SEWARD COUNTY COMMUNITY COLLEGE
COURSE SYLLABUS

I. TITLE OF COURSE: MT1203- Introduction to Medical Technology

II. COURSE DESCRIPTION: 3 credit hours
2 **credit hours of lecture and** 1 **credit hours of lab per week.**

The course is designed to acquaint the student with the wide variety of procedures performed in a clinical laboratory. Laboratory skills involving measurement and instrumentation are introduced. Topics to be covered include safety, medical terminology, laboratory mathematics, specimen collection, microscope use, staining procedures, professional behavior, ethics, use of general lab equipment, and introductory procedures in serology, urinalysis, chemistry, hematology, blood banking, and microbiology. The laboratory time will enhance knowledge gained in the lecture by allowing the student to work in the simulated laboratory at the Colvin Family Center for Allied Health or arranged time in an approved clinical affiliate site.

For each unit of credit, a minimum of three hours per week with one of the hours for class and two hours for studying/preparation outside of class is expected.

Pre-requisite: Beginning Algebra or higher.

III. PROGRAM AND/OR DEPARTMENT MISSION STATEMENT:

The Seward County Community College Medical Laboratory Technology program provides a curriculum that produces competent, career entry level medical laboratory technicians.

IV. TEXTBOOK AND MATERIALS:

Estridge, B.H., & Reynolds, A. P. Basic Clinical Laboratory Techniques 6th ed. ISBN 978-1-111-3836-3 Albany, NY: Thomson-Delmar Publishers, Inc., 2012.

V. SCCC OUTCOMES

Students who successfully complete this course will demonstrate the ability to do the following SCCC Outcomes.

1: Read with comprehension, be critical of what they read, and apply knowledge gained to real life
2: Communicate ideas clearly and proficiently in writing, appropriately adjusting content and arrangement for varying audiences, purposes, and situations.
3: Communicate their ideas clearly and proficiently in speaking, appropriately adjusting content and arrangement for varying audiences, purposes, and situations.
4: Demonstrate mathematical skills using a variety of techniques and technologies.
5: Demonstrate the ability to think critically by gathering facts, generating insights, analyzing data, and evaluating information
6: Exhibit skills in information and technological literacy

9: Exhibit workplace skills that include respect for others, teamwork competence, attendance/punctuality, decision making, conflict resolution, truthfulness/honesty, positive attitude, judgment, and responsibility

VI. COURSE OUTCOMES:

Upon completion of this course, the student will be able to:

1. Recognize and practice professional behavior as defined by the rules, regulations and instruction of the program.
2. Correctly state the accuracy and differences in laboratory glassware and demonstrate the correct usage of glassware.
3. Perform the following types of mathematical calculations: ratio, proportion, percent, dilutions, standard deviation, coefficient of variation.
4. Outline introductory knowledge requirements in hematology blood banking, coagulation, urinalysis, serology, chemistry and microbiology disciplines and identify and relate basic lab procedures, and quality assurance, performing necessary calculations in these areas.
5. Demonstrate an understanding of laboratory safety by identifying potential hazard, listing adequate precautions, properly using personal protective equipment and safety equipment, and relating the importance of accident reports.
6. Perform basic specimen collection and processing procedures.
7. Identify and define common laboratory terms, abbreviations, and basic medical terms.
8. Identify the various parts of a microscope, their proper uses and cleaning.
9. Identify registry and certification requirements for the MLT.
10. Discuss the organization and function of a laboratory, its personnel and accrediting agencies.

VII. COURSE OUTLINE:

A. Introduction to the Medical Laboratory

1. Clinical Laboratory
2. Clinical Laboratory Professional
3. Introduction to Medical Terminology
4. Laboratory Safety
5. Medical Terminology
6. Quality Assurance
7. Introduction to Metric System
8. Laboratory Calculations and Reagent Preparation
9. Laboratory Glassware
10. General Laboratory Equipment
11. Microscope

B. Urinalysis

12. Introduction to Urinalysis
13. Collection and preservation of the Urine
14. Physical Examination of Urine
15. Chemical Examination of Urine
16. Microscopic Examination of Urine Sediment

C. Basic Clinical Chemistry

17. Introduction to Clinical Chemistry
18. Blood Glucose and Hemoglobin A1c

D. Hematology

19. Introduction to Hematology
20. Blood Collection – Capillary Puncture
21. Blood Collection - Venipuncture
22. Hematocrit
23. Preparing and Staining a Blood Smear
24. Normal Blood Cell Morphology
25. While Blood Cell Differential Count
26. Principles of Automated Hematology

E. Hemostasis

27. Principles of Hemostasis
28. Prothrombin Time

F. Clinical Microbiology

29. Introduction to Clinical Microbiology
30. Culture Techniques

31. Preparing a Smear and Gram Stain
32. Collection and processing of specimens
G. Immunology and Immunohematology
33. Introduction to Immunology
34. Introduction to Immunohematology
35. ABO Slide and Tube Typing
36. Rh Slide and Tube Typing

VIII. INSTRUCTIONAL METHODS:

Lecture, Discussion, Demonstration, Laboratory Exercises, Web-based materials.

IX. INSTRUCTIONAL AND RESOURCE MATERIALS:

Handouts, computer review, supplies used in hospitals, Internet references.

X. METHODS OF ASSESSMENT:

SCCC Outcome #1 will be assessed and measured by class participation and writing assignments indicating comprehension of the material read.

SCCC Outcome #2 will be assessed by written laboratory reports.

SCCC Outcome #3 will be assessed and measured by verbal communication with clinical instructors, students, and of laboratory reports.

SCCC Outcome #4 will be assessed and measured by the student's ability to correctly perform clinical laboratory calculations.

SCCC Outcome #5 will be assessed and measured by the student's ability to correctly perform laboratory procedures, determine validity of results and resolve discrepancies as encountered. Students will also be assessed on their ability to follow prescribed procedures for troubleshooting and problem solving.

SCCC Outcome #6 will be assessed and measured by the student's ability to properly and efficiently operate automated equipment and the microscope.

SCCC Outcome #9 will be assessed and measured by the completion of the Student Attitude Assessment tools by didactic instructors.

XI. ADA STATEMENT:

Under the Americans with Disabilities Act, Seward County Community College will make reasonable accommodations for students with documented disabilities. If you need support or assistance because of a disability, you may be eligible for academic accommodations. Students should identify themselves to the Dean of Students at 620-417-1106 or going to the Student Success Center in the Hobble Academic building, room 149 A.

Syllabus Reviewed: 03/11/2021 21:17:10