

Pharmacology for Medical Assisting

MDCA 1348.01 - Online

Fall 2025

COURSE SYLLABUS

Instructor: ***Karen Duck, MS, BAAS, AAS, CMA (AAMA)***

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Office: UHS 102

Classroom: UHS 245 & UHS 241

Office hours: M-Th 9am-12pm & 1:30pm – 3:30pm

Course Description:

The student will be instructed in concepts and the application of pharmacological principles. The class focuses on drug classifications, principles and procedures of medication administration, mathematical systems and conversions, calculation of drug problems, and medico-legal responsibilities of the medical assistant.

Prerequisite:

MDCA 1317 Procedures in a Clinical Setting I

Required Texts:

- *Essentials of Pharmacology for Health Professions, Ninth Edition, Bruce Colbert*
- *MindTap Access – electronic platform, e-textbook included*

Student Learning Outcomes:

1. On entry level skills students will demonstrate understanding of the concepts and application of pharmacological principles.
2. On entry level skills students will demonstrate the cognitive focus of drug classifications.
- 3 On entry level skills students will demonstrate the cognitive ability to perform principles and procedures of medication administration.
4. On entry level skills students will demonstrate the cognitive and the psychomotor ability to perform mathematical systems and conversions.
5. On entry level skills students will demonstrate the cognitive ability to perform calculation of drug problems.
6. On entry level skills students will demonstrate the understanding of the medical-legal responsibilities of the medical assistant.

Course competencies:

I.C.10.a/b/c/d – Identify the classifications of medications including indications for use, desired effects, side effects, and adverse reactions

I.C.13 – Identify appropriate vaccinations based on an immunization schedule

II.C.1.a/b – Define basic units of measurement in the metric system and the household system
II.C.2 – Identify abbreviations used in calculating medication dosages
I.P.4.a/b/c/d/e/f – Verify the rules of medication administration: right patient, right medication, right dose, right route, right time, and right documentation
I.P.5 – Select proper sites for administering parenteral medication
I.P.6 – Administer oral medications
I.P.7 – Administer parenteral (excluding IV) medications
II.P.1 – Calculate proper dosages of medication for administration
II.P.4 – Apply mathematical computations to solve equations
II.P.5 – Convert among measurements systems

Course competencies covered in MDCA 1352 as well:

I.P.5 – Select proper sites for administering parenteral medication
I.P.6 – Administer oral medications
I.P.7 – Administer parenteral (excluding IV) medications

Course Policies:

To ensure you have all key information available to you off-line, it is highly recommended that you print the student syllabus for your reference. Your course calendar is your Learning Modules tab. Each week includes the specific date for it so you can stay on track with assignments and future assignments.

Students are responsible for checking their Blackboard Course Messages, Blackboard Announcement Board, NTCC email, and Microsoft Teams for instructor communications.

Attendance:

This is an online course – there is no on-campus attendance for this course. Attendance is not recorded for this class. It is recommended that you log-on to your classroom at least twice daily to ensure you are aware of announcements, assignments, discussions, and testing. The course week begins on Monday at 12:01am and ends on Sunday at 12:00 midnight. Days of the week correspond as follows:

Monday – Day 1
Tuesday – Day 2
Wednesday – Day 3
Thursday – Day 4
Friday – Day 5
Saturday – Day 6
Sunday – Day 7

Alternate Operations During Campus Closure and/or Alternate Course Delivery Requirements:

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Northeast Texas Community College to move to altered operations. During this time, Northeast Texas Community College may opt to continue delivery of instruction through methods that include, but are not limited to: online through the BlackBoard Learning Management System, online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor NTCC's website (<http://www.ntcc.edu/>) for instructions about continuing courses remotely, BlackBoard for each class for course-specific communication, and NTCC email for important general information.

Additionally, there may be instances where a course may not be able to be continued in the same delivery format as it originates (face-to-face, fully online, live remote, or hybrid). Should this be the case, every effort will be made to continue instruction in an alternative delivery format. Students will be informed of any changes of this nature through email messaging and/or the BlackBoard course site.

Instructional Methods and Tools:

The instructional methods and tools are tied to the course and chapter learning objectives by allowing the student to research, discover, and perform the differing educational exercises within the MindTap Learning Platform and class discussion forums. This course uses the following tools to aid students in successfully achieving the learning objectives in this course:

1. The MindTap Learning Platform will be used for the majority of assignments in this course. The platform contains different learning tools that include videos, homework assignments, and quizzes.
2. Weekly discussion questions.
3. Additional articles, lectures, and video demonstrations supplied by the instructor.

Evaluation and Grading Criteria:

Exams will be given each week and will cover information contained in your text, class discussions, and any additional materials given by the instructor. If there is an alteration in the class calendar, the change will be announced in the "announcements" section of Black Board. There are **NO** make-up exams and I do **NOT** accept late assignments! All assignment due dates are listed in the course calendar and under the description of the actual assignment. If you have a conflict with the date, it is your responsibility to contact me in advance of the due date to make arrangements for alternate submission. Failure to do so will result in a grade of zero for the assignment. **It is your responsibility to ensure that your assignments are submitted on or before the due date!** I do understand that there are unforeseen circumstances (such as a death in the immediate family and hospitalization) that may not allow you to post assignments by the due date.

Please contact me as soon as possible to arrange for an extension. **Technology issues are not valid reasons for missing deadlines.** Please ensure that your computers are updated with the correct software. Course weeks closes on Day 7 at 11:59pm.

Drop Policy: The last day to drop with a grade of “W” is **Tuesday, November 18, 2025.** The instructor will **not** drop students from the course rolls for any reason. If the student decides not to complete the course, it is the responsibility of the student to officially drop the course through the Registrar’s office. Failure to do so will result in an “F” being awarded in the course.

Grading Scale:

Discussion Boards, Student Contract	15%
Apply It Chapter Assignments	20%
Chapter Test	35%
Final Comprehensive Exams	30%

Grading Scale: The grading scale of all evaluation combined will be as the following

90% - 100%	=	A
89% - 80%	=	B
79% - 75%	=	C
Below 74%	=	F

75% is the minimum passing level of achievement. Any student who receives a final score below 75% will not pass the course. In addition, medical assistant students must obtain a passing score on all psychomotor and affective domain objectives (competencies) in the course. CAAHEP accreditation requires 100% of all medical assisting graduates pass 100% of all competencies.

Grades will be posted online under “**My Grades**” in Blackboard. Grades will be posted no later than day 7 of the following week in which the assignment was due. For example, if your assignment was due in Week 3, you would not receive grades on that assignment until Day 7 of Week 4. MindTap grades will automatically post to your grade book after you have submitted the assignment. I do review tests and worksheet assignments for computer errors and may award credit for answers that I feel are correct.

I will log in to the course at least 4 times during the week to monitor the weekly **Discussion** area. Feedback will be provided in the **Discussion** area and/or in the **Announcements** area. Requests for more specific feedback may be made in the **Discussion** area or in the **Ask the Instructor** area. I will respond to at least one main post each week but will not usually respond to all posts. If you feel you are not receiving enough personal feedback, you are strongly encouraged to contact me and ask for more specific feedback via email.

Academic Dishonesty

Academic dishonesty is considered an act of cheating. Each student has a responsibility to follow the college policies regarding academic dishonesty which are found on page 86 in the Northeast Texas Community College General Catalog. Please see my letter regarding Academic Integrity found on BlackBoard under **“Start Course Here”**.

Any student found guilty of academic dishonesty, the issue will be dealt with per NTCC’s policies and may receive a grade of “0” for that assignment. A second violation will result in failure of the course.

Online Communication:

Since this is online course and we do not interact face-to-face, good communication within the online environment is essential. Please read “The Core Rules of Netiquette” posted under **“Start Course Here.”**

If you have any questions regarding course content or questions related specifically to the class, please post them in the **“Ask the Instructor Forum”** posted under **“Start Course Here”** or **“DISCUSSIONS.”** Please take advantage of this forum as all students may benefit from your knowledge. If you have a personal question or situation, please email me directly. I make it a policy to answer all emails within 24 hours of receipt of the email. If I do not respond to you in 24 hours, please text me. As with electronic transfer of information (Internet connection issues), I may not have received your email. I also make it a point to log-on to our classroom frequently each week. If for any reason I will be unavailable during the semester, I will post the information under the **“Announcements”** tab.

It is important to always check your **NTCC E-mail, the Discussion** area, **Announcements**, and the **Ask the Instructor** area each time you check into the classroom. One of your classmates may have offered feedback or insight that will be helpful to you or I may have provided information in general to assist you in your work.

Private e-mailing between student and instructor via the **NTCC e-mail** should only be used for personal, confidential situations. Any communication regarding a personal matter should be sent directly to the instructor via e-mail. No communications of a private or personal matter should be posted in the public spaces of the classroom.

Please feel free to use the Class Biography forum to initiate and participate in conversations not directly related to the course. This is an excellent opportunity to get to know other students.

Course Navigation:

Please ensure that you navigate through the entire course so you are aware of the location of course materials, email, grade book, BlackBoard help, etc. It is your responsibility to ensure your knowledge of the BlackBoard system. If you have any questions, please post in the **“Ask the Instructor Forum,”** or you can contact NTCC’s

Tech Support. There are several “tabs” to the left of the course screen that provide additional information for the course.

Internet Connection Issues:

Since this course is delivered in an online format, please ensure that you have the proper computer and Internet set-up. There are no excuses for not submitting assignments due to technology issues – in other words, “my dog ate my computer” is not a valid excuse. If you have issues regarding connectivity, please contact NTCC’s Tech Support for help. If you have issues with navigating through the BlackBoard system, please refer to the “**HELP**” tab to the left on the course screen.

Course Materials and Assignments:

Along with your text books for this course, additional course materials located within the MindTap program are available as educational resources. You are also expected to use the Internet for additional research to enhance your discussions and assignments. There are several types of assignments that will be required to be completed during this course.

Discussion Questions (DQs): You will have one DQ due each week. Your initial response to the DQ is due by Day 2 (minimum word count of 50 words). You are required to respond to your instructor and at least two of your peers as this is an open forum and we often learn from each other’s posts by Day 5. I expect your posts to be researched, insightful, and add value to the discussion. Please note that I do grade on grammar, spelling, citation and referencing, and punctuation as correct use of written communication is important. I also require that you cite and reference your information. I have posted basic information for use of APA formatting under the “Start Course Here” tab. Your responses must be paraphrased in your own words. **DO NOT COPY/PASTE** from the Internet as this is plagiarism. Please see the section regarding “Academic Dishonesty.”

MindTap Assignments: All of the following assignments are performed through the MindTap Learning Platform and are due by Day 7 of each week:

Apply It Chapter Assignments: Due by Day 7 of each week.

Chapter Test: Due by Day 7 of each week.

***If any of these assignments do not load on your cell phone through the BlackBoard app and/or via MindTap link, please use a desktop or laptop computer to complete the assignments.

******There are no make-ups for any activities or assignments and I do not accept late work unless prior arrangements have been made.**

Final Comprehensive Exam: This exam will be administered the last week of class and will not be available before the last week of class. Additional information regarding the final will be posted in week 15 of class. **There is absolutely NO MAKE UP for the final exam.**

APA (American Psychological Association) Format: APA is a specific format that is a guideline for every aspect of writing, from determining authorship to constructing a [table](#) to avoiding [plagiarism](#) and constructing accurate reference citations. This format must be adhered to for all writing assignments to avoid plagiarizing your written material including discussion questions and peer responses. If you are unfamiliar with APA formatting, I have provided an Internet link on the “**Start Course Here**” page for reference.

ADA Statement

It is the policy of Northeast Texas Community College to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the Northeast Texas Community College Catalog or Student Handbook or you can contact the Coordinator of Special Populations at 903-434-8202, or visit the website:
<http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=111&pid=1>

Tobacco Use

If you come to NTCC's campus, the use of tobacco products including smokeless tobacco, smoking tobacco, electronic cigarettes, and any legal smoking preparation is prohibited in all College buildings, enclosed facilities, inner campus, and College owned vehicles.

Tobacco use is prohibited in:

1. All enclosed buildings and facilities, including but not limited to classrooms, offices, food service areas, lavatories and residence halls
2. All exterior areas in the inner campus and parking lots.
3. All college owned vehicles.

Tobacco use is permitted in:

1. Personal vehicles
2. Designated smoking huts on the west side of campus.

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights

transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered “eligible students.” In essence, a parent has no legal right to obtain information concerning the child’s college records without the written consent of the student. In compliance with FERPA, information classified as “directory information” may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student’s name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Learning Objectives:

Chapter 1 – Consumer Safety & Drug Regulations

- Explain the development and significance of U.S. drug regulations, including the Pure Food and Drug Act and the Federal Food, Drug, and Cosmetic Act.
- Describe the roles of key regulatory agencies (FDA, DEA, USP/NF).
- Define drug standards and schedules of controlled substances.

Chapter 2 – Drug Names & References

- Differentiate between chemical, generic, and trade drug names.
- Identify reputable drug reference sources (e.g., USP/NF, Physicians' Desk Reference).
- Use drug references to look up dosage, administration, and contraindications.

Chapter 3 – Sources & Bodily Effects of Drugs

- Explain pharmacodynamic and pharmacokinetic principles (absorption, distribution, metabolism, excretion).
- Describe therapeutic, toxic, and adverse effects of medications.
- Interpret dose-response relationships and therapeutic indices.

Chapter 4 – Medication Orders & Administration

- Describe different types of medication orders (written, verbal, electronic).
- Understand the "Five Rights" of medication administration.
- Discuss best practices for ensuring safe administration.

Chapter 5 – Pharmacologic Principles

- Distinguish between agonists, partial agonists, and antagonists.
- Explain receptor binding and dose-response curves.
- Recognize factors that influence drug action (e.g., tolerance, interactions).

Chapters 6–25 (Drug Classifications by System & Function)

While individual chapter titles may vary, typical learning objectives for these chapters may include:

- **Chapter 6: Autonomic Nervous System Drugs**
 - Classify sympathetic and parasympathetic agents and their therapeutic uses.
- **Chapter 7: Cardiovascular Drugs**
 - Describe antihypertensives, antiarrhythmics, and lipid-lowering agents.
- **Chapter 8: Respiratory & Allergy Drugs**
 - Identify bronchodilators and antihistamines, and understand their indications.
- **Chapter 9: Gastrointestinal Drugs**
 - Explain the use of antacids, antiemetics, and laxatives.
- **Chapter 10: Renal & Urinary System Medications**
 - Describe diuretics and drugs used for urinary tract disorders.
- **Chapter 11: Hormones & Endocrine Drugs**
 - Discuss medications affecting thyroid, adrenal, and insulin therapy.
- **Chapter 12: Reproductive & Genitourinary Drugs**
 - Explain use of contraceptives and hormone replacement therapies.
- **Chapter 13: Anti-Infectives**
 - Identify antibiotics, antivirals, and antifungals and antibiotic resistance issues.
- **Chapter 14: Chemotherapy & Antineoplastics**
 - Describe classes of chemotherapeutic agents and their side effects.
- **Chapter 15: Vitamins, Minerals & Supplements**
 - Understand dosage, use, and interactions of supplements.
- **Chapter 16: Neurologic & Psychiatric Drugs**
 - Recognize classes such as analgesics, sedatives, antipsychotics, and stimulants.
- **Chapter 17: Analgesics & Pain Management**
 - Differentiate opioid and nonopioid pain management agents.
- **Chapter 18: Psychotropic Medications & Substance Abuse**
 - Explain use of antidepressants, anxiolytics, and substance abuse interventions.
- **Chapter 19: Musculoskeletal & Anti-Inflammatory Drugs**
 - Describe NSAIDs and medications for arthritis and muscle conditions.
- **Chapter 20: Anesthetics**
 - Recognize local and general anesthesia types and applications.
- **Chapter 21: Immunizations & Immune Modulators**
 - Understand vaccines, immune suppressants, and related protocols.
- **Chapter 22: Emergency Medications**
 - Identify epinephrine, naloxone, and other emergency drugs.
- **Chapter 23: Ophthalmic & Otic Medications**
 - Describe drug administration to eyes and ears.

- **Chapter 24: Dermatologic & Topical Agents**
 - Explain use of topical steroids, antifungals, and skin treatments.
- **Chapter 25 – Cardiovascular Drugs** (*if not addressed earlier*)
 - Deepen understanding of drug therapy in cardiovascular disease.

Chapter 27 – Respiratory System Drugs

- Cover inhalers, corticosteroids, and allergy medications, focusing on administration methods and patient education.