

FULL TITLE: **Pharmacology for the Dental Hygienist****SEMESTER:** Spring 2020 Year 1, Semester 2**COURSE DESCRIPTION:**

The clinical application of therapeutic agents used in the practice of dentistry and the effects and interactions of patient medications on the delivery of oral health care. The indications, dosages, methods of administration, contraindications and side effects of these agents will be studied to give the student dental hygienist a foundation in the physical manifestations to be expected in drug administration. Online and published resources will be used to encourage self-directed critical thinking and problem solving in patient care and pharmacologic therapy.

CONTACT HOURS: 2 hour lecture**WEEKS:** 17.5**UNITS:** 2**DAY & TIME:** Tuesday 2:30-4:30, Race 4076

INSTRUCTOR: Michael Danford, DDS
E-mail: mdanford@santarosa.edu
Office hours: 2:00-2:30 and 4:30-5:00 Tuesdays and by appointment
All electronic communication will be conducted through the email address you have registered with the school.

PREREQUISITES: Completion of DH 71A**REQUIRED TEXTBOOK:**

- Pharmacology for the Dental Hygienist, 8th edition, Haveles, Elena 2020
- Lexicomp Online for Dentistry – online drug and medication information
 - Access instructions: Students can go to the library website at libraries.santarosa.edu and click on the "Articles and Databases" tab and click on the option to "Go directly to a database". From there you select "Lexicomp Online for Dentistry" and you are in! If you are off campus, you will be asked for your 9-digit student ID and PIN (the same ones you use to get into your portal). If you are on campus, you go straight to the database.

LECTURE MATERIALS: All lecture materials will be on the SRJC website CANVAS

ONLINE MATERIALS: A CANVAS online site will be utilized for this class. Students are responsible for checking the site daily for announcements and helpful supplemental materials. Students must also maintain a valid e-mail address with the College so that communications issued through this site are received.

OUTCOMES AND OBJECTIVES:

Student Learning Outcomes:

1. Describe the general principles of pharmacology to include the basic mechanisms of drug actions and interactions, indications and contraindications, dosages, therapeutic effects and toxicity and methods of administration.
2. Describe the pharmacology of each class of drugs and the dental implications in order to assess a patient's medical status for dental hygiene care and make appropriate modifications in dental management.
3. Demonstrate a working knowledge of therapeutic agents used in the routine practice of clinical dentistry and be able to provide the patient with appropriate instructions for compliance.

Course Objectives:

1. Define and describe the mechanism of action and therapeutic effect of each class of drugs.
2. Evaluate new therapeutic agents utilizing pharmacological principles.
3. Discuss the dental implications of each drug classification and how these implications affect and modify dental hygiene care.
4. List factors that influence the pharmacokinetics of drugs.
5. Describe adverse reactions and general methods of toxicity prevention.
6. Describe the mechanism and classification of drug interactions.
7. List the sources of drug information and demonstrate the use of these sources.
8. List the routes of drug administration.
9. Identify and define the parts of a prescription.
10. List common abbreviations, nomenclature and measurement systems used in prescription writing.
11. Identify the regulatory agencies and laws pertaining to prescribing and use of drugs.
12. Describe the dental implications of drug abuse and the possible modifications to patient management.
13. Recognize and describe the management of medical emergency situations resulting from the administration and/or use of drugs.
14. Describe common oral conditions and list the medications used to treat these conditions.
15. List common medications and the usual dosage forms used in dentistry.
16. Provide appropriate instructions for compliance to patient taking common medications used in dentistry.
17. Discuss medications regarding the pregnant or lactating patient.

TOPICS TO BE COVERED IN THIS COURSE:

1. General Principles - Introduction to Clinical Pharmacology
 - A. Sources of drug information
 - B. State and Federal regulation and classification of drugs
 - C. Drug Names and Properties
 - D. Prescription writing
 - E. Prescription and Nonprescription Medications
2. Fundamentals of Drug Action
 - A. Routes of drug administration
 - B. Pharmacokinetics

- C. Pharmacodynamics
 - D. Drug effects
 - E. Drug interactions
- 3. Autonomic Nervous System Medications
 - A. Functions of the Autonomic Nervous System
 - B. Autonomic drugs
 - C. Sympathomimetic drugs: drugs affecting sympathetic transmission
 - D. Adrenergic sympathetic agonists
 - E. Adrenergic receptor antagonists
 - F. Drugs affecting cholinergic transmission
- 4. Local Anesthetics Introduction and History
 - A. Properties of local anesthetics
 - B. Local anesthetic agents
 - C. Vasoconstrictors in local anesthetics
 - D. Adverse effects of local anesthetics
 - E. Dental management of medically compromised patients
- 5. Sedation and General Anesthetics
 - A. Routes and types of administration
 - B. Sedation in the dental office
 - C. Nitrous Oxide Sedation
 - D. General anesthesia history and stages
- 6. Medications for Pain Control
 - A. Neurophysiology of pain
 - B. Nonnarcotic analgesics
 - C. Opioid analgesics
 - D. Substance abuse and dependency
- 7. Antibacterial Agents
 - A. Antimicrobial agents
 - B. Prevention of infective endocarditis
 - C. Tuberculosis
- 8. Antiviral and Antifungal Agents
 - A. Antivirals for herpes simplex
 - B. Antiretroviral agents: HIV/AIDS
 - C. Antifungal agents
- 9. Antineoplastic, Immunosuppressant, and Bisphosphonate Medications
- 10. Fluorides
 - A. Composition and sources
 - B. Uses and delivery systems
 - C. Toxicology
 - D. Dental hygiene applications
- 11. Cardiovascular Medications
- 12. Gastrointestinal Medications
- 13. Respiratory Medications
- 14. Neurological Medications
- 15. Psychiatric Medications
- 16. Endocrine and Hormonal Medications
 - A. Diabetes mellitus
 - B. Thyroid Medications

- C. Adrenal (steroid) hormones
- D. Sex hormones and contraceptives
- E. Bisphosphonates/osteoporosis
- 17. Herbal and Natural Remedies
 - A. Homeopathy and natural products
 - B. Vitamins and minerals
 - C. Dental Hygiene applications
- 18. Pregnancy and Breastfeeding

COMPETENCY AND CURRICULUM MAPPING:

Refer to the Competency Statements and Curriculum Mapping found in your Student Clinical Policy Manual to determine the program competency and the level (novice, beginner, competent) you will achieve in this course. Competencies for this course are at the novice to beginner level.

METHODS OF INSTRUCTION:

Lecture and discussion of course material
 Reading assignments
 Case based instruction utilizing critical thinking
 Online access to course materials

REQUIREMENTS AND GRADING INFORMATION

METHODS OF EVALUATION:

- Online quizzes, midterms and final written examinations
- Written Reports

COURSE GRADING CRITERIA

Quizzes (10 total @ 5 points each)	50 points
2 Midterm Exams (50 points each)	100 points
Individual Assignments	50 points
Top Drugs Paper	20
Drug ad and prescribing paper	20
Patient Reports	10
Final exam	100 points

Total	300 points

Reading Assignments: It is required that all reading assignments be completed **before** the beginning of lecture. You are responsible for all information presented in the readings even if this material is not discussed in lecture. Due to the volume of course material, independent study is required. Students must come to class prepared to discuss all reading assignments. The CANVAS module for that week may contain supplemental material, so please check ahead of the lecture. Please make note of anything you do not understand for further clarification in class

Quizzes (50 points) - Due to the limited amount of class time, weekly quizzes will be completed prior to the class utilizing the CANVAS system. Quizzes will cover that week's reading assignment. The quizzes should be available on CANVAS up until the start of class. No late or make up quizzes will be allowed.

Midterm (2 @ 50 Points) - Midterms will cover only the material in that section of the course. Midterm 1 will cover weeks 1-6, Midterm 2 will cover weeks 7-12.

Final Exam (100 points) - Final exam is comprehensive. Date and time for the final exam will be posted on the door of the locker room at the beginning of the semester. Actual start time of the exam may be modified.

Examinations/quizzes are not returned to the student – if you would like to review your exam, please plan to make an appointment to meet me in my office for this review. All exams will be kept until 30 days after the end of the semester and then disposed of appropriately. Note: exam review will not be scheduled in the last week of the semester; please plan to request the review of your exam before this time.

INDIVIDUAL ASSIGNMENTS

Top Drugs Report - Due Week 9 (20 points) Each student will be required to research two specific drugs in a list of the top 50 prescribed drugs. Once the student has selected the medications, the student will answer a series of questions about each medication

Drug Advertising and Prescribing Report – Due Week 15 (20 Points) Each student will choose a medication seen in advertising in print, online or television/streaming media. A critical evaluation of the advertisement, its target audience, and its actual medication will be made by the student, including prescribing information and use.

Clinic Patients Report – Due Week 18 (10 points) Choose from your current assigned patients either one that is currently taking 4 or more medications, or two of them taking 2-3 medications. Give a brief summary of the patient's age, medical conditions, hospitalizations, allergies, and current medications. The student will answer a series of questions using Lexi-Comp Online for Dentistry.

Individual Assignment Paper Evaluation Rubric

Criteria	All Criteria Met	Most Criteria Met (-1 point)	Criteria Not Met (-3 points)
Format: Double Spaced, APA No min/max word	Properly formatted	Minor formatting error	Not well formatted
Organization & Thoroughness	Clear, Complete	Unclear, Incomplete information	Missing Questions/Answers
Research Material Cited	Properly Cited	Improper Citation	Missing Citations
Conclusions	Clearly Stated	Summarization Attempted, unclear	Not Well Stated / Incomplete

FINAL COURSE GRADE:

The final course grade will be taken from the total of all available points, and will be based on the Department Grading Scale

GRADE SCALE:

93-100%	= A
85 - 92%	= B
75 - 84%	= C
65 - 74%	= D

A total score less than 75% requires repeating the course and/or remediation.

COURSE STANDARDS:

- Students must achieve a minimum of 75%. Failure to do so will result in a grade of "D" or lower in the course and failure of the course.
- Unless otherwise specified, all assignments are expected to be the individual student's work
- There will be no make-up tests or assignments – you must be on time and attend the entire class to be entitled to take the test or submit an assignment
- Any papers/assignments must be professional in presentation – typed or computer generated, neat and organized.
- ALL requirements for this course must be met; failing to meet any requirement will result in a failing grade for the course.
- The best way to learn is through active participation; therefore, we respect others by being on time, listening actively and by being polite even when we disagree with another's viewpoint.
- Electronic devices may be beneficial in the classroom and also distracting when they are used inappropriately. The use of any electronic device; computer, pad, phone and/or watch will only be used for direct class enhancement and/or to refer to information that is presented for this subject.
- Students are expected to attend all class sessions and be prepared to discuss assigned reading and other assignment at a collegiate and professional level.
- Professional, self-motivated and cooperative behavior is expected.
- Any student with a disability (e.g. physical, learning, psychological, visual, hearing, etc.) who needs to arrange accommodations must contact the instructor and Disability Resources Department the first week of the semester. All testing arrangements must be made two weeks prior to the exams.

INSTRUCTOR ASSISTANCE:

All students are encouraged to seek assistance from the course instructor. If you have any questions concerning assignments, content, etc., or if a problem arises that warrants instructor help, please do not hesitate to schedule an appointment with the course instructor at your earliest convenience.

GETTING THE HELP THAT YOU NEED IS YOUR RESPONSIBILITY

REMEDICATION:

Any student achieving less than 75% on all quizzes is required to arrange a meeting with the instructor to discuss deficiencies in their grade and arrange potential remediation.

PROFESSIONALISM:

Santa Rosa Junior College's Dental Hygiene Program believes that professionalism is an essential component to the development of a health care provider. Our program strives to nurture and develop strong levels of professional behavior. All dental hygiene students are expected to demonstrate professionalism in behavior, communication, patient privacy and judgment in the dental clinics, classrooms, and clinical rotation sites. All clinical and classroom faculty will offer feedback for this development by formal and informal means. Repetitive instances of non-professional behavior or speech at any time during matriculation in the program will not be tolerated and may result in program dismissal. A review of expectations and criteria for Professionalism is found in the Student Handbook.

QUALITY ASSURANCE:

Refer to the Quality Assurance plan found in your Clinic Manual and Student Handbook to determine the assurances designed to ensure that the dental hygiene program adheres to the standards of care.

HIPAA STATEMENT

As a student at SRJC Dental Hygiene program, you have a legal and ethical responsibility to safeguard the privacy of all patients and protect confidentiality and security of all health information. Protecting the confidentiality of patient information means protecting it from unauthorized use or disclosure in any format oral, FAX, written or electronic. Patient confidentiality is a central obligation of patient care. Any breaches in patient confidentiality or privacy may result in disciplinary action, up to and including dismissal from the program.

STUDENT HANDBOOK AGREEMENT

It is the responsibility of all students enrolled in the dental hygiene program to read and comply with all policies found in the Student Handbook. Failure to do so may result in dismissal from the program.

ATTENDANCE POLICY

Students are expected to attend all sessions of the course in which they are enrolled. Students are expected to be prepared and to begin class on time. A student may be dropped from the class when that student's absences exceed 10% of the total hours of class time; no more than 4 hours of lecture. Unless state or federal law requires that the absence be deemed excused, no instructor shall be required to make a distinction between excused and unexcused absences. Students missing class/clinic time, before the 10% maximum, may be required to write a paper on the material missed.

TARDINESS: Please Refer to the Student Handbook – Students are expected to be present in the class at the scheduled beginning time and remain until the end of class. Tests are given at the beginning of class. If you are tardy to a class you will have less time to take the

scheduled test.

The total amount of time tardy or early leaving cannot exceed the 10% attendance maximum. Arriving late for lecture or lab disrupts the instructor and your fellow classmates. Students will not be allowed to enter the class late if it interrupts class instruction, if the door is closed please wait until the instructor opens it at a natural break in the instruction

DISABILITY RESOURCE DEPARTMENT: Please refer to your student handbook for this information.

EMERGENCY EVACUATION PLAN: Please refer to your student handbook for this information.

COURSE ETHICS: Please refer to your student handbook for this information.

ACADEMIC GRIEVANCES: Please refer to your student handbook for this information.

DISMISSAL POLICY: Please refer to your student handbook for this information.

AGREEMENT WITH STUDENTS:

This syllabus is an agreement, continued registration in this course means that you agree to the policies and procedures outlined in this syllabus. The syllabus/CANVAS site is intended to give the student guidance in what may be covered during the semester and will be followed as closely as possible. However, the instructor reserves the right to modify, supplement and make changes as the course needs arise.