MA 164 Course Outline as of Spring 2006

CATALOG INFORMATION

Dept and Nbr: MA 164 Title: LAB TECHNIQUES
Full Title: Laboratory Techniques
Last Reviewed: 1/27/2020

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	2.00	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	2.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	70.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00 Total Student Learning Hours: 105.00

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	

Catalog Description:
Introduction to the clinical laboratory. Urinalysis, hematology, blood chemistry, serology testing, and normal ranges are studied. Students will perform low complexity tests and use microscopes to examine lab slides.

Prerequisites/Corequisites:
Concurrent Enrollment in MA 63BL (or MA 287.5) OR Concurrent Enrollment in MA 163BL

Recommended Preparation:
Course Eligibility for ENGL 100 OR Course Eligibility for EMLS 100 (or ESL 100)

Limits on Enrollment:

Schedule of Classes Information:
Description: Introduction to the clinical laboratory. Urinalysis, hematology, blood chemistry, serology testing, and normal ranges are studied. Students will perform low complexity tests and use microscopes to examine lab slides. (Grade Only)
Prerequisites/Corequisites: Concurrent Enrollment in MA 63BL (or MA 287.5) OR Concurrent Enrollment in MA 163BL
Recommended: Course Eligibility for ENGL 100 OR Course Eligibility for EMLS 100 (or ESL

100)
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:
Upon completion of this course, the student will be able to:
1. Use a laboratory directory.
2. Complete a laboratory request form.
3. Read a laboratory report.
4. Instruct a patient in the preparation necessary for a laboratory test requiring fasting.
5. Collect a biologic specimen.
6. Handle and store a biologic specimen.
7. Employ quality control methods.
8. Practice laboratory safety.
9. Instruct an individual in the procedure for obtaining a clean-catch midstream urine specimen.
10. Assess the color and clarity of a urine specimen.
11. Measure the specific gravity of a urine specimen.
12. Perform a chemical assessment of a urine specimen, using dipstick or tablet reagent urinalysis (non-automated).
13. Determine the amount of glucose present in a urine specimen, using the Clinitest testing kit.
14. Prepare the specimen and identify the urine sediment on a slide prepared for physician's microscopic examination.
15. Perform a urine pregnancy test, using visual color comparisons.
16. Teach a patient about urinary tract infection.
17. Describe the normal appearance and function of erythrocytes, leukocytes, thrombocytes, and hemoglobin.
18. State the normal values or ranges for hematologic tests, e.g., hemoglobin, hematocrit, red and white blood cell counts, and differential cell count.

19. Identify normal ranges for common blood chemistry tests.
20. Explain the purpose of common serologic tests.
21. Use, properly handle, and care for a compound microscope.
22. Obtain a specimen for a throat culture.
23. Obtain a microbiologic specimen using a collection & transport system.
24. Prepare a wet mount.
25. Prepare a hanging drop slide.
26. Prepare a microbiologic smear.
27. Teach a patient about strep throat.
28. Instruct a patient for a Hemoccult slide test.

Topics and Scope:

I. Introduction to the clinical laboratory
  A. Laboratory tests
  B. Purpose of laboratory testing
  C. Relationship between the medical office and clinical laboratory
  D. CLIA (Clinical Laboratory Improvement Amendments) regulations and low-complexity tests medical assisting students may perform
  E. Laboratory requests
    1. purpose
    2. parts of a lab request form
  F. Laboratory reports: using a lab directory
  G. Patient preparation and instructions
  H. Guidelines for collecting, handling, and transporting specimens
  I. Categories of laboratory tests for testing specimens
  J. Quality control
  K. Laboratory safety
II. Urinalysis
  A. Structure and function of the urinary system
  B. Composition of urine
  C. Terms relating to the urinary system
  D. Collection of urine - methods
  E. Analysis of urine
  F. Chemical examination of the urine
  G. Microscopic examination of urine
    1. prepare slide for doctor to examine
    2. identify urine sediment
  H. Urine pregnancy testing, using visual color comparisons
  I. Patient Teaching: Urinary tract infections
III. Hematology, blood chemistry, and serology
  A. Hematology
  B. Normal ranges for hematologic tests, e.g., hemoglobin, hematocrit, red and white blood cell counts, and the differential cell count
  C. Normal ranges for common blood chemistry tests
  D. Purpose of common serologic tests
IV. Medical Microbiology
  A. Normal flora, infection, microorganisms, & disease
  B. Use, proper handling, and care of compound microscope
  C. Obtaining a specimen for a throat culture
  D. Obtaining a microbiologic specimen using a collection and

transport system
E. Preparing a wet mount
F. Preparing a hanging drop slide
G. Preparing a microbiologic smear
H. Teaching a patient about strep throat
I. Instructing a patient for a Hemoccult slide test

Assignment:

1. Complete reading assignments, 15-20 pages/week.
2. Complete written assignments: self-evaluation related to reading 5 to 10 questions per week.
3. Practice lab tests and medical microbiology in lab setting under instructor supervision. Write lab reports.
4. Clinical skill performance evaluations as each clinical skill is completed.
5. Quizzes (3-7); final exam.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written homework	Writing 20 - 45%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Lab reports, Lab tests.	Problem solving 10 - 15%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Performance exams	Skill Demonstrations 30 - 50%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Short essay.	Exams 10 - 20%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials:
CLINICAL PROCEDURES FOR MEDICAL ASSISTANTS. By K. Bonewit-West, 6th Ed., Saunders, 2004.

STUDENT MASTERY MANUAL. By K. Bonewit-West, 6th Ed., Saunders, 2004.