NOVA SOUTHEASTERN UNIVERSITY
College of Dental Medicine

CDM 2010 - Pharmacology I

I. Course Information

Course: CDM 2010 - Pharmacology I
Semester and Year: Fall 2021
Course Start and End Dates: 07/26/2021 - 12/12/2021
Course Reference Number: 23976
Semester Credit Hours: 4.0
Building and Room: HPD-Assembly I Building - 2100STEL

II. Instructor Information

Professor: Arkene Stacyann Levy
Email: alevy1@nova.edu
Office Hours:

Faculty
Arkene Levy, Ph.D., Associate Professor of Pharmacology
Rm 1339; Ext 21339
Alevy1@nova.edu
Course Director

Michael Parker, Ph.D., Professor and Chair of Pharmacology
Rm 1357, Ext. 21357
parkmich@nova.edu

Charles Powell, Ph.D., Professor of Pharmacology
Rm 1349; Ext 21349
cpowell@nova.edu

Please email Dr. Levy, Dr. Parker and Dr. Powell to schedule office hours. Contact information can be found below:

III. Class Schedule and Location

Day	Date	Time	Location	Building/Room
W	07/28/2021 - 08/11/2021	3:10 PM - 4:59 PM	Ft Lauderdale/Davie Campus	HPD-Assembly I Building-2100STEL
W	08/18/2021 - 12/08/2021	3:10 PM - 4:59 PM	Ft Lauderdale/Davie Campus	HPD-Assembly I Building-2100STEL

F	08/20/2021 - 08/27/2021	8:10 AM - 9:59 AM	Ft Lauderdale/Davie Campus	HPD-Assembly II Building-MORRIS
F	09/03/2021 - 09/03/2021	8:10 AM - 9:59 AM	Ft Lauderdale/Davie Campus	HPD-Assembly I Building-2105HULL
F	09/03/2021 - 09/03/2021	8:10 AM - 9:59 AM	Ft Lauderdale/Davie Campus	HPD-Assembly I Building-2108AUDB
F	09/10/2021 - 09/24/2021	8:10 AM - 9:59 AM	Ft Lauderdale/Davie Campus	HPD-Assembly II Building-MORRIS
F	10/01/2021 - 10/08/2021	8:10 AM - 9:59 AM	Ft Lauderdale/Davie Campus	HPD-Assembly I Building-2105HULL
F	10/15/2021 - 10/15/2021	8:10 AM - 9:59 AM	Ft Lauderdale/Davie Campus	HPD-Assembly II Building-MORRIS

IV. Course Description

This course will provide the student a thorough understanding of the classes of drugs commonly used in clinical practice. Emphasis will be on the mechanism of action, clinical indications, side effects, important drug interactions, and the basic pharmacokinetics of each drug class.

V. Course Objectives / Learning Outcomes

Course Learning Outcomes

For each class of drugs discussed, the student will know:

1. The clinically important agents
2. The mechanism of action of each drug and the effects of the drug on the various organ systems
3. The clinical applications of each drug class
4. The routes of absorption, metabolism, and excretion of each drug class
5. The side effects and toxic manifestations of the drugs
6. Contraindications for each dru

COLLEGE OF DENTAL MEDICINE COMPETENCY STATEMENTS Faculty Note: Use the most updated version of the CDM Predoctoral Competency document to select the corresponding competencies for this course. Be sure to select the number of the competency statement and the verbatim competency statement as it appears on the competency document.For each competency indicate the type of assessment (formative or summative) that will be employed to measure the attainment of the competency

Core Competencies:

1. Graduates must be competent in patient assessment, diagnosis, comprehensive treatment planning, prognosis, and informed consent. Formative assessment: class discussion. Summative assessment: written exams [CODA Predoctoral Standard 2-24(a)]

5. Graduates must be competent in local anesthesia, and pain and anxiety control, including consideration of the impact of prescribing practices and substance use disorder. Formative assessment: class discussion, Summative assessment: written exams [CODA Predoctoral Standard 2-24(e)]

15. Graduates must be competent in the evaluation of the outcomes of treatment, recall strategies, and prognosis. Formative assessment: class discussion. Summative assessment: written exams [CODA Predoctoral Standard 2-24(o)]

16. Graduates must be competent in providing oral health care within the scope of general dentistry to patients in all stages of life. Formative assessment: class discussion. Summative assessment: written

exams [CODA Predoctoral Standard 2-23]

18. Graduates must be competent in managing common medical emergencies that may be encountered in dental practice. Formative assessment: class discussion. Summative assessment: written exams [CODA Predoctoral Standard 5-6]

19. Graduates must be competent in the application of biomedical science knowledge in the delivery of patient care. Formative assessment: class discussion. Summative assessment: written exams [CODA Predoctoral Standard 2-15]

26. Graduates must be competent in the use of critical thinking and problem-solving, including their use in the comprehensive care of patients, scientific inquiry and research methodology. Formative assessment: class discussion, Summative assessment: written exams [CODA Predoctoral Standard 2-10]
- This refers to the same as the items in the CDM Competency Document; please see them listed below.

FOUNDATION KNOWLEDGE

STATEMENTS FOR THE GENERAL DENTIST

FK1-2: Apply knowledge of structure and function of cell membranes and the mechanism of neurosynaptic transmission. (Encompasses Membrane Biology, Cell Biology, Biochemistry and Molecular Biology, Physiology, Neuroscience, etc.).

FK1-3: Apply knowledge of the mechanisms of intra and intercellular communications and their role in health and disease. (Encompasses Biochemistry, Cell Biology, etc.).

FK1-8: Apply knowledge of the principles of feedback control to explain how specific homeostatic systems maintain the internal environment and how perturbations in these systems may impact oral health. (Encompasses in Physiology, Systems Pathology, Oral Medicine, Pharmacology, etc.).

FK2: Apply knowledge of physics and chemistry to explain normal biology and pathobiology in the prevention, diagnosis, and management of oral disease and the promotion and maintenance of oral health.

FK6-2: Apply knowledge of the vascular and leukocyte responses of inflammation and their cellular and soluble mediators to understand the prevention, causation, treatment and resolution of tissue injury. (Encompasses Cellular and Molecular Pathology, General Pathology, Pharmacology, Immunopathology, etc.).

FK6-5: Explain the mechanisms, clinical features, and dental implications of the most commonly encountered metabolic systemic diseases. (Encompasses Systemic Pathology, Internal Medicine, Medically Complex Patients, etc.).

FK8: Apply knowledge of pharmacology in the prevention, diagnosis, and management of oral disease and the promotion and maintenance of oral health.

FK10-1: Apply basic mathematical tools and concepts, including functions, graphs and modeling, measurement and scale, and quantitative knowledge, to an understanding of the specialized functions of membranes, cells, tissues, organs, and the human organism, especially those related to the head and neck, in both health and disease. (Encompasses Basic Algebra, Basic Mathematics, Analytical and Descriptive Epidemiology, Statistics, Critical Evaluation of the Scientific Literature, Evidence Based Dentistry, etc.).

VI. Materials and Resources

Course Required Texts and Materials:

Basic and Clinical Pharmacology, 15th Edition, 2018, Bertram G. Katzung, McGraw Hill Publishers.
Faculty Note: Please indicate the textbooks that are **required** for the class and if available, a hyperlink to the textbook. Also, indicate if there are articles or links to **required readings** that are required for the class *and* the site where the articles are available for the student (such as: Canvas, library, database).

Course Supplemental Materials:

None
- Supplemental, Recommended, Optional, NOT required.

The access to all instructional resources included in this course, such as, lectures, handouts, manuals, PowerPoint presentations, videos, photographs, pictures, articles and web links is limited to students who are enrolled in the course and is not for public distribution. The use of these instructional resources is exclusively for non-commercial and non-profit educational use. Students are recommended to download the instructional resources provided in the course, UNLESS, the course director instructs NOT to download specific files. We recommend that all students download, save, and keep the instructional materials from all the courses. These instructional resources will be very helpful references as you progress from year to year in the program.

VII. Course Schedule and Topic Outline

Course Schedule:

Lecture Sequence

DATE	TIME	TOPIC	INSTRUCTOR
WED 8/04	3-5 PM	Introduction/History/Terminology	Levy
FRI 8/06	8-10 AM	Receptor Theory/Dose Response Relationships	Levy
WED 8/11	3-5 PM	Pharmacokinetics I	Levy
FRI 8/13	8-10 AM	Pharmacokinetics II	Levy
WED 8/18	3-5 PM	Bioavailability/Bioequivalence Designing Dosage Regimens	Levy
		END OF MATERIAL FOR EXAM 1	
FRI 8/20	8-10 AM	Introduction to Autonomic Pharmacology	Parker
WED 8/25	**3-5 PM**	**EXAM 1**	**Levy**
FRI 8/27	8-10 AM	Cholinergic Agonists	Parker
WED 9/1	3-5 PM	Cholinergic Antagonists	Parker
FRI 9/3	8-10 AM	Adrenergic Agonists	Parker
WED 9/8	3-5 PM	Adrenergic Antagonists	Parker
		END OF MATERIAL FOR EXAM 2	
FRI 9/10	8-10 AM	Principles of Antimicrobial Therapy/ Beta-Lactam Antibiotics I	Powell

DATE	TIME	TOPIC	INSTRUCTOR
WED 9/15	**3-5 PM**	**EXAM 2**	**Parker**
FRI 9/17	8-10 AM	Beta-Lactam Antibiotics II Bacitracin/Vancomycin/Daptomycin Fosfomycin/Cycloserine/Polymyxin B	Powell
WED 9/22	3-5 PM	Tetracyclines/Macrolides/Clindamycin Aminoglycosides	Powell
FRI 9/24	8-10 AM	Chloramphenicol/Mupirocin/Sulfonamides Trimethoprim/SMX-TMP/Fluoroquinolones Linezolid/Quinupristin-Dalfopristin	Powell
WED 9/29	3-5 PM	Antimycobacterials/Antifungals	Powell
WED 10/6	3-5 PM	Antivirals/Anhelminths/Antiprotozoals	Powell
		END OF MATERIAL FOR EXAM 3	
FRI 10/15	**8-10 AM**	**EXAM 3**	**Powell**
		This Syllabus is subjected to change	

"Important note – Please note that due to the current Coronavirus pandemic, course schedules and course activities may be modified now and in future. Faculty and students are responsible for keeping apprised of these changes and adjusting their schedules accordingly."

VIII. Instructional Methods

In this section of the syllabus you will find information about any course (instructional, assessment, assignments, benchmarks and/or clinical) modifications that were added to the course as a result of COVID-19

Course content is delivered via synchronous lectures: course and lecture materials will be available on canvas.

Assessments (exams) will be given via the Examsoft platform.

Quizzes might be given by each instructor via the canvas platform.

IX. Assignments

Description of Assignments, Point Value and Rubrics

Exam questions will be multiple choice format. Quiz questions will also be multiple choice and total grades for quizzes will be added as a percentage of the total points at the discretion of the course director. There will be no additional assignments in this course.

X. Grading Criteria

Provide a List of all the graded work in the course (Assessments, Class Activities, Classwork and Assignments) with Point or Percentage Values, or required Completion item.

Grading Scale:

There will be 4 examinations, each worth 100 points, for a total of 400 points for the semester. **Pop quizzes can be given at the**

instructor's discretion and will be added as a percentage of the total points. An average grade of less than 70% is considered a failure.
The format of the examination is multiple choice questions coming from lectures, classroom discussions, handouts, and required readings.
Students are required to take each examination at the assigned time. Students who enter the room after the announcement of the start of an examination may not be allowed to take the test. Students who have an un-excused absence from an examination will not be given a make-up test, but will be given a zero for the grade. Students who have an excused absence will be allowed a make-up test to be given within 10 business days following the date of the missed examination. The format of the make-up exam will be determined by the instructor.
All assignments, exams, works, patient care - written, laboratory, oral, clinical must be done as the independent work of each individual student. Plagiarism, copying or sharing the work of another or altering documentation to reflect something is your own work that is not; reflect false attendance, are considered serious offences that will not be tolerated. THESE ACTIONS WILL BE CONSIDERED IN VIOLATION OF THE CDM CODE OF BEHAVIORAL CONDUCT AND WILL BE REFERRED FOR APPROPRIATE ACTION. Students who need assistance in their learning goals should communicate with the appropriate NSU-CDM course director and/or faculty.
Course Final Grade Mode for the course (Pass/Fail, PR/NPR or Letter Grade). For a continuum course, please specify the grade mode for <u>each</u> semester.
Grade Mode:
Letter grades will be assigned/earned as follows:
Course Grading Scale

Letter Grade	GPA	Equivalence
A	4	93 to 100
A-	3.75	90 to < 93
B+	3.5	86 to < 90
B	3	83 to < 86
B-	2.75	80 to < 83
C+	2.5	76 to < 80
C	2	70 to < 76
F	0	<70

XI. Course Policies

COURSE ATTENDANCE REQUIREMENTS, REMEDIATION POLICY, ALL CDM POLICIES

Attendance Policy : Please refer to appropriate pages of the NSU-CDM 2020-2021 Student Handbook.

Link to the handbook:
https://liverootnova.sharepoint.com/dentmed/Active%20Docs/Policies%20and%20Procedures/Pre%20a2020%20CDM%20PreDoctoral%20Student%20Handbook.pdf?wa=wsignin1.0

Remediation Policy: Please refer to appropriate pages of the NSU-CDM 2020-2021 Student Handbook.

"Successful completion of each CDM course requires compliance with the CDM Code of Behavioral Conduct."

CDM College Attendance Policy Please note that, the Office of Admissions, Student Affairs and Services manages excused absences including sick days, mission trips, dental meetings, externships, interviews, family events, and other personal leave time, etc. and all student absences will continue to be tracked in axiUm. (Please refer to NSU Wide Religious Holidays Policy in the Student Handbook.) •

Planned excused absences: please fill out the appropriate paperwork, with backup documentation (e.g. physician's note), and submit on the online portal for the Office of Student Services prior to the scheduled absence, so that we can approve the leave time, and help you map out a plan to make up the work. It is the student's responsibility to inform the course director for any courses you will be missing, your team leader for any clinic sessions that will be missed and/or the Coordinator of Extramural Programs (Dr. Mairelina Godoy), etc. of your planned absence(s). • Unplanned excused absences: please email Dr. Galka at agalka@nova.edu with a cc to cdmservices@nova.edu to report that you will be out, the reason for your absence and to also let us know if you plan to return to school the following day. You should also email the course director for any courses you will be missing, Dr. Mairelina Godoy mg1189@nova.edu for any rotations you will be missing and/or your team leader for any clinic sessions scheduled for that day. You must continue to email us daily to keep us updated if you will be out additional days and you can submit your SREA form together with backup documentation when you know the date you will return to school. • The student will be responsible for making up all missed rotations, all material presented in lectures, all laboratory projects, all written and practical examinations (including OSCEs) and must fulfill all didactic and clinical responsibilities as outlined in the individual course syllabi. Also, please review the attendance policy in the individual course syllabi. • Please do not schedule externships or interviews when you are scheduled for an examination or rotation. • Remember, it is your responsibility to reach out to our office for any unexcused absences to see if these fall under excused absences and/or to see how the unexcused absence will be managed. Also, please contact Dr. Mairelina Godoy directly to arrange makeup of any and all missed rotations, which will take place during optional clinicweeks. • Every student will be able to take 1 Personal Day/per Semester (3 Personal Days/Academic Year) with NO BACKUP DOCUMENTATION REQUIRED, provided the day(s) are not taken when you are scheduled for a rotation, written examination, practical/competency examination, OSCE or taken directly before/after a school holiday, etc. These absences will be managed through our office and designated as excused absences, provided our office is notified by email in advance or on the day of the absence. (Please indicate in the email if you will be using a personal day and designate D-1, D-2, D-3 or D-4 student.) For any additional absences to the 1 Personal Day/per semester, or in the event that you will be missing a written examination, a preclinical or clinical practical/competency examination, including an OSCE, or rotation, backup documentation WILL be required. Again, it is the student's responsibility to notify all course directors, team leaders, and/or the Coordinator of Extramural Programs, etc. affected by your absence(s). Please check your individual schedule before requesting a personal day, to be sure that you will not be missing a rotation or an exam. A personal day will be recorded as a full day. (Half days cannot be requested.) A personal day must be requested on or before the day in question and cannot be used retroactively. **COVID-19 Protocol (subject to change)**1. NO STUDENT IS TO COME TO SCHOOL SICK- if you do not feel right- please do NOT come to school. Email Dr. Galka- Assistant Dean for Admissions, Student Affairs and Services (agalka@nova.edu) 2. If a student has had direct/close contact with someone who has been infected with COVID-19 or is experiencing COVID-like symptoms- immediately self- isolate/quarantine. Email Dr. Galka and Dr. Schweizer- Director Infection Prevention Programs (schweize@nova.edu). a. Direct Exposure/ Asymptomatic: test on day 7- if negative test result- can come back after 10 days : if NO test- quarantine 14 days b. Symptomatic (with or without Direct Exposure): test immediately and then again on day 7- if negative test result on day 7- can come back after 10 days : NO test- quarantine 14 days and must be symptom-free for 72 hours3. If a student tests positive for COVID-19: remain self-isolated. To return to school: student needs to have 2 consecutive negative test results in a row (at least 24 hours apart). 4. Students who are in quarantine, need to contact both Dr. Galka and Dr. Hernandez (marher@nova.edu) to determine if they can participate in online courses during this time

XII. **University Policies**

Academic Integrity: Cheating or inappropriate behavior during any written examination, quiz, any assignment, any project; plagiarism of any work(s), or other unethical behavior will not be tolerated; the student risks receiving a grade of zero (0) for said examination, quiz, assignment, project and may be referred to the Associate Dean for Academic Affairs and the Student Progress Committee. Please refer to

appropriate pages of the NSU-CDM 2020-2021 Student Handbook. and the NSU Student Handbook located at https://liverootnova.sharepoint.com/dentmed/Active%20Docs/Policies%20and%20Procedures/Pre%20and%202020%20CDM%20PreDoctoral%20Student%20Handbook.pdf?wa=wsignin1.0 .

Plagiarism Policy: All assignments, exams, works, patient care - written, laboratory, oral, clinical must be done as the independent work of each individual student. Plagiarism, copying or sharing the work of another or altering documentation to reflect something is your own work that is not; reflect false attendance, are considered serious offences that will not be tolerated. THESE ACTIONS WILL BE CONSIDERED IN VIOLATION OF THE UNIVERSITY AND THE CDM CODE OF BEHAVIORAL CONDUCT AND WILL BE REFERRED FOR APPROPRIATE ACTION. Students who need assistance in their learning goals should communicate with the appropriate NSU-CDM course director and/or faculty. Please refer to appropriate pages of the NSU and the CDM 2020-2021 Student Handbook. Following a link to the NSU Student Handbook https://liverootnova.sharepoint.com/dentmed/Active%20Docs/Policies%20and%20Procedures/Pre%20and%202020%20CDM%20PreDoctoral%20Student%20Handbook.pdf?wa=wsignin1.0

University Policy

Class content throughout this course may be recorded in accordance with the NSU Class Recording Policy. If class content is recorded, these recordings will be made available to students registered for this course as a supplement to the classroom experience. Recordings will be made available to all students who were registered to attend the live offering of the class, regardless of a student's section or discipline, or whether the student is participating in the course online. If recordings are intended to be accessible to students or third parties who were not registered for the live offering of the class, students' personally identifiable information will be removed or redacted from the recording, unless (1) their written consent to such disclosure was previously provided, or (2) the disclosure is permissible in accordance with the Family Educational Rights and Privacy Act ("FERPA").

Students are prohibited from recording audio or video, or taking photographs in classrooms (including online classes) without prior permission from the instructor or pursuant to an approved disability accommodation, and from reproducing, sharing, or disseminating classroom recordings to individuals outside of this course. Students found engaging in such conduct will be in breach of the Student Code of Conduct and subject to disciplinary action.

Title IX/Sexual Misconduct: Sexual violence and sexual harassment are contrary to our core values and have no place at Nova Southeastern University. In accordance with Title IX and other laws, NSU prohibits discrimination, including sex-based discrimination and discrimination towards pregnant/parenting students. If you or someone you know experience(s) sexual violence and/or sexual harassment, there are resources and options available. To learn more or to report an incident, please visit the NSU Title IX website at www.nova.edu.title-ix. Please be aware that as an instructor, I am not a confidential resource, and I will need to report any incidents of sexual misconduct to the NSU Title IX Coordinator. You can also contact Laura Bennett, NSU's Title IX Coordinator directly at laura.bennett@nova.edu or 954-262-7858.