

The University of Texas at El Paso School of Nursing
N2407 – Pharmacology for Nursing
Summer 2020 - Online

COURSE DESCRIPTION/COURSE OVERVIEW: This course provides an introduction to the principles of pharmacology, including pharmacokinetics, pharmacodynamics, pharmacotherapeutics, potential adverse medication reactions and interactions. Emphasis is placed on drug classifications and nursing implications related to the safe administration of medication to patients across the life span. Performing dosage calculations using varied methods are introduced.

COURSE PRE-REQUISITES: Admission into pre-requisites of nursing program classes. It is strongly recommended that students are also simultaneously enrolled in N2407 Pathophysiology.

CREDIT ALLOCATION: 4 credit hours (all didactic)

FACULTY INFORMATION:

- Shalla Copeland, PhD, RN
- School of Nursing Building Office: 322
- Phone: (915) 747-7255
- Email: smcopeland@utep.edu. When the course starts – utilize the **course messages**.
- Virtual Office Hours: Tuesdays and Thursdays from 11-3pm by appointment. Contact me via the course messages at any time, but please allow for at least a 24 to 48-hour response time.

REQUIRED RESOURCES:

Workman, M.L. & LaCharity, L. (2016). *Understanding pharmacology: Essentials for medication safety (2nd ed.)*. St. Louis: Elsevier. ISBN: 978-1-4557-3976-9.

ATI: Dosage Calculation and Pharmacology Made Easy Software. This is a free resource for students.

RECOMMENDED RESOURCES:

Workman, M.L. & LaCharity, L. (2016). *Study guide for understanding pharmacology: Essentials for medication safety (2nd ed.)*. St. Louis: Elsevier. ISBN: 978-0-3233-9494-9

Sienkiewicz, S. & Palmunen, J. (2017). *Clinical nursing calculations*. Burlington, MA: Jones & Bartlett. ISBN: 978-1-284-05752-2

COURSE OBJECTIVES:

Upon completion of this course, the learner should be able to:

1. Apply principles of pharmacology, pharmacokinetics, pharmacotherapeutics, and pharmacodynamics to medication therapy.
2. Recognize the major classifications of medications, common medications within each classification, their side effects, and contraindications.
3. Discuss nursing implications and concepts of safety, when performing drug calculations and medication administration.
4. Understand the legal and ethical implications/aspects of medication administration.

TEACHING METHODOLOGIES: Please see Blackboard for Course Calendar and Weekly Assignments

Teaching will include any of the following:

- PowerPoint Presentations
- Interactive Online Activities
- Lectures (online/audio)
- Case Studies/Assignments
- Quizzes (online)
- Course Content Exams (online) and a Comprehensive Final Exam (online)

GRADING POLICY AND STRUCTURE:

Students must pass this course at a minimum of 75%. Per the School of Nursing policy, achieving less than 75% in the didactic portion of the course results in a course failure. **There is no rounding of grades and fractional points will be dropped upon final course grade. Extra credit is not permitted.**

GRADING BREAKDOWN:

Exam I	17%
Exam II	17%
Exam III	17%
Exam IV	17%
Final Exam	20%
Quizzes/Assignments	12%
	100%

GRADING SCALE:

90-100	= A
80-89	= B
75-79	= C
60-74	= D
<60	= F

COURSE POLICIES:

Academic Regulations

- Review in UT El Paso Undergraduate Student Catalog and the **School of Nursing Student Handbook** the following policies: *Religious Observance, Clinical Compliance, Ethical and Responsible Use of Social Media, Policy on Academic Integrity, Progression Policy, Safe and Effective Nursing Practice Policy, Statement on Disability, and Student Injury.*

Attendance

- With the online format, students are responsible for accessing course material frequently to obtain course content and/or announcements posted within Blackboard.

Blackboard

- Students are required to subscribe to and **frequently access the course Blackboard site**. This site is the main source of communication between faculty and students. Students are encouraged to access this site on a daily basis. The course syllabus, calendar, assigned readings, and assignment criteria are also posted on this site. Grades will be made available **ONLY** through this site. Course communication during the semester will occur through the Blackboard course messages.

Communication

- Communication is the responsibility of both students and faculty. Faculty will keep students informed of progress and students will inform faculty of any deterrent to their success. Students with questions or concerns should:
 - First go to the appropriate faculty member.*
 - If not resolved, then follow the appropriate chain of command in the sequence as identified below:*
 - Course manager*
 - Director of Undergraduate Education*
 - Associate Dean for Undergraduate Education*
 - School of Nursing Dean*

Grievances

- Challenges to grades may be pursued only on the basis of malice, bias, arbitrary or capricious grade determination or impermissible discrimination. In no event shall a challenge be pursued only on the basis of the standards employed in setting grades, so long as those standards are employed impartially. Grievances **MUST** be in **WRITING** and filed through the faculty member, the SON Assistant Dean for Undergraduate Education and the Dean of the SON. If the student is not satisfied with the outcome after using the chain of command, the student may consult with and/or file a challenge with the Chairperson of the University Student Welfare and Grievance Committee.

Policy on Scholastic Dishonesty

- Students are expected to be above reproach in all scholastic activities. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the School of Nursing and/or university. Scholastic dishonesty includes but is not limited to reproducing test or quiz materials from memory, copy/paste or Xerox, cheating, plagiarism, collusion, the submission for credit or any work or materials that are attributable in whole or in part to another person, taking an examination for another person, and any act designed to give unfair advantage to a student or the attempt to commit such acts. Regents' Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22.
- Since scholastic dishonesty harms the individual, all students, and the integrity of the School of Nursing and the university, policies on scholastic dishonesty will be strictly enforced. See detailed procedure in the Handbook of Operating Procedures (HOP) available in the Office of the Dean of Students.

Policy relating to Disability / CASS / Pregnancy

- **Disability:** Nursing is a physically and mentally challenging profession. Nurses are required to think critically and quickly in order to respond to patient care needs. Nurses are also expected to be able to assist patients in transfer, ambulation and in activities of daily living. In order to do this, nurses must be able to lift, bend and be on their feet for extended periods of time. Nursing students are expected to be able to perform these functions. It is therefore the responsibility of the student to inform the course manager of any limitations they may have in completing course expectations. Nursing students with limitations in any of the above abilities are advised to discuss these matters with The Center for Accommodations and Support Services (CASS) to determine if reasonable accommodations could be provided. Written guidelines r/t accommodations from CASS must be submitted to the course manager PRIOR to the start of the course. If you have a disability and need classroom accommodations, please contact CASS at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. *CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.*
- **Pregnancy:** It is the responsibility of the student to inform the instructor of pregnancy limitations. Written guidelines r/t accommodations from The Center for Accommodations and Support Services (CASS) must be submitted to the course manager PRIOR to the start of the course.

Professional Behavior

- Students are expected to behave professionally *at all times* with faculty and peers in any setting in which the student is a representative of UTEP. Bullying, verbal abuse, insubordination, or personal attacks will not be tolerated in any form. Any behavior deemed inappropriate by faculty will result in faculty conference(s), and completion of a SOS plan that addresses the student's areas of needed improvement. Possible activities available to assist the student in attaining the SOS objectives include stress and/or anger management counseling sessions. Any behavior that is disruptive to the classroom may result in removal from the class and/or an administrative withdrawal from the course and/or dismissal from the program.
- The following addresses expectation of infection control, safety, and hygiene applying to classroom and clinical practice settings. Students are expected to be mindful of personal hygiene and cleanliness of clothing and personal baggage. Aseptic techniques should be used when coughing, sneezing, and disposing of personal tissues. Students and faculty must be careful to create an image of cleanliness and health, avoiding personal body odors and excessive use of perfumed chemicals. Hair should be clean and neatly kept, skin should be clean and intact. Open wounds with drainage/swelling/ or lacerations should be cleansed/bandaged for the classroom setting; however, a physician note is needed to be allowed into the skills practice lab or into a clinical rotation in the nursing program.

Retention: Students Opting for Success (SOS)

- When a student is not progressing in the course as expected or is not successful on an examination, they are recommended to meet with the instructor to discuss strategies for success. The SOS plan will identify recommendations for improving the student's success potential and will specify timelines for completion of these recommendations. *Students should be aware that non-compliance with SOS requirements jeopardizes eligibility for the opportunity to repeat the course in the subsequent semester.*

UTEP Tobacco Policy

- The University of Texas at El Paso (UTEP) appreciates your cooperation as we are a smoke and tobacco-free campus. The policy is part of the university's promotion of respect toward our environment and community. The use of tobacco products (including but not limited to cigarettes, cigars, pipes, water pipes, bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco or all other tobacco products) is prohibited in university buildings, grounds, sidewalks, walkways, and university-owned property and applies to all students, faculty, staff, contractors, and visitors. For more information, visit: www.tobaccofree.utep.edu.

Student Responsibility.

- Students are responsible for all assigned reading, lecture content, and any course content posted online within the weekly content folder. Preparation for class and active participation online will optimize the student's ability to succeed in the course. **Students should read assigned materials prior to the audio lecture in order to be prepared.**

Quizzes

- Quizzes will be given online based on the course calendar. **THERE IS NO MAKE-UP FOR QUIZZES FOR ANY REASON.**
- The Dosage Calculation quiz must be passed with a minimum score of a 90 (School of Nursing Policy). If the quiz is not passed, remediation will be required prior to the deadline identified by faculty. **Failure to complete this remediation will result in an "incomplete" for the course.**

Examinations

- Examinations are scheduled during the semester and a comprehensive final exam is scheduled at the end of the semester. The questions are derived from lecture objectives and course content.
- All students are expected to take the examinations at the scheduled time. Make-up exams are rarely given and then **ONLY** when there is a very valid reason (with appropriate documentation) and the course manager has been contacted **PRIOR** to the scheduled exam time. Failure to do so will result in receiving a zero (0) for the exam. Make-up exams will be different than exams given to the class to include fill in the blank and essay questions.
- Academic integrity will be maintained during online exams through the mandatory use of Lockdown Browser + Webcam Requirement. No materials (books, notes, drug cards etc) may be utilized during the exam, with the exception of a calculator. Environmental scans must carefully follow instructions. **Any violations will be referred to the Office of**

Student Conduct and Conflict Resolution (OSCCR) for scholastic dishonesty with a recommendation to receive either a letter grade deduction to a zero on the exam.

- Content exams and the Final Exam are timed.
- Student copies of the exams will not be allowed outside of the online setting at any time. Test items are the property of the faculty, and thus the university; writing down or attempting to copy and paste test items or answers is NOT permitted.
- Students may review the exam (online) after the due date with an individual appointment with the course manager. Specific times will be determined by the course manager. Each exam may be reviewed only once up until the next exam. Exams 1-4 may not be used as study guides for the Final Exam. The final exam will only be available for a limited review.

LockDown Browser + Webcam Requirement

This course requires the use of LockDown Browser and a webcam for online exams. The webcam can be the type that's built into your computer or one that plugs in with a USB cable.

Watch this brief video to get a basic understanding of LockDown Browser and the webcam feature.

<https://www.respondus.com/products/lockdown-browser/student-movie.shtml>

Download Instructions

Download and install LockDown Browser from this link:

<https://download.respondus.com/lockdown/download.php?id=586140509>

Once Installed

- Start LockDown Browser
- Log into Blackboard Learn
- Navigate to the test

Note: You won't be able to access tests with a standard web browser. If this is tried, an error message will indicate that the test requires the use of LockDown Browser. Simply start LockDown Browser and navigate back to the exam to continue.

Guidelines

When taking an online test, follow these guidelines:

- Ensure you're in a location where you won't be interrupted
- Turn off all other devices (e.g. tablets, phones, second computers) and place them outside of your reach
- Before starting the test, know how much time is available for it, and also that you've allotted sufficient time to complete it
- Clear your desk or workspace of all external materials not permitted - books, papers, other devices
- Remain at your computer for the duration of the test

- If the computer, Wi-Fi, or location is different than what was used previously with the "Webcam Check" and "System & Network Check" in LockDown Browser, run the checks again prior to the exam
- To produce a good webcam video, do the following:
 - Avoid wearing baseball caps or hats with brims
 - Ensure your computer or device is on a firm surface (a desk or table). Do NOT have the computer on your lap, a bed, or other surface where the device (or you) are likely to move
 - If using a built-in webcam, avoid readjusting the tilt of the screen after the webcam setup is complete
 - Take the exam in a well-lit room, but avoid backlighting (such as sitting with your back to a window)
- Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted

Getting Help

Several resources are available if you encounter problems with LockDown Browser:

- The Windows and Mac versions of LockDown Browser have a "Help Center" button located on the toolbar. Use the "System & Network Check" to troubleshoot issues. If an exam requires you to use a webcam, also run the "Webcam Check" from this area
- Contact the UTEP Help desk at 915- 747-HELP (4357) or at helpdesk@utep.edu
- Respondus has a Knowledge Base available from support.respondus.com. Select the "Knowledge Base" link and then select "Respondus LockDown Browser" as the product. If your problem is with a webcam, select "Respondus Monitor" as your product
- If you're still unable to resolve a technical issue with LockDown Browser, go to support.respondus.com and select "Submit a Ticket". Provide detailed information about your problem and what steps you took to resolve it

STUDENT RESOURCES:

MaRCS Center: (Math Resources Center for Students). The MaRCS tutoring center provides walk-in, face-to-face tutoring for all undergraduate mathematics courses. This is a free service for all UTEP students. Located in the library, room 218 (747-5366) or at <http://math.utep.edu/marcs/>

Student Health Center: UTEP Student Health Center is here to meet the health care needs of all students so they can focus on their studies. As a student you have paid a medical service fee that allows you to be seen at the clinic as often as needed. Office visits are low cost as well as medications, supplies and any needed lab tests (747-5624).

University Counseling Center: The UTEP University Counseling Center located at 202 Union West can assist you to decide on a career or work through personal concerns. They provide confidential counseling services, assist with stress management, and offer an after-hours crisis support line (747-5302).

Topical Outline

General Aspects of Pharmacology

- Drug Regulation, Actions, and Responses
 - Pharmacodynamics
 - Pharmacokinetics
 - Life Span Considerations
- Safely Preparing and Giving Drugs
 - Eight Rights of Safe Drug Administration
 - Types and Interpretation of Drug Orders
 - Preventing Drug Errors
 - Principles of Administering Drugs: Enteral, Parenteral, and Percutaneous

Mathematics in Pharmacology and Dosage Calculation

- Mathematics Review and Introduction to Methods of Dosage Calculation
- Medical Systems of Weights and Measures
- Dosage Calculation and Intravenous Solutions and Drugs
- Medication Orders and Interpretation of Medication Labels
- Dosage Calculation for Enteral Medications, Parenteral Medications, Infusion Therapy, and Special Populations

Anti-Inflammatory Drugs

- General overview of inflammation
- Corticosteroids
- Nonsteroidal anti-inflammatory drugs
- Antihistamines and Leukotriene inhibitors
- Disease-Modifying antirheumatic drugs

Drugs for Pain Control

- General issues related to analgesic drug therapy
- Opioids
- Nonopioid pain-control drugs
 - Acetaminophen
 - Nonsteroidal anti-inflammatory drugs
 - Antidepressants
 - Anticonvulsants
 - Muscle relaxants

Anti-Infectives: Antibacterial Drugs

- General issues related to antibacterial therapy
- Antibacterial drug resistance
- Cell wall synthesis inhibitors
- Protein synthesis inhibitors
- Metabolism inhibitors
- DNA synthesis inhibitors

Anti-Infectives: Antiviral drugs

- General issues in antiviral and antiretroviral therapy
- Antiviral drugs

- Antiretroviral drugs

Anti-Infectives: Antitubercular and Antifungal Drugs

- General overview of tuberculosis and fungal infections
- First-line antitubercular drugs
- Drugs for superficial and systemic fungal infections

Anticancer Drugs

- General issues related to cancer treatment
- Chemotherapy
- Hormone Manipulation
- Targeted therapy
- Biological response modifiers

Drug Therapy for Diabetes

- General overview of diabetes
- Insulin therapy/Noninsulin antidiabetic drugs

Drug Therapy for Thyroid and Adrenal Gland Problems

- General overview of hypothyroidism and hyperthyroidism
- Types of thyroid hormone replacement drugs
- Types of thyroid-suppressing drugs
- Types of drugs for adrenal gland malfunction

Drugs that Affect Urine Output

- General issues related to diuretic therapy and overactive bladder
- Diuretics: Thiazide, Loop, and Potassium-Sparing
- Types of drugs for overactive bladder

Drug Therapy for Hypertension

- General issues for antihypertensive therapy
- Types of antihypertensive drugs
 - Diuretics
 - Angiotensin-converting enzyme (ACE) inhibitors
 - Angiotensin II receptor blockers (ARBs)
 - Calcium channel blockers
 - Beta blockers
 - Alpha blockers
 - Alpha-beta blockers
 - Central-acting adrenergic agents
 - Direct vasodilators

Drug Therapy for Heart Failure

- General issues in heart failure therapy
- Types of drugs used to treat heart failure
 - Antihypertensive drugs
 - Vasodilators
 - Cardiac glycosides
 - Human B-type natriuretic peptides

- Positive inotropes
- Other drugs used to treat heart failure

Drug Therapy for High Blood Lipids

- General issues for antihyperlipidemic therapy
- Types of Lipid-lowering drugs
 - Statins
 - Bile acid sequestrants
 - Cholesterol absorption inhibitors
 - Fibrates
 - Nicotinic acid agents

Drugs that Affect Blood Clotting

- General issues for anticoagulant therapy
- Types of drugs that affect blood clotting
 - Thrombin inhibitors
 - Clotting factor synthesis inhibitors
 - Antiplatelet drugs
 - Thrombolytic drugs
 - Colony- stimulating factors

Drug Therapy for Eye Problems

- General issues for optic drug therapy and otic therapy
- Types of drugs for glaucoma
 - Prostaglandin agonists
 - Beta-adrenergic blocking agents
 - Alpha-adrenergic agonists
 - Cholinergic drugs
 - Carbonic anhydrase inhibitors

Drug Therapy for Asthma and Other Respiratory Problems

- General overview of asthma and COPD
- Types of drugs for asthma and COPD
 - Bronchodilators
 - Anti-inflammatory drugs
 - Combination bronchodilator and anti-inflammatory drugs
 - Mucolytics

Drug Therapy for Gastrointestinal Problems

- General overview of nausea and vomiting
- Antiemetic drugs
- General overview of constipation and diarrhea
- Types of drugs for constipation and diarrhea

Drug Therapy for Gastric Ulcers and Reflux

- General issues for drugs for PUD and GERD
- Types of drugs for PUD and GERD
 - Histamine H2 blockers
 - Proton pump inhibitors
 - Antacids

- Cytoprotective drugs
- Promotility drugs

Drug Therapy with Nutritional Supplements

- General overview of vitamins and supplements
- Enteral nutritional supplements

Drug Therapy for Seizures

- General overview of seizures and drug related issues
- Types of antiseizure drugs

Drug Therapy for Alzheimer's and Parkinson's Diseases

- General overview of Alzheimer's and Parkinson's disease
- Types of drugs for Alzheimer's disease
 - Cholinesterase/Acetylcholinesterase inhibitors and Memantine
- Types of drugs for Parkinson's disease
 - Dopaminergic/Dopamine agonists, COMT inhibitors, MAO-B inhibitors, and Anticholinergics

Drug Therapy for Psychiatric Problems

- General issues related to drug therapy for psychiatric problems
- Types of drugs for depression
- Type of drugs for anxiety
- Types of drugs for psychosis

Drug Therapy for Insomnia

- General overview of insomnia
- Drugs for insomnia

Drug Therapy for Osteoporosis, Arthritis, and Skeletal Muscle Relaxation

- General overview of osteoporosis, arthritis, and muscle spasms
- Types of drugs to manage or slow osteoporosis
- Types of drugs to manage arthritis
- Skeletal muscle relaxants

Drug Therapy for Male Reproductive Problems

- General overview of benign prostatic hyperplasia
- Types of drugs for benign prostatic hyperplasia
 - DHT inhibitors and Selective alpha-1 blockers
- Male hormone replacement therapy

Drug Therapy for Female Reproductive Issues

- General overview of menopause
- Types of perimenopausal hormone replacement drugs

See separate course calendar for specific dates for reading assignments and exams.

Linking of Course Objectives to Nursing Competencies:

<p>Crosswalk of:</p> <ul style="list-style-type: none"> ➤ UTEP SON PLOs ➤ BSN Essentials (AACN) ➤ DECs Based ➤ UTEP EDGE Outcomes 	<p><i>UTEP SON PLOs (Level 1 Program Outcomes) & QSEN Competencies</i> *: Patient-Centered Care*, Teamwork & Collaboration*, Evidence-Based Practice*, Quality Improvement*, Safety*, Informatics*, Professionalism, Leadership, Communication, System Based Practice, Health Promotion and Education</p> <p><i>BSN Essentials (AACN):</i> 1, 2, 3, 4, 5, 6, 7, 8, 9</p> <p><i>Differentiated Essential Competencies (DECs) for Baccalaureate Degree (BSN)</i></p> <p style="padding-left: 40px;">Member of the Profession A, B, C, D Provider of Patient-Centered Care A, B, C, D, E, F, G, H Patient Safety Advocate A, B, C, D, E Member of the Health Care Team A, B, C, D, E</p> <p><i>UTEP EDGE Outcomes:</i> Leadership, Problem-Solving, Communication, Social Responsibility, Confidence, Global Awareness, Teamwork, Critical Thinking</p>
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