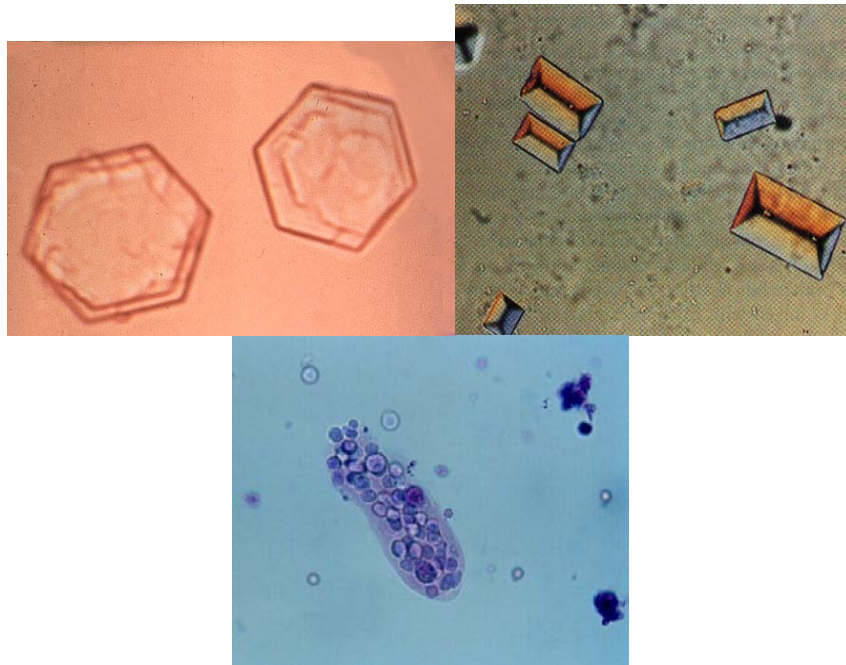


The University of Texas at El Paso
College of Health Sciences

Clinical Laboratory Science Program

CLSC 3252 Body Fluids Lecture
CLSD 3153 Body Fluids Laboratory-Section A/B

Summer 2009



The University of Texas at El Paso
College of Health Sciences
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Course: **CLSC 3352 Body Fluids Lecture /3153 Body Fluids Laboratory**

Instructor: *Dora E. Meraz M.T. (ASCP), M. Ed.*

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Lecture Schedule: Monday thru Wednesday (9-11AM), Thursday (9-10:30AM) at CHS Room 602

Laboratory Schedule: Section A (M & W 12-4PM), Section B (T & Th.12-4PM) at CHS Room 614

OFFICE HOURS: By appointment or Friday 10-12AM

If you are unable to see me at this time, you may arrange an appointment at another time. You may schedule meetings by WebCT, telephone, or in person after lecture/laboratory session. Please use office hours to clarify lecture objectives, special interests or career goals at the earliest convenience for both parties. The best time to reach me by phone is during posted office hours. If I am unable to answer your call, please leave a detailed message and I'll return your call as soon as possible.

COURSE DESCRIPTION

The Body Fluids course is designed to provide a basic understanding of the prime mechanisms involved in urine and other body fluid formation, function and examination. This course will prepare the student to correlate data with his/her knowledge of basic anatomy and physiology in order to understand pathologic processes. This course will present the fundamental principles of urine and other body fluid analysis/evaluation including chemical and microscopic procedures. This course will provide the student with the knowledge to accurately identify normal and abnormal components of urine and other body fluids. A body fluids laboratory will be incorporated within the course.

COURSE GOAL:

This course is designed to provide basic theory and entry level laboratory experience in the analysis of urine and other body fluids. The student will learn to competently perform basic procedures and correctly interpret the findings given adequate clinical data. This course will provide the student with the knowledge to accurately distinguish between normal and abnormal physical, chemical, and microscopic components of the analysis of urine and identify various testing procedures to evaluate the patient results in light of clinical evidence.

COURSE OBJECTIVES:

A. Cognitive

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

1. Identify and explain the functions of the various components of the microscope. Describe Kohler illumination and the microscope adjustment procedure used to ensure optimal specimen imaging.
2. Describe the relationship of OSHA to safety in the workplace.
3. Describe universal precautions policy and its purpose
4. Describe appropriate procedures for the handling, disposal, decontamination and spill control of biohazards.
5. State the purpose of and information contained in a material safety data sheet.
6. State clinical reasons for performing routine urinalysis.
7. Describe various types of urine specimens and state diagnostic uses of each type.
8. Explain the various collection techniques employed to obtain an assortment of specimens.
9. Explain the importance of accurate timing and complete collection of time urine specimens.
10. State the changes possible in unpreserved urine and explain the mechanism for each.
11. Diagram the structure and explain the function of the urinary system.
12. Diagram and state the function of each portion of the nephron.
13. Discuss the components and the process of glomerular filtration and urine formation, including the anatomic structures, filtration forces, and substances involved.
14. Calculate creatinine clearance given a set of data.
15. State the volume and the solute composition of normal urine.
16. Completely perform all manual procedures introduced in this course within the appropriate standard deviation for the procedure.

17. Discuss the cause of normal urine odor, identify conditions that will change this urine characteristic, and list any odors associated with these conditions,
18. Discuss the origins of urine pigments.
19. Describe and evaluate the physical, chemical and microscopic characteristics of urine. Correlate them to disease states.
20. Discuss the pathogenesis of glomerular damage and describe morphological changes that occur in the glomeruli.
21. Describe the clinical features associated with glomerular disease and discuss factors that affect the degree to which they are present.
22. Describe the physiologic mechanism, clinical features and the urinalysis laboratory diagnosis of metabolic disorders (amino acid disorders).
23. Describe the performance of the physical examination, biochemical examination and morphological examination of seminal fluid and the results expected from a normal specimen.
24. Describe the performance of physical, biochemical, and morphological examination of amniotic fluid analysis.
25. Differentiate amniotic fluid from urine

B. Affective

To show the appropriate responsible behaviors, students will demonstrate:

1. A positive attitude by being prepared for lecture and laboratory sessions completing assigned tasks on time and displaying self-motivation.
2. Organization by utilizing time effectively, sequencing and prioritizing tasks for completion with time constraints and maintaining a neat clean work.
3. Attention to detail by diligently pursuing accuracy and documenting data accurately and legibly.
4. Problem solving ability by explaining purpose of each step in diagnosis, interpretation, procedure, recognizing discrepancies in techniques or procedures and repeating necessary lab tests when necessary.
5. Dependability by following directions, working independently after being given directions.
6. Stability and self-confidence by approaching and performing routine tasks confidently without assistance and maintaining composure.
7. Appropriate interpersonal skills by cooperating and communicating effectively with classmates and instructors and displaying courteous, considerate behavior and appropriate appearance.
8. Ethical behavior and integrity by respecting confidentiality of patient information, complying with professional standards and code of ethics, adhering to safety policies and abiding by all rules and regulations of the institution.

BODY FLUIDS COURSE/LABORATORY POLICIES:

1) Required Text: *Fundamentals of Urine and Body Fluid Analysis.* Nancy A. Brunzel (2004) 2nd ed. Saunders, Philadelphia, PA

Suggested readings/ Supplementary texts:

Diagnostic Skills in Clinical Laboratory Science. Mahon, C.R. and Fowler, D.G. (2004). The MacGraw-Hill Co., New York, NY.

Clinical Laboratory Science: The Basic and Routine Techniques. Linné, J.J. and K.M. Ringsrud. (1999). Mosby, St. Louis MO.

Textbook of Urinalysis and Body Fluids .
McBride, L.J. (1995). . Lippincot, Philadelphia, PA

2) Class Attendance: The student is expected to attend all lecture and lab sessions in a timely manner, wear protective equipment, and engage in the laboratory activities. It is responsibility of the student to notify the instructor of any absence and to provide legitimate documentation of absence to abide to University regulations. The instructor reserves the right to drop a student due to tardiness or absences when in the judgment of the instructor, a student has been absent to a degree as to impair his or her status relative to credit for the course. The instructor may drop the student from the class with a **W** before the course drop deadline or with an **F** after the course drop deadline. If a student is 10 minutes late this will be recorded as a tardy.

3) Instructional Strategies: The laboratory is competency based. The student must demonstrate their competency to perform the lab procedure at the designated level before they can progress to the next lab. Laboratory procedures must be performed within the standard deviation for the procedure and to the satisfaction of the instructor for a pass/fail grade. In a competency based program you are either competent to perform the procedure or you are not. No one progresses until they are competent. **THERE WILL BE NO MAKEUP LABS.** All competencies and repeats must be taken the day they are assigned unless extenuating circumstances occur.

4) Lecture Grading Policy:

data.) Students should maintain a 75% or above average to continue in the program. Student participations will be taken into account for grade determination.

6) Academic Dishonesty: There is a zero tolerance level for academic dishonesty. Absolute honesty and integrity are a critical aspect of your chosen profession. Confidentiality of patient information is another. These must be strictly observed. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or material that are attributable on whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Proven violations of the detailed regulations, as printed in the *Handbook of Operating Procedures (HOP)*, and available in the Office of the Dean of Students, may result in sanctions ranging from disciplinary probation, to failing grade on the work in question, to a failing grade in the course, to suspension or dismissal, among others.



Some hints on how to succeed in this course from Dr. Dominguez

It is essential to develop good study skills in order to succeed in any course you take.

Good study skills not only save you time and energy, but also help you learn more effectively. I am listing 4 study skills that will promote your learning

- Self-management
- Making good notes
- Reading to learn
- Studying with others

Self-management techniques

“If you don’t know where you’re going you could wind up someplace else” Yogi Berra

It is critical that you will manage your time wisely. Organize yourself by planning a schedule. In this schedule you may want to record time for reading, reviewing and studying for tests. Adjust your schedule as the course progresses. You should pace the course workload evenly. Use a study location free of distractions and review periodically.

Making useful notes-Identify new ideas, summarize main ideas from lecture or text, create outlines, flow charts, trees, concepts; underline selectively and rewrite your notes.

Reading to learn-Determine your purpose for reading; preview the text (titles, summaries, diagrams); turn titles and headings into questions; read for main ideas; re-read, visualize, relate; review.

Study with others- Study- groups is one of the best ways of learning. Review the subject, formulate questions and discuss main ideas. Test each other for knowledge. Explain what you have learned to others. If you can explain clearly the material you’ve learned then you can be sure you know your material well.

RESOURCES

I am listing and briefly describing some of the University facilities and useful information. Some of these facilities, such as the Library, ILC and possible the Learning center, I know you will visit. I am trying to give you as much information possible so your summer will go smoothly.



Computer facilities

Our College has an Independent Learning Center (ILC) where you can go and use the computers. The ILC is located in room 109 and it is open from 8:00 to 8:00 pm Monday through Thursday. Fridays from 8:00 to 5:00 pm and Saturdays from 8:00-12:00. In the ILC you can check out CDs and videos that may help you with some of your courses. You just need to present your student ID.



Tutoring Learning Center (TLC)

Services provided by this facility are free of charge. The purpose of the TLC is to help the students reach their full personal potential. This facility is located at the Library room 300, the phone is 747-5366. Detailed information about the TLC is in the UTEP home page. I will invite all of you to visit this home page in order to see all the services they provide. Summer: M-Th 1-4pm , F9am-2pm



Library

The UTEP library provides faculty, staff, students and community users with library materials and services in support of their educational endeavors. Through Nugget users are able to locate books and other materials from nearly one million items. The library LAN (local area network) provides access to one-hundred fifty periodicals, abstracts and other useful data bases. Both systems and the library's webpage may also be accessed from home via the Internet. These are the web addresses:

Library webpage: <http://www3.utep.edu/library/>

Research assistance and help in locating information for class assignments is available at the Reference Department on the main floor. Kristine Sanchez is the librarian who helps the College of Health Sciences students. Whenever you are ready to start getting material for your presentation you can make an appointment to see Mrs. Moreno and she can help you find the information you need. Her phone is 747-6714.

Materials which are not available in the library you can always request those through Interlibrary Loan. If you are going to utilize Interlibrary loan services you need to plan ahead because some materials take up to 3 weeks to get here.

Other services available in the library include Library Technology Center (student ID required), which provides computers and a wide variety of software for students. The Copy Center located at the first floor, offers a wide variety of copy services, some office supplies and faxing. Copies are 5 cents a page.

The library is open from Monday – Thursday from 7:30 – 11:00 pm and Fridays from 7:30-8:00 pm. Saturdays 9:00-6:00 pm and Sundays 12:00 pm-11:00 pm. Library schedule changes are always posted outside the doors and these changes usually occur during the inter-session hours or during the summer.



Health Center: <http://www.utep.edu/health/>

The student Health Center offers confidential health services to all students presenting a valid ID card. Health insurance is not required to access the health services.

Most services are provided without charge except for the laboratory and pharmacy services. Prescriptions and laboratory work will be processed at a sizable discount to students. Referrals outside the health Center including X-rays are the student's expense.

Services include health promotion, women's health, counseling and HIV/AIDS testing counseling. Major emergencies are referred to adjacent hospitals. This facility is located

At 2001 Wiggins (across from the library) and is open Monday-Friday 8:00-4:00 pm closed Friday from 11:00-1:00pm. Phone 747-5624.

Record's Office: <http://www.utep.edu/register/>

The record's office is a part of the Office of the Registrar and is responsible for the maintenance of students records an all registration transactions. This office also process enrollment certifications, transcripts requests, graduation applications and diplomas. This office is located at the Academic Services Building, Room 105



Recreational Sports

One of the best ways to cope with stress is to relax and have a leisure time. Take advantage of the recreational activities offered by UTEP. Here I describe some of the activities available.

The Recreational Sports Department provides the opportunity for each member of the University community to participate voluntarily in a wide variety of sports and recreational activities.

Drop-in recreation involves leisure time use of recreational facilities for basketball, volleyball, indoor racquetball, outdoor racquetball and tennis. Sports equipment is also available for checkout. Reservations must be made by registered student organizations in memorial Gym, Room 103.

The Department maintains an Outdoor equipment center which offers skiing, camping, backpacking and water sports equipment at a minimum rental fee. For further information, please call 747-5103.

The Swimming and Fitness Center is one of the finest recreational facilities. This facility has 2 lap swimming pools, one and three diving boards, and an exercise room. The operating hours are from 6:00 am to 7:00 pm from Monday – Friday. All enrolled students may use the facility free of charge. For information call 747-8100 or <http://www.utep.edu/rsd/>.



2009 Body Fluids

**SUMMER
2009**

Tentative Course Schedule

July

Room 602

06 Introduction to Body Fluids/ The Kidney Chapter 4
07 The Kidney Chapter 4
08 The Kidney/Renal Function -Chapter 4 & 5
09 Review

13 Exam I

14 Physical Exam of Urine –Chapter 6
15 Chemical Exam of Urine –Chapter 7
16 Chemical Exam of Urine –Chapter 7

20 Exam II

21 Microscopic Exam of Urine –Chapter 8
22 Metabolic Diseases –Chapter 9
23 Cerebrospinal Fluid Analysis –Chapter 13

27 Exam III

28 Amniotic Fluid Analysis / Synovial Fluid–Chapter 12 & 14
29 Pericardial/Pleural/Peritoneal Fluid Analysis –Chapter 15
30 Fecal Analysis- Chapter 10

August

3 Final Exam

Tentative Laboratory Schedule
Section A: Room 614
Monday/Wednesday (12:00PM - 4:00PM)

July

- 06 Introduction to Body Fluids-Safety, QC/QA,
08 Microscopy/ Specimens types/Quiz
Chapters 1-3
- 13 Physical Exam of Urine/Chemical Exam of Urine/Quiz
Chapters 6-7
- 15 Physical, Chemical & Microscopic Exam of Urine /Quiz
Chapter 8
- 20 Proficiency Testing/** Introduction to confirmatory testing/Quiz
22 Confirmatory Tests (Clinitest/Acetest/SSA/Ictotest/ Specific gravity)/Quiz
- 27 **Proficiency Testing/**Cerebrospinal Fluid (CSF) Analysis/Quiz
Chapter 13
- 29 Final Exam Comprehensive – (written/ group presentation)**

Tentative Laboratory Schedule
Section B: Room 614
Tuesday/Thursday (12:00PM - 4:00PM)

July

- 07 Introduction to body Fluids/Safety, QC, QA
09 Microscopy/ Specimens types/ Quiz
Chapters 1-3
- 14 Physical Exam of Urine/Chemical Exam of Urine/Quiz
Chapters 6-7
- 16 Physical/Chemical/Microscopic Exam of Urine/Quiz
-Chapter 8
- 21 Proficiency Testing/** Introduction to confirmatory testing/Quiz
23 Confirmatory Tests (Clinitest, Acetest, Ictotest/Specific Gravity)/Quiz
- 28 **Proficiency Testing/** Cerebrospinal Fluid (CSF) Analysis/Quiz
Chapter 13
- 30 Final Exam Comprehensive – (written/group presentation)**