Midwestern State University
Robert D. & Carol Gunn College of Health Sciences & Human
Services
The Shimadzu School of Radiologic Sciences

**RADS 5552- Pharmacology & Clinical Decision
Making**

Course Number: RADS 5552   2 credits   Fall 2025
Course Title: Pharmacology & Clinical Decision Making

Professor

Dr. Lynette Watts, RT(R)
Email: lynette.watts@msutexas.edu
Office: Centennial Hall, 430K
Phone: 940-397-4833
Fax: (940) 397-4845
In-office student hours:
Phone and virtual meetings via Zoom are always available by appointment.

Course Overview

Prerequisites- Radiologist Assistant Majors Only

The course includes pharmaceuticals common to radiology patients and will address indications, contraindications, complications, the intended use of these drugs, and their effect on physiology, diseases, and conditions. After learning this content and possessing the appropriate clinical skills, you will analyze the patient's current condition with regard to medications and other therapies and determine the significance of the radiology procedure. You will suggest the appropriate action plan for the procedure for the specific patient. The student will be responsible for the delivery and documentation of procedure-related pharmaceuticals; for patient assessment and monitoring before, during, and after the procedure; and for drug administration. It is essential that the student have a clear understanding of the laws and policies related to pharmaceuticals in his or her practice setting.

Course Objectives

Upon completion of this course, you will be able to:
- Explain the clinical trial process, legal, regulatory, and other requirements for pharmaceuticals.

- Identify selected drug classifications, mechanisms of action, indications for use, and pertinent patient educational needs.
- Evaluate drug effects on physiologic and psychological processes.
- Describe processes used in medication administration.
- Demonstrate calculations for medications.

Teaching Strategies

Independent reading assignments, Desire2Learn (D2L) modules, Open book module quizzes, online videos, Discussion Boards, and a Closed book proctored final exam are used in this course.

Course Materials
Textbooks- Required

ACR Committee on Drugs and Contrast Media. (2023). *ACR Manual on Contrast Media Version 2023*. American College of Radiology. Available for download in the course.

Workman, M.L. & LaCharity, L.A. (2024). *Understanding Pharmacology Sherpath.* (3rd ed.). Elsevier. 978-0443124549- $175.00 and up

Microsoft Office
Midwestern State University offers Office 365 to all students. Instructions on how to access this free software can be located at [Office 365 Education](#)

Computer Requirements
You need access to an up-to-date computer, webcam, and microphone with an internet connection for this course. Use a different browser when working in Brightspace Desire2Learn (D2L). The recommended browsers for D2L are Google Chrome, Mozilla Firefox, and Safari. Other browsers may be incompatible with D2L.

Course Requirements

- Complete reading assignments.
- Participate in Discussion Boards.
- Complete the required online examinations, including a proctored final exam.
- Meet all submission deadlines.

Communication

Communication with the Instructor

Communication will be through your Midwestern State University email account. An email account is created for every MSU student. If you have not accessed this account yet, please do so by logging into the Portal and clicking the student email account icon located in the Portal. You have the option to have any messages sent here to be forwarded to the email account of your choice.

The instructor will respond or at least acknowledge email messages from students within a maximum of five (5) business days when MSU is in session. Beyond standard university holidays and breaks, the instructor will notify you of any extended periods when email contact is not practical (professional meetings, etc.). When emailing the instructor, please include your full name, course and section number, and a thorough explanation in your message. This will help expedite your request or needs.

You should also periodically check the 'News' section within D2L for course updates and other important information.

Behavioral Expectations and "Netiquette"

Netiquette
When communicating through a digital environment (e.g. email, discussion boards), please use proper netiquette for your communication. The following guidelines will help you to communicate effectively.

- Don't say things that you wouldn't say in a face-to-face environment or any public place.
- Don't share confidential information.
- Use the subject line to identify the content of the message.
- Stay up to date on forum postings by reading them regularly.
- Always comply with copyright by citing your references when posting online content.
- Use individual e-mail for messages to individuals rather than tying up the group list.
- Electronic communication does not provide visual cues, such as smiles or frowns that face-to-face communication allows. Therefore, humor and/or sarcasm in a written text might be misunderstood and interpreted as rude or inflammatory in the online environment. Choose your words carefully to avoid hurting or angering anyone. Should emotions become inflamed, do not promote anger. Take a cooling down period, perhaps overnight, before you engage in the online activity again.
- Avoid using all capital letters in your text. This is considered 'shouting' in the online classroom.
- Aim for clarity and readability in your text.

- Use proper English and remember to spell-check.
- If you do not understand the assignment's directions or the posts of your classmates, don't be afraid to ask for clarification.

Academic Integrity

RADS 5552 adheres to the MSU Code of Conduct.
In particular, however small, academic dishonesty breaches academic integrity. Your participation in this course comes with the expectation that your work will be completed in full observance of the MSU Code of Student Conduct. You should consult the current Student Handbook for answers to any questions about the code.

Coursework and Assignments

All components of RADS 5552 are designed to represent the efforts of each student individually and are NOT to be shared, copied, or plagiarized from other sources. Therefore, when you submit your efforts for grading, you are attesting that you have abided by this rule.

An online plagiarism and artificial intelligence screening service may be used in this course. Student assignments may be uploaded to the service to identify similarities to other student papers and published works and to detect AI-generated work.

Cheating includes, but is not limited to
- Use of any unauthorized assistance in taking quizzes, tests, or examinations
- Dependence upon the aid of sources beyond those authorized by the professor in writing papers, preparing reports, solving problems, or completing other assignments
- The acquisition of tests or other academic materials belonging to the university faculty or staff without permission.

Plagiarism includes, but is not limited to
- The use of paraphrasing or direct quotation without correct citation in the text and the reference list
- The published or unpublished works of another person
- You may NOT submit papers and assignments you have previously submitted for this or any other course.
- Using materials generated by agencies engaged in "selling" term papers is also plagiarism.

Use of Artificial Intelligence (AI) Tools: This course permits you to use artificial intelligence (AI) tools, such as ChatGPT, Gemini, CoPilot, Scite, DeepSeek, Grok, Deep

Research, Grammarly, etc., to get guidance on assignments, as long as you do so in an ethical and responsible manner.

Students may NOT use generative AI tools to complete multiple-choice, matching, fill-in-the-blank, open-ended, or essay exam questions.

Students may use generative AI tools to brainstorm ideas, to create an outline or headings for their paper, and to improve their use of grammar. Other uses of generative AI tools are prohibited. If the student uses AI-assisted technologies, a disclosure must appear at the end of the document in a separate section before the references, using the following format. Without proper declaration, the assignment may be subject to a grade of zero or failure of the course, depending on the severity of the incident.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process Statement: *During the preparation of this work, the author(s) used [NAME TOOL / SERVICE] to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content.*

Using AI tools in an unethical or irresponsible manner, such as copying or paraphrasing the output without citation or transparency, using the output as your own work without verification or integration, or using the output to misrepresent your knowledge or skills, is considered a form of academic dishonesty and a grade of zero (0) will be given for the quiz, assignment, etc. Cases may also be referred to the Dean of Students for possible dismissal from the University.

If you have any questions about what constitutes ethical and responsible use of AI tools, please consult with the instructor before submitting your work.

You are encouraged to review the tutorials and suggested websites for more information about plagiarism. If you have any questions about what constitutes plagiarism, please consult:

· The University Academic Dishonesty Policy
· The website Plagiarism.Org, or
· The professor

You are accountable for any mistakes or errors made by the AI tool. Always check and edit the output before submitting your work. If you discover any inaccuracies or inconsistencies in the production after submission, notify the instructor immediately and correct them as soon as possible.

Evaluation

Grade distribution
- 40% Module Quizzes
- 30% Final Exam
- 20% Discussion Board
- 10% Class Participation

Grade Scale
A = 90% – 100%
B = 80% - 89%
C = 70% - 79%
D = 60% - 69%
F = 59% and below

Final grades are rounded (Ex. 89.5 is rounded to 90 or an A; 89.4 is not rounded). Individual quizzes and/or assignments are not rounded,

Grading Cycle
All assignments are graded together as a group to maintain a higher level of consistency. Grading begins on the first business day after the due date, outside of university holidays and professional meetings, and is typically completed before the next due date. You may track your progress through the Gradebook in D2L.

Late Work and Extra Credit

Due Dates.
Assignments must be submitted by 23:59 (11:59 pm) Central time, on scheduled due dates in the course schedule. If you fail to meet a deadline, you will receive *no (0) credit* for the assignment not submitted on time. Assignments are graded as *complete* after the due date.

Emergency Extension. If you have a major event such as a death in the family, illness, hospitalization, or other extenuating circumstances, email the instructor as soon as possible and on or before the scheduled due date. The instructor will grant extensions on an individual basis.

Extra credit:
You have what it takes to succeed in this course by studying and communicating with your instructor; therefore, extra credit is *not* awarded in this course.

Attendance

This is an asynchronous online education course. Regular logins to D2L will benefit you in several ways, such as ensuring that messages from the professor are received promptly, you do not miss

important information, and you do not miss due dates. You should expect to log in at least three (3) times per week. See the Course Schedule section for specific due dates.

Course Organization

Module 1: General Principles and Dose Calculation
Module 2: Anti-infective, Immunization and Immunosuppressant Drugs
Module 3: Pain Control, Migraines, Muscle Spasms, General Anti-inflammatory, Seizures, Alzheimer's & Parkinson's, Psychiatric problems
Module 4: Urine Output, Hypertension, Heart Failure, Dysrhythmics
Module 5: Lipids, Blood clotting, Respiratory
Module 6: GI, Ulcers, Reflux, IBD, Diabetes, Thyroid
Module 7: Male reproductive, Female reproductive, and Contrast

Assessments

D2L Module Quizzes -40%
To assess your understanding of the information in the modules, each module will have a 25 to 30-question quiz. The module quizzes are timed (50-60 minutes), therefore, you must be prepared by reading the required material before attempting the quiz. The quizzes consist of multiple-choice, matching, and multiple-response questions. The time limit for the quizzes will be enforced, and the quiz will prevent any changes after the time limit is exceeded; therefore, watch your time.

Be sure to read the study guides, practice applying and using the information learned, and watch associated video presentations. Review the important key items and the objectives before attempting a quiz. **The quizzes are open book and open note, but NOT open browser; therefore, Lockdown Browser + Webcam will be used for all quizzes and exams.**

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 is 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
- Select the quiz in the course
- Under Quiz Requirements, you will see "To take this quiz, you must use the Respondus LockDown Browser."

- Below this will appear: "You can use the button below if you have not already downloaded LockDown Browser". Click the button to go to the download page and then follow the instructions.
- Use the link to download Respondus LockDown Browser to your computer; follow the installation instructions.
- Return to the Quiz page in Brightspace (it may still be open in another tab) and select the quiz
- Select "Launch LockDown Browser."
- The quiz will now start.

Note: LockDown Browser only needs to be installed once on a computer or device. It will start automatically from that point forward when a quiz requires it.

Guidelines
When taking an online quiz, follow these guidelines:
- Ensure you are in a location where you will not be interrupted.
- Please turn off all other devices (e.g., tablets, phones, and other computers) and place them outside of your reach.
- Before starting the test, know how much time is available for it, and ensure you have enough time to complete it.
- Clear your desk or workspace of all external materials not permitted, including books, papers, and 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 before 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) is likely to move.
  - If using a built-in webcam, avoid readjusting the screen's tilt 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
- 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.

The quizzes must be completed by the due dates and times in the course schedule.

Final Exam -30%
To ensure you have adequately met the course objectives, a **comprehensive proctored closed-book final exam** will be administered using Desire2Learn (D2L) by the course date listed at the end of the syllabus. You may use a calculator (no cell phone calculators) and scratch paper for the final exam. No other resources may be used. Bathroom breaks are not allowed.

The Final Exam is CLOSED BOOK with no notes; therefore, Lockdown Browser + Webcam will be used for all quizzes and exams.

Discussion Board -20%
To apply your knowledge of medications, how they affect the patient, and how patient medication may influence radiology procedures, you will be given a patient scenario to discuss items related to the learning modules on the discussion board. The instructions are found in the modules and in the discussion board area of the course. You will make an initial post and respond to one other student's post by the date in the syllabus. Students cannot see other posts until they post their initial discussion. The initial post is 75% and the response post is 25% of the discussion grade.

Class Participation -10%
Students must participate in class activities and discussions. Evidence of class participation includes logging into the course regularly, participating in class discussions, and submitting assignments/quizzes on time.

RADS 5552-Fall 2025- Course Schedule

Date	Activity
	*Note all quizzes and assignments are due at 11:59 p.m. CST
August 26 25	MSU Fall Semester Classes Start
Monday, September 16 15	Module 1 quiz due
September 23 (Monday) 22 September 27 (Friday) 26	Discussion Board Module 2 initial post due Discussion Board Module 2- Response post due
Monday, September 30 29	Module 2 quiz due
October 7 (Monday) 6 October 11 (Friday) 10	Discussion Board Module 3 initial post due Discussion Board Module 2 response posts due
Monday, October 14 13	Module 3 quiz due
Monday, October 28 27	Module 4 quiz due
November 4 (Monday) - 3 November 8 (Friday) -7	Discussion Board Module 5 initial post due Discussion Board Module 5 response posts due
Monday, November 11 10	Module 5 quiz due
November 18 (Monday) - 17 November 22 (Friday) -21	Discussion Board Module 6-Initial post due Discussion Board Module 6-Response post due

Monday, November 25 24	Module 6 quiz due
November 25 (Monday) at 4:00 p.m. C.S.T. 24	Last day to drop course with a "W"
November 27- Dec 1 26-30	Thanksgiving break
Monday, December 9 8	Module 7 Quiz due
December 9- December 12 (Thursday) at **5:00 p.m.** CST 8-11	Final Exam

The last to withdraw with a "W" is November 24, 2025, at 4:00 p.m. CST.

Special Needs

Following Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable adjustments in its policies, practices, services, and facilities to ensure equal opportunity for qualified persons with disabilities to participate in all educational programs and activities.

The Office of Disability Services (ODS) provides information and assistance, arranges accommodations, and serves as a liaison for students, instructors, and staff. A student/employee who seeks accommodations based on disability must register with the Office of Disability Support Services, Documentation of disability from a competent professional is required.

Individuals with grievances related to discrimination or lack of accommodation based on a disability are encouraged to resolve the problem directly with the area involved. If the matter remains unresolved, advice and/or assistance will be provided by the Office of Disability Support Services for resolution. The grievance procedure may be found in the Student Handbook.

The ADA Coordinator may be contacted at (940) 397-4140, or 3410 Taft Blvd., Clark Student Center Room 168.

The Use of Auxiliary Aids and Intermediaries

Students with documented disabilities are provided with accommodations in the Program, which may include the involvement of an intermediary or auxiliary aid. No disability can be reasonably accommodated with aid or intermediary that provides cognitive support, substitutes for essential clinical skills, or supplements clinical and ethical judgment. Thus, accommodations *cannot* eliminate essential program elements or fundamentally alter the RA program curriculum.

Administrative Process

Unresolved issues related to this course should first be addressed between the student and the course instructor. If there is no resolution, students must follow this sequence:
1. Department Chair – Lynette Watts (940-397-4833)
2. College Dean - Dr. Jeff Killion (940-397-4594)
3. Dean of Students – Matthew Park (940-397-7500)

Technical Difficulties

On occasion, you may experience problems with accessing D2L, accessing class files located within D2L, connecting with your internet service, or may encounter other computer-related problems. Inform the instructor of a technical problem as soon as possible. If a problem occurs on our end, such as D2L failure, then a due date extension will typically be granted.

However, keep in mind it is your responsibility to have (or have access to) a working computer for this class. Assignments and quizzes are due by the due date, and personal computer technical difficulties will not be considered a reason for the instructor to allow students extra time to submit assignments, quizzes, or discussion postings.

Dropbox assignments that can be attached in an email should be emailed to the instructor as soon as a problem is encountered. Failure to do so may result in points being lost, regardless of connection issues.

For help options:

- For D2L issues go online go to the [Distance Education Helpdesk]
- By phone call the Distance Education office at 940-397-4868 between 8:00 a.m. and 5:00 p.m. CST.
- Use the D2L help link in D2L.
- Contact the instructor.
- For other computer access issues, go online to the [MSU Information Technology Website.]

Campus Carry Policy

Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, following state law. For more information regarding campus carry, please refer to the University's webpage at Campus Carry

Active Shooter

The safety and security of our campus is the responsibility of everyone in our community. Each of us has an obligation to be prepared to appropriately respond to threats to our campus, such as an active aggressor. Please review the information provided by MSU Police Department regarding the options and strategies we can all use to stay safe during difficult situations. For more information, visit Safety / Emergency Procedures. Students are encouraged to watch the video entitled "*Run. Hide. Fight.*" which may be electronically accessed via the University police department's webpage: *"Run. Hide. Fight."*

The instructor reserves the right to make changes to the syllabus, including assignment due dates when unforeseen circumstances occur. These changes will be announced as early as possible so that students can adjust their schedules.