

COURSE SYLLABUS

LAST REVIEW	Spring 2021
COURSE TITLE	Pharmacology
COURSE NUMBER	MEDA 0190
DIVISION	Health Professions
DEPARTMENT	Medical Assistant
CIP CODE	51.0801
CREDIT HOURS	3
CONTACT HOURS/WEEK	Class: 3
PREREQUISITES	None
COURSE PLACEMENT	This course is part of a selective admission program. Students must be admitted to the Medical Assistant program to enroll in this course.

COURSE DESCRIPTION

This course introduces the Medical Assistant to pharmacological principles and applications. In this course the medical assistant will be introduced to pharmacologic actions, pharmacokinetics, drug classifications, indications, contraindications, adverse effects, safe administration process, legal issues related to pharmacology as well as the administration of medications across all age groups.

PROGRAM ALIGNMENT

This course is part of a program aligned through the Kansas Board of Regents and Technical Education Authority. For more information, please visit:

https://kansasregents.org/workforce_development/program-alignment

PROGRAM LEARNING OUTCOMES

1. Define diseases and related treatments for the body systems.
2. Demonstrate clinical and laboratory skills necessary for entrylevel employment.
3. Practice basic principles and practices of safe pharmacological administration.
4. Modify communication to effectively interact with and provide education to patients of varying backgrounds.
5. Select appropriate reference materials to enhance performance of job functions and patient education.
6. Comply with principles of records management to complete incident reports, documentation, data entry and electronic health records.

7. Demonstrate legal, ethical, and safe behaviors when performing the duties of the medical assistant.

TEXTBOOKS

<http://kckccbookstore.com/>

METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

- I. Basic pharmacologic terms, abbreviations, and symbols
 - A. Medication Terminology
 - B. Abbreviations
 - C. Symbols

- II. Pharmacology
 - A. Sources of Drugs
 1. Plants
 2. Animals
 3. Minerals
 4. Synthetic
 5. DNA

 - B. Four Basic Processes of Pharmacokinetics
 1. Absorption
 2. Distribution
 3. Metabolism
 4. Excretion

 - C. Medication Interaction (Desirable and Undesirable)
 1. Potentiation
 2. Synergism
 3. Antagonism

 - D. Pharmacokinetics Influence Factors
 1. Age
 2. Gender
 3. Weight
 4. Psychological State
 5. Administration Route
 - a. IM
 - b. Oral

- c. I.V.
- d. Sublingual
- e. Inhalation
- f. Transdermal

E. Unexpected Responses

- 1. Tolerance
- 2. Dependence
- 3. Toxicity
- 4. Paradoxical
- 5. Teratogenic
- 6. Hypersensitivity
- 7. Anaphylactic Reaction

III. Adverse Effects, Desired Effects, Side Effects, and Indications for use

A. System Related

- 1. Cardiovascular Medications
- 2. Respiratory Medications
- 3. Nervous System Medications
- 4. Urinary System Medications
- 5. Skin/Topical Medications
- 6. Gastrointestinal Medications
- 7. Musculoskeletal Medications
- 8. Endocrine System Medications
- 9. Reproductive Medication

B. Condition Related

- 1. Vitamin's/Minerals/Herbs
- 2. Anti-infective Medications
- 3. Analgesic/Sedative Medications
- 4. Psychotropic Medications
- 5. Anticonvulsant Medications
- 6. Antihistamine Medications

COURSE LEARNING OUTCOMES AND COMPETENCIES

Upon successful completion of this course, the student will:

- A. Identify basic pharmacologic terms, abbreviations, and symbols related to medication administration.
 - 1. Explain the pharmacologic term using prepared medication administration record.
 - 2. Explain the pharmacologic abbreviations using a prepared medication administration record.
 - 3. Explain the pharmacologic symbol using a prepared medication administration record.

- B. Identify and explain sources, interactions, routes of administration, influential factors, medication responses and pharmacologic principles of medications.
 - 4. List and explain the sources of medications.
 - 5. Describe the four basic processes of absorption, distribution, metabolism and excretion of medications as they pass through the body.
 - 6. Explain potentiation, synergism, and antagonism.
 - 7. Explain adverse effects of drugs including toxicity, tolerance, dependence, paradoxical, teratogenic, hypersensitivity and anaphylactic reactions.
 - 8. Describe how age, gender, sex, weight and psychological state affect pharmacologic principles.
 - 9. Summarize the effects of drug dosages and routes on medication effectiveness.

- C. Apply knowledge to specific drug classifications and commonly prescribed medications related to system of the body.
 - 10. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Cardiovascular Medications.
 - 11. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Respiratory Medications.
 - 12. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Nervous System Medications.
 - 13. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Urinary System Medications.
 - 14. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Integumentary System Medications.
 - 15. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Gastrointestinal System Medications.
 - 16. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Musculoskeletal Medications.
 - 17. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Reproductive System Medications.
 - 18. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Endocrine System Medications.

- D. Apply knowledge to specific drug classifications and commonly prescribed medications related to specific conditions.
 - 19. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Vitamins, Minerals and Herbs
 - 20. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Anti-Infective Medications.
 - 21. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Analgesic/Sedative Medications

22. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Psychotropic Medications.
23. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Anticonvulsant Medications
24. Apply knowledge of desired effects, adverse effects, side effects, and indications of use for Antihistamine Medications.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES

Student Handbook

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

College Catalog

<https://www.kckcc.edu/academics/catalog/index.html>

College Policies and Statements

<https://www.kckcc.edu/about/policies-statements/index.html>

Accessibility and Accommodations

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.