. Chapter 17; “Drugs for the Treatment of Respiratory Disorders and Allergic Rhinitis”:

- a. Name and describe the mechanisms of action of several types of drugs used to treat respiratory diseases.
- b. Define allergic rhinitis and describe the dental implications, pharmacologic effects, adverse reactions, and toxicity of antihistamines.
- c. Describe the dental implications, pharmacologic effects, and adverse reactions of the intranasal corticosteroids.
- d. Discuss montelukast, cromolyn sodium, and ipratropium bromide and describe their role in treating allergic rhinitis. Also describe the adverse reactions of ipratropium bromide.
- e. Summarize the classification, administration, mechanism of action, and pharmacologic effects of adrenocorticosteroids.

18. Chapter 18; “Drugs for the Treatment of Diabetes Mellitus”:

- a. Define diabetes mellitus.
- b. List and describe the two types of this disease, its complications, and issues involving dentistry as well as cautions and contraindications in the treatment of patients with diabetes.
- c. List and describe the effects of drugs on the complications of diabetes.
- d. Name and describe the types of drugs used to treat diabetes.
- e. Discuss the dental concerns associated with antidiabetic therapy.

19. Chapter 19; “Drugs for the Treatment of other Endocrine Disorders”:

- a. Discuss pituitary hormones, the functions of the anterior and posterior pituitary glands and describe the negative feedback mechanism that takes place in endocrine glands.
- b. Provide an overview of the thyroid hormones, conditions known as hypothyroidism and hyperthyroidism and antithyroid drugs.
- c. Summarize the major female and male sex hormones and describe several types of hormonal contraceptives.

- d. Discuss other agents that affect sex hormone systems.
- e. Integrate knowledge of hormone medications and cultural sensitivity when treating a patient who identifies as LGBTQIA

20. Chapter 20; “Antineoplastic Drugs”:

- a. Discuss antineoplastic agents and summarize their use, mechanisms of action, and classification.
- b. Describe several adverse drug effects associated with antineoplastic agents.
- c. Discuss the dental implications of patients planning to take or actively taking antineoplastic drugs.
- d. Explain the adverse effects associated with the antineoplastic agents
- e. Synthesize an oral hygiene care plan including product recommendations for a patient with mucositis as a side effect of chemotherapeutic agents.

21. Chapter 21; “Emergency Drugs”:

- a. Describe the necessary preparation for treatment in the event of an emergency.
- b. List what can be done to help minimize the occurrence of an emergency in the dental office.
- c. List the steps that should be followed if an emergency does occur in the dental office.
- d. Name and describe several categories of emergencies and provide common examples within each category.
- e. Prepare for medical emergencies by knowing the components of an emergency kit.

22. Chapter 22; “Pregnancy and Breastfeeding”:

- a. List the two main concerns in the administration of drugs during pregnancy.
- b. Describe the pregnancy trimesters in relation to dental treatment, define teratogenicity, outline the Food and Drug Administration’s pregnancy categories for drugs, and discuss how breastfeeding affects dental drug use.
- c. Name several types of local anesthetic, anti-infective, and antianxiety agents and state their indications or contraindications for pregnant women.
- d. Explain the FDA pregnancy categories and state their significance.
- e. Determine factors that are important when a woman who is breastfeeding to receive drugs.

23. Chapter 23; “Substance Abuse”:

- a. Define abuse and misuse and be familiar with the terms relating to drug abuse that are used in this chapter.
- b. Name several types of central nervous system depressants that are commonly abused and outline the typical pattern of abuse, treatment, adverse reactions, management of overdose and withdrawal, and dental treatment implications of each.
- c. Identify several types of central nervous system stimulants that are commonly abused.
- d. Describe the pattern of abuse, as well as the withdrawal and treatment options associated with tobacco use, and summarize the role of the dental hygienist in tobacco cessation.

- e. Discuss ways in which the dental hygienist can identify patients or colleagues who may be abusing drugs.

24. Chapter 24; “Natural/Herbal Products and Dietary Supplements”:

- a. Discuss why people choose herbal products over traditional medicine.
- b. Discuss the federal legislation governing herbal and dietary products.
- c. Discuss the safety of herbal and nutritional products and explain the adverse effects associated with their use and their impact on oral health care.
- d. Explain the drug interactions associated with herbal products and their impact on oral health care.
- e. Appreciate the distinction between holistic and homeopathic medicines.

25. Chapter 25; “Oral Conditions and Their Treatment”:

- a. Name several common infectious lesions of the oral cavity and summarize the treatments for each.
- b. Describe immune reactions resulting in canker sores and lichen planus and discuss the treatments for each.
- c. Name several oral conditions that result from inflammation and the measures used to treat them
- d. Discuss treatment options for xerostomia and name several other possible drug-induced oral side effects.
- e. Realize the importance of delaying dental care when a patient has a contagious lesion.

26. Chapter 26; “Hygiene-Related Oral Disorders”:

- a. Discuss how improper oral hygiene can lead to dental caries and describe the general background of carious lesions.
- b. Discuss the importance of caries prevention and the nonpharmacologic therapies that are available to aid in this effort.
- c. Discuss the proper methods that patients should use when brushing and flossing.
- d. Discuss pharmacologic therapies and the role of fluoride in preventing caries.
- e. Compare and contrast both professionally applied and at-home fluoride preparations.

SYLLABUS COURSE SCHEDULE:

This schedule is based on the Spring semester of 2021 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. Unit Quizzes are due by midnight on the Friday after lecture.
WEEK 1	Wed Jan 6, 2021 10am-11am	Review of Course Syllabus & Policies <u>Unit 1: General Principles</u> Ch 1: Information, Sources, Regulatory Agencies, Drug Legislation, and Prescription Writing	READ : course syllabus and pages 2-10 Due: Syllabus Acknowledgement Agreement
WEEK 2	Wed Jan 13, 2021 10am-11am	Ch 2: Drug Action and Handling Ch 3: Adverse Reactions	READ : pages 11-30 In-class activity: Medical Emergency kit scavenger hunt
WEEK 3	Wed Jan 20, 2021 10am-11am	Unit #1 Exam	DUE: Topic and partner selection for Case Study
WEEK 4	Wed Jan 27, 2021 10am-11am	<u>Unit 2: Drugs Used in Dentistry</u> Ch 4: Autonomic Drugs Ch 5: Non-opioid (nonnarcotic) Analgesics Ch 6: Opioid (Narcotic) Analgesics and Antagonists	READ: pages 31-67 Guest speaker from Health Department, Recognizing Opioid overdoes and administering Narcan (Naloxone)

WEEK 5	Wed Feb 3, 2021 10am-11am	Ch 7: Anti-infective Agents Ch 8: Antifungal and Antiviral Agents	READ: pages 68-97 DUE: Drug Card Project
WEEK 6	Wed Feb 10, 2021 10am-11am	Ch 9: Local Anesthetics Ch 10: General Anesthetics Ch 11: Antianxiety Agents	READ: pages 98-130 In-class Group Activity: Case studies for local anesthetics
WEEK 7	Wed Feb 17, 2021 10am-11am	Unit #2 Exam	
WEEK 8	Wed Feb 24, 2021 10am-11am	<u>Unit 3: Drugs that May Alter Dental Treatment</u> Ch 12: Drugs for the Treatment of Cardiovascular Disease Ch 13: Drugs for the Treatment of Gastrointestinal Disorders	READ: pages 131-164 In-class activity: Interprofessional education panel discussion with Cardiovascular Technology students DUE: Rough draft of Case Study Brochure
WEEK 9	Wed Feb 24, 2021 10am-11am	Ch 14: Drugs for the Treatment of Seizure Disorders Ch 15: Drugs for the Treatment of Central Nervous System Disorders	READ: pages 165-183 VIDEO: CNS disorders

WEEK 10	Wed March 3, 2021 10am-11am	Ch 16: Adrenocorticoste roids Ch 17: Drugs for the Treatment of Respiratory Disorders and Allergic Rhinitis	READ: pages 184-203 DUE: Complete dental care.com CE article assignment
WEEK 11	Wed March 10, 2021 10am-11am	Ch 18: Drugs for the Treatment of Diabetes Mellitus Ch 19: Drugs for the Treatment of other Endocrine Disorders	READ: pages 204-224 VIDEO: Diabetes management and medications
WEEK 12	Wed March 17, 2021 10am-11am	Unit # 3 Exam	
WEEK 13	Wed March 31, 2021 10am-11am	SPRING BREAK No assignments; No class	SPRING BREAK No assignments; No class
WEEK 14	Wed April 7, 2021 10am-11am	<u>Unit 4: Special Situations</u> Ch 20: Antineoplastic Drugs Ch 21: Emergency Drugs Ch 22: Pregnancy and Breastfeeding Ch 23: Substance Abuse	READ: pages 225-264 DUE: Final Draft Case Study Brochure & Presentation
WEEK 15	Wed April 14, 2021 10am-11am	Ch 24: Natural/Herbal Products and Dietary Supplements	READ: pages 265-291 Guest Speaker from Herba Life Dental Products

		Ch 25: Oral Conditions and Their Treatment Ch 26: Hygiene-Related Oral Disorders	
WEEK 16	Wed April 21, 2021 10am-11am	FINAL EXAM (Cumulative)	

SYLLABUS COURSE ACTIVITY SHEET:

WEEKS		Teacher Lecture	Video Media	Group Work	Partner Work	Individual Work	Guest Speaker	Student Oral Presentation	Quiz/Test/Exam
1		x				Syllabus Agreement			
2		X		Scavenger Hunt					
3					Brochure Topic				Unit 1 Exam
4							Health Dept, Opioid		
5		x				Drug Card Project			
6		x		Anesthetics Case Studies					
7									Unit 2 Exam
8		x		IPE with Cardiovascular Tech Program	First Draft Brochure				
9		X	x						
10		x				Dentalcare.com CE			
11		X	X						
12									Unit 3 Exam
13		Spring Break							
14		X			Final Draft Brochure			Case Project & Presentation	
15							Herba Life Dental		
16									Final Exam
TOTAL:		9	2	3	3	3	2	1	4