SJH - LABORATORY
Mon.,Thurs., 8:00am-3:00pm

GOVERNORS STATE UNIVERSITY
SCHOOL OF HEATLH PROFESSIONS

DIVISION OF HEALTH AND HUMAN SERVICES

COURSE SYLLABUS

COURSE NUMBER: MEDT 330 (I)

COURSE TITLE: Clinical Laboratory Science: Medical Technology Practicum II

COMPONENT I: Urinalysis and Body Fluids

COORDINATOR: Clementine Coleman, MA, MT(ASCP)SH

INSTRUCTORS: M. Shakerin, M.D. & Staff, Clinical Microscopy

CREDIT: 1 Unit

FOR: Undergraduate Students

DATE: Winter, 1984

DESCRIPTION:

In this laboratory component, routine urinalyses, other urine procedures, and pregnancy testing will be performed. Principles of urine testing and their clinical applications will be discussed. Kidney anatomy and physiology will also be discussed. Body fluids testing will also be performed and the principles of body fluids analyses and the clinical application will be presented. Laboratory/Discussion.

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

1) Perform a routine urinalysis including visual examination, chemical screening, specific gravity and microscopic examination.
2) Perform selected quantitative and qualitative urine and body fluids procedures.
3) Relate the chemical principles and clinical application of selected urine procedures.
4) Describe the basic operating principles and maintenance of instruments used to perform selected urine and body fluids procedures.
5) Describe appropriate specimen collection, handling, and preservation for selected urine and body fluids procedures and note the effects of deviation from these procedures.
6) Use quality control in urine testing by using established quality control procedures.
7) Perform routine body fluids analysis including visual examination, chemical screening and microscopic examination.

TEXTBOOK:

Ross, Doris L. and Ann E. Neely. Textbook of Urinalysis and Body Fluids. Norwalk, Connecticut: Appleton-Century-Crofts, 1983.

REQUIRED READING:

Haber, Meryl H. A Primer of Microscopic Urinalysis. Fountain Valley, California: ICL Scientific, 1978.
Passman, John M. Update Renal Disease, Damon Clinical Colloquium, Vol.1, No.3. Needham Heights, Massachusetts: Damon/Medical Services Group, 1976.
Urine Under the Microscope, Rocom Reference Series. Nutley, New Jersey: Rocom Press, Hoffman-La Roche, Inc., 1973.
Product Information Materials. Ames Company, Division Miles Laboratories, Inc.

NOTE: You will be given a folder of printed articles, package inserts and procedures, which you may keep. References cited above will be given to you at the start of your rotation in the laboratory. These references must be returned at the completion of your laboratory rotation. If they are not returned, no grade will be submitted and only will be submitted when the references are returned.

SUGGESTED WORK:

WEEK 1: Major Topics: Kidney Structure and Function, Routine Urinalysis

1. Review kidney anatomy and physiology.
2. Perform routine biochemical (dipstick), specific gravity, and some confirmatory biochemical tests.
3. Describe color, odor and clarity of normal and abnormal urines.
4. Describe the chemical principles, clinical application, and normal ranges of procedures performed.
5. Describe the proper collection and preservation of random, 12-hour, and 24-hour urine specimens.

READING ASSIGNMENTS:

Textbook
Ames Product Information
Haber
Passman & Urine Under the Microscope (if needed, to supplement other readings)

WEEKS 2,3: Major Topics: Routine Biochemical Testing, Microscopic Examination

1. Review activities of Week 1.
2. Perform screening and qualitative procedures for urine reducing substances, protein, bile, and urobilinogen.
3. Prepare urine specimens for microscopic examination.
4. Perform a microscopic examination of urine.
   a. Identify epithelial cells.
   b. Identify, classify, and quantitate casts.
   c. Recognize, classify and biochemically confirm urinary crystals.
   d. Identify and quantitate bacteria, yeast and trichomonas.
   e. Identify sperm, amorphous material and contaminants.
5. Describe the associated disease and formation of hyaline, red cell, white cell, fine and coarse granular, and waxy casts.
6. Associate microscopic urine findings with selected disease processes.
7. Describe the performance and interpretation of the Addis Count.

WEEKS 2,3: (con't) READING ASSIGNMENTS:

Textbook
Urine Under the Microscope (as needed for microscopic examination)
Haber
Ames Product Information
Kova Literature

WEEK 4: Major Topics: Routine Urinalysis, Selected Urine Procedures

1. Review performance and principles of procedures performed Weeks 1-3.
2. Describe urine procedures, normal values, and clinical application of urine tests of concentration, cytomegalic inclusions, Hemosideran, Porphyrins screening, Porphyrins fractionated, Myoglobin and others.
3. Perform procedures selected from 2.

READING ASSIGNMENTS:

Textbook
Haber
Ames Product Information

WEEK 5: Major Topics: Review of Weeks 1-4, Human Chronic Gonadotropins (HCG)

1. Review and improve performance of activities of Weeks 1-4.
2. Perform HCG procedures and discuss their clinical application.

READING ASSIGNMENTS:

Commercial material on HCG testing

ALL WEEKS: (1-5) Routine Body Fluids Analysis

1. Describe color, clarity, volume and consistency of body fluids being tested.
2. Perform a count on the body fluids being tested.
3. Perform a microscopic examination of the body fluids tested.
4. Perform routine biochemical tests on the body fluids.
5. Describe the chemical principles, clinical application and normal ranges of procedures performed.
6. Associate the disease state with observed laboratory findings.

READING ASSIGNMENTS:

Textbook, pp. 217-296

EVALUATION:

Students will be evaluated on the basis of their performance on quizzes (written and practical), study questions, and a written and practical final examination.

3 Quizzes	= 40%
Study Questions	= 20%
Final Examination	= 40%