



The University of Texas at El Paso
College of Health Sciences
Clinical Laboratory Science Program



CLSC 3252: Body Fluids
Syllabus
Fall 2022

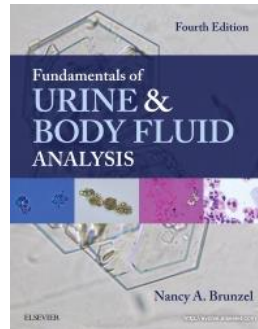
I. Course Information

Days: Monday and Wednesday

Time: 11:00am – 11:50am

Room: College of Health Sciences (CHS) 135

Textbook: Brunzel, Nancy A. 2018. *Fundamentals of Urine & Body Fluid Analysis*. 4th Edition. Elsevier.



II. Instructor Information

Instructor: Nancy D. Cruz-Sanchez, MS, MLS (ASCP)^{CM}

Email: ndcruzsanch@utep.edu

Office: College of Health Sciences (CHS) 426

Office Phone Number: 915-747-7243

Office Hours: BY APPOINTMENT

Monday and Wednesday: 1:00pm – 4:00pm

Friday: 11:00am – 2:00pm

- To better assist you, please make sure you ***schedule an appointment***. If you can't schedule during these times, please contact me (after class/lab or via email) to schedule another time.
 - Multiple students may be scheduled for the same office hour session.
 - If it is a private matter, you wish to discuss material or have questions and prefer to have a private office hour or online session, please make sure to notify the instructor when appointment is being made.

- Online meetings may be scheduled (Zoom, Teams).

- **Students must use their UTEP email when communicating, for appointments, questions, etc.**
 - **Emails received:**
 - **Monday through Thursday after 5:00pm will be replied to the next day.**
 - **Friday after 4:00pm will be replied Monday (or next business day if it is a holiday).**
 - **Saturday and/or Sunday will be replied Monday (or next business day if it is a holiday).**
 - **Holidays will be replied to the next business day.**
- **Instructor is also available after class/lab (unless another class is on her schedule).**
- **If instructor is not in her office, she may be in CHS 137 Laboratory Prep Room preparing for laboratories. Students may attend office hours in prep room with instructor.**

III. Course Description

This course is designed for students in the clinical laboratory science program. It intends 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 the acquired knowledge of basic anatomy and physiology to understand pathologic processes. It will present the fundamental principles of urine and other body fluid analysis and 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.

IV. Course Goal

This course is designed to provide the student with 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 considering clinical evidence.

V. Course Objectives

A. Cognitive

Upon completion of this course the student will be able to do the following accordingly to each chapter:

1. Chapter 2: Urine Specimen Types, Collection, and Preservation
 - a. State at least three clinical reasons for performing a routine urinalysis.
 - b. Describe three types of urine specimens, and state at least one diagnostic use for each type.

- c. Explain the importance of accurate timing and complete collection of timed urine specimens.
 - d. Describe the collection technique used to obtain the following specimens:
 - Random void
 - Midstream “clean catch”
 - Catheterized
 - Suprapubic aspiration
 - Pediatric collection
 - e. Describe materials and procedures used for proper collection and identification of urine specimens.
 - f. Identify six reasons for rejecting a urine specimen.
 - g. State the changes possible in unpreserved urine and explain the mechanism for each.
 - h. Discuss urine preservatives, including their advantages, disadvantages, and uses.
 - i. List and justify at least three tests that assist in determining whether a fluid is urine.
2. Chapter 3: The Kidney
- a. Identify and state the primary functions of the macroscopic structures of the kidney and urinary tract.
 - b. Diagram the structure and state the function of each portion of the nephron.
 - c. Describe renal blood circulation and its role in renal function.
 - d. Discuss the components and the process of glomerular filtration and urine formation, including the anatomic structures, the filtration forces, and the substances involved.
 - e. Describe the transport mechanisms of tubular reabsorption and tubular secretion, including the substances involved.
 - f. Describe the three secretory mechanisms that the kidney uses to regulate the acid-base equilibrium of the body.
 - g. Explain tubular transport capacity (T_m) and discuss its relationship to renal threshold.
 - h. Compare and contrast the countercurrent multiplier mechanism, the countercurrent exchange mechanism, and the urea cycle, and their roles in urine formation and concentration.
 - i. Briefly summarize the relationship of water reabsorption to antidiuretic hormone and the relationship of sodium reabsorption to renin and aldosterone.
3. Chapter 4: Renal Function
- a. State the volume and solute composition of normal urine.

- b. Differentiate between the solute amount (osmolality) and the solute mass (specific gravity) in urine and describe ways in which they are measured.
 - c. Discuss the effects that diet, disease, and some exogenous substances (e.g., x-ray contrast media) have on solute composition measurements.
 - d. Discuss physiologic factors involved in determining the volume of urine excreted.
 - e. Describe a protocol and one purpose for each of the following procedures:
 - Fluid deprivation test
 - Osmolar clearance determination
 - Free-water clearance determination
 - f. Calculate osmolar clearance and free-water clearance results using data provided.
 - g. Compare and contrast the creatinine clearance test and the insulin clearance test for assessment of glomerular filtration.
 - h. Describe a protocol for a creatinine clearance test and discuss factors that can influence the results obtained.
 - i. Calculate creatinine clearance and estimated glomerular filtration rate (eGFR) results using data provided.
 - j. Describe the *p*-aminohippurate clearance test for assessment of renal plasma flow.
 - k. Briefly discuss the relationship of renal tubular secretory function to the urinary excretion of acids.
 - l. Describe the oral ammonium chloride test for the assessment of tubular function.
4. Chapter 5: Physical Examination of Urine
- a. State the importance of using established terminology for describing urine color and clarity.
 - b. Discuss the origin of the following pigments and their effects on urine color:
 - Bilirubin
 - Urobilin
 - Urochrome
 - Uroerythrin
 - c. List appropriate color terms and the substances that can produce the colors and identify those substances that indicate a pathologic process.

- d. List appropriate clarity terms, their definitions, and the substances that can cause clarity changes, and identify those substances that indicate a pathologic process.
 - e. Describe the effects that increased amounts of protein and bilirubin can have on urine foam.
 - f. Discuss the cause of normal urine odor, identify conditions that change this urine characteristic, and list any odors associated with each condition.
 - g. Identify two variables involved in determining urine concentration.
 - h. Compare and contrast the specific gravity and osmolality determinations for the measurement of urine concentration.
 - i. State the principle of each of the following specific gravity determination methods:
 - Harmonic oscillation densitometry
 - Reagent strip method
 - Refractometry
 - Urinometer method
 - j. Differentiate between direct and indirect measures of urine specific gravity and compare the limitations of each method.
 - k. State the principle of the following osmometry methods:
 - Freezing point depression
 - Vapor pressure depression
 - l. Discuss factors that affect urine volume and the terms used to describe volume variations.
5. Chapter 6: Chemical Examination of Urine
- a. State the proper care and storage of commercial reagent strip and tablet tests and cite at least three potential causes of their deterioration.
 - b. Describe quality control procedures for commercial reagent strip and tablet tests.
 - c. Discuss appropriate specimen and testing techniques used with commercial reagent strip and tablet tests.
 - d. State the chemical principle used on reagent strips for measurement of the following:
 - Specific gravity
 - pH
 - e. Summarize the clinical significance of the following substances when present in urine and describe the chemical principles used on reagent strips to measure them:
 - Protein

- Blood
 - Leukocyte esterase
 - Nitrite
 - Glucose
 - Ketones
 - Bilirubin
 - Urobilinogen
 - Ascorbic acid
- f. Compare and contrast the sensitivity, specificity, and potential interferences of each commercial reagent strip and tablet test.
- g. Compare and contrast the mechanisms for and the clinical significance of the following types of proteinurias:
- Overflow proteinuria
 - Postural proteinuria
 - Tubular proteinuria
 - Post-renal proteinuria
- h. Discuss the clinical features of the nephrotic syndrome and Fanconi's syndrome, including the specific renal dysfunction involved.
- i. Compare and contrast the chemical principle, sensitivity, and specificity of the following tests for the detection of proteins in the urine:
- Reagent strip protein test
 - Sensitive albumin tests (i.e., microalbumin)
- j. Differentiate between hematuria and hemoglobinuria.
- k. Discuss the clinical significance of myoglobin. Compare and contrast myoglobinuria and hemoglobinuria.
- l. Discuss the limitations of leukocyte esterase and nitrite reagent strip tests for the detection of leukocyturia and bacteriuria.
- m. Describe two physiologic mechanisms that result in glycosuria.
- n. Compare and contrast the glucose reagent strip test and the copper reduction test for the measurement of sugars in urine.
- o. Describe three conditions that result in ketonuria.
- p. Briefly explain the metabolic pathway that results in ketone formation, state the relative concentration of the three ketones formed, and discuss the reagent strip and tablet tests used to detect them.
- q. Summarize the formation of bilirubin and urobilinogen, discuss their clinical significance, and describe three physiologic mechanisms that result in altered bilirubin metabolism.

- r. Compare and contrast the principle, sensitivity, specificity, and limitations of the following methods for detection of bilirubin in urine:
 - Physical examination
 - Reagent strip test
 - Tablet test
 - s. Describe two chemical principles used by reagent strip tests to detect urine urobilinogen and compare their sensitivity, specificity, and limitations.
 - t. State the importance of ascorbic acid detection in urine, and describe the methods used to detect ascorbic acid.
 - u. Identify reagent strip tests that are affected adversely by ascorbic acid and explain the mechanism of interference.
 - v. Describe the role of reflex testing in urinalysis and discuss the correlation between results obtained in the chemical examination and what they imply for the microscopic examination.
6. Chapter 7: Microscopic Examination of Urine Sediment
- a. Discuss the importance of standardizing the microscopic examination of urine and describe how this standardization is achieved in the clinical laboratory.
 - b. Describe microscopic and staining techniques used to enhance visualization of the formed elements in urinary sediment.
 - c. Describe the microscopic appearance and clinical significance of erythrocytes and leukocytes in urine and correlate their presence with the physical and chemical examination of urine.
 - d. Describe the microscopic characteristics and location of each type of epithelium found in the urinary tract, that is, squamous, transitional, and renal tubular epithelium (proximal, distal, and collecting duct).
 - e. Briefly summarize the clinical significance of increased sloughing of the urinary tract epithelium.
 - f. Describe the formation, composition, and clinical significance of urinary cast formation.
 - g. State the categories into which casts are classified, discuss the clinical circumstances that result in the formation of each cast type, and correlate the presence of casts with the physical and chemical examination of urine.
 - h. Describe the development of urinary crystals, including at least three factors that influence their formation.
 - i. Describe the characteristic form of each major type of urinary crystal; categorize each crystal type as being found in acid,

neutral, or alkaline urine; and discuss the clinical significance of each crystal type.

- j. Identify the following formed elements found in urine sediment, and discuss their clinical significance:
 - Bacteria
 - Clue cells
 - Fat
 - Fecal contamination
 - Fibers
 - Hemosiderin
 - Mucus threads
 - Parasites
 - Spermatozoa
 - Starch
 - Trichomonas
 - Yeast

7. Chapter 8: Renal and Metabolic Disease

- a. Discuss the pathogenesis of glomerular damage and describe four morphologic changes that occur in glomeruli.
- b. Describe the clinical features associated with glomerular disease and discuss factors that affect the degree to which they are present.
- c. Briefly describe the morphologic appearances of the glomeruli, the mechanisms of glomerular damage, and the clinical presentation of the following glomerular diseases:
 - Acute glomerulonephritis
 - Chronic glomerulonephritis
 - Rapidly progressive glomerulonephritis
 - Focal proliferative glomerulonephritis
 - Focal segmental glomerulonephritis
 - IgA nephropathy
 - Membranoproliferative glomerulonephritis
 - Membranous glomerulonephritis
 - Minimal change disease
- d. Describe the pathologic mechanisms of glomerular damage in the following systemic diseases:
 - Systemic lupus erythematosus
 - Diabetes mellitus
 - Amyloidosis
- e. State at least five clinical features that characterize the nephrotic syndrome and identify diseases that are associated with this syndrome.

- f. Differentiate between ischemic and toxic acute tubular necrosis and discuss the clinical presentation and urinalysis findings associated with this disease.
- g. Describe the renal dysfunction and clinical features of the following renal tubular disorders:
 - Cystinosis
 - Cystinuria
 - Fanconi's syndrome
 - Renal glucosuria
 - Renal phosphaturia
 - Renal tubular acidosis
- h. Compare and contrast the causes, clinical features, and typical urinalysis findings in the following tubulointerstitial diseases and urinary tract infections:
 - Acute and chronic pyelonephritis
 - Acute interstitial nephritis
 - Lower urinary tract infections
 - Yeast infections
- i. Briefly describe the effects of vascular disease on renal function.
- j. Compare and contrast the causes and clinical features of acute and chronic renal failure.
- k. Summarize the pathogenesis of calculus formation. Discuss four factors that influence the formation of urinary tract calculi, and briefly review current treatment options.
- l. Briefly describe the physiologic mechanisms, clinical features, and roles of the urinalysis laboratory in the diagnosis of the following amino acid disorders:
 - Cystinuria and cystinosis
 - Homogentisic acid (alkaptonuria)
 - Maple syrup urine disease
 - Phenylketonuria
 - Tyrosinuria and melanuria
- m. Briefly describe the physiologic mechanisms, clinical features, and typical urinalysis findings in the following carbohydrate disorders:
 - Glucosuria
 - Diabetes mellitus
 - Galactosuria

- n. Briefly describe the physiologic mechanisms, clinical features, and typical urinalysis findings in the following metabolic disorders:
 - Diabetes insipidus
 - Porphyrias
 - o. Discuss the formation of porphobilinogen and its clinical significance.
8. Chapter 9: Cerebrospinal Fluid Analysis
- a. Describe the formation of cerebrospinal fluid (CSF) and state at least three functions that the CSF performs.
 - b. Describe the procedure for lumbar puncture and the proper collection technique for CSF.
 - c. Discuss the importance of timely processing and testing of CSF and state at least three adverse effects of time delay on CSF specimens.
 - d. State the physical characteristics of normal CSF and discuss how each characteristic can be modified in disease states.
 - e. Discuss the clinical importance of the microscopic examination of CSF.
 - f. Compare and contrast the concentrations of the following constituents of CSF in health and in disease states:
 - Albumin
 - Glucose
 - Immunoglobulin G
 - Lactate
 - Total protein
 - g. Briefly describe protein electrophoretic patterns of CSF and the abnormal presence of oligoclonal banding.
 - h. Calculate the CSF/serum albumin index and the CSF/immunoglobulin G index and state the clinical importance of each index.
 - i. Discuss the proper microbiological examination of CSF and its importance in the diagnosis of infectious diseases of the central nervous system.
 - j. Briefly explain the role of CSF immunologic tests in the diagnosis of meningitis.
9. Chapter 10: Pleural, Pericardial, and Peritoneal Fluid Analysis
- a. Describe the function of serous membranes as they relate to the formation and absorption of serous fluid.
 - b. Describe four pathologic changes that lead to the formation of an effusion.

- c. Discuss appropriate collection requirements for serous fluid specimens.
- d. Classify a serous fluid effusion as a transudate or an exudate based on the examination of its physical, microscopic, and chemical characteristics.
- e. Compare and contrast chylous and pseudochylous effusions.
- f. Correlate the microscopic examination and differential cell count of serous fluid analyses with diseases that affect the serous membranes.
- g. Correlate the concentrations of selected chemical constituents of serous fluids with various disease states.
- h. Discuss the microbiological examination of serous fluids and its importance in the diagnosis of infectious diseases.

10. Chapter 11: Synovial Fluid Analysis

- a. Describe the formation and function of synovial fluid.
- b. Summarize the four principal classifications of joint disease.
- c. Classify synovial fluid as normal, non-inflammatory, inflammatory, septic, or hemorrhagic using various laboratory results.
- d. Discuss appropriate tubes for the collection and distribution of synovial fluid specimens; discuss the importance of timely specimen processing and testing.
- e. State physical characteristics of normal synovial fluid and discuss how each characteristic is modified in disease states.
- f. Correlate the cells and crystals observed during microscopic examination of synovial fluid with various joint diseases.
- g. Compare and contrast concentrations of selected chemical constituents of synovial fluid from healthy joints with that from diseased joints.
- h. Discuss the microbiological examination of synovial fluid and its importance in the diagnosis of infectious disease.

11. Chapter 12: Seminal Fluid Analysis

- a. Discuss the composition of seminal fluid and briefly describe the function of each of the following structures in seminal fluid formation:
 - Epididymis
 - Interstitial cells of Leydig
 - Prostate gland
 - Seminal vesicles
 - Seminiferous tubules

- b. Outline the maturation of sperm (spermatozoa) and identify the morphologic structures in which each maturation phase occurs.
- c. Summarize the collection of seminal fluid for analysis, including the importance of timing and recovery of the complete specimen.
- d. Describe the performance of the physical examination (appearance, volume, and viscosity) of seminal fluid and the results expected from a normal specimen.
- e. Describe the procedures used to evaluate the following characteristics of sperm in seminal fluid, state the normal range for each parameter, and relate each function to male fertility:
 - Agglutination
 - Concentration
 - Morphology
 - Motility
 - Viability
- f. Identify and describe the morphologic appearance of normal and abnormal forms of spermatozoa.
- g. Discuss the origin and clinical significance of cells other than sperm in the seminal fluid.
- h. Briefly discuss the role of quantifying the following biochemical substances in seminal fluid and identify the structure evaluated by each substance:
 - Acid phosphatase
 - Citric acid
 - Fructose
 - pH
 - Zinc

12. Chapter 13: Analysis of Vaginal Secretions

- a. Discuss the collection and proper handling of vaginal secretion specimens.
- b. Describe the performance of each of the following tests and discuss the clinically significant entities:
 - Wet mount examination
 - Amine test
 - KOH preparation and examination
- c. Discuss vaginal secretion results associated with health, including the pH and microscopic entities.

- d. Compare and contrast the causes, clinical features, typical vaginal secretion results, and treatments in the following conditions:
 - Bacterial vaginosis
 - Candidiasis
 - Trichomoniasis
 - Atrophic vaginitis

13. Chapter 14: Amniotic Fluid Analysis

- a. Discuss amniotic fluid formation and the interactive role the fetus has in the composition of the amniotic fluid.
- b. State at least four indications for performing an amniocentesis and the stage in pregnancy best suited for each analysis.
- c. Identify at least four sources of error in amniotic fluid testing caused by inappropriate specimen handling or chemical contamination
- d. Differentiate amniotic fluid from urine.
- e. Compare and contrast the following tests for fetal pulmonary maturity:
 - Lecithin/sphingomyelin ratio
 - Phosphatidylglycerol
 - Foam stability index
 - Lamellar body count
- f. Describe the analysis of bilirubin in the amniotic fluid (ΔA_{450}) and the relationship of this value to fetal status and the need for medical intervention.

14. Chapter 15: Fecal Analysis

- a. Describe the composition and formation of normal feces.
- b. Describe the effect of abnormal intestinal water reabsorption on the consistency of feces.
- c. Explain the three physiologic mechanisms that cause diarrhea.
- d. Differentiate between secretory and osmotic diarrhea using the fecal osmolality.
- e. Identify at least three causes of secretory and osmotic diarrhea.
- f. Compare and contrast the mechanisms of maldigestion and malabsorption and the relationship of each to diarrhea.
- g. Differentiate inflammatory from non-inflammatory acute diarrhea based on symptoms, diarrheal mechanisms, and fecal laboratory tests.
- h. Identify pathogens associated with acute diarrhea and their mode of transmission.

- i. Categorize diseases associated with chronic diarrhea as inflammatory or non-inflammatory and state the predominant diarrheal mechanism.
- j. Differentiate between steatorrhea and diarrhea and discuss the physiologic conditions that result in steatorrhea.
- k. Describe the following types of fecal collections and give an example of a test requiring each type:
 - A random stool collection, with and without dietary restrictions.
 - A 3-day fecal collection, with and without dietary restrictions.
- l. Describe the macroscopic characteristics of normal feces.
- m. List the major causes of abnormal fecal color, consistency, and odor.
- n. State the primary purpose for the detection of fecal neutrophils.
- o. Discuss the qualitative assessment of fecal fat using a microscopic examination and the clinical utility of quantitative fecal fat tests.
- p. List at least five causes of blood in feces and state the importance of fecal occult blood detection.
- q. Discuss the advantages and disadvantages of the different indicators used on commercial slide tests for fecal occult blood.
- r. Compare and contrast the following methods for the detection of fecal blood:
 - Slide tests
 - Quantitative chemical tests
 - Immunologic assays
 - Radiometric assays
- s. Describe the chemical principle used for screening feces or vomitus for fetal hemoglobin.
- t. Discuss the effect that disaccharidase deficiency has on fecal characteristics and formation.
- u. State two methods for the qualitative detection of abnormal quantities of fecal carbohydrates.
- v. State the purpose and describe the principle of the xylose absorption test.

B. Affective

Upon completion of this course, the student will be able to exhibit the appropriate responsible behaviors by demonstrating:

1. A positive attitude by being prepared for each session, 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/notes 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.

C. Psychomotor

1. Psychomotor skills will be evaluated in the laboratory: CLSC 3153: Body Fluids Laboratory.
2. Psychomotor objectives available in the CLSC 3153: Body Fluids Laboratory Syllabus.

VI. Course Policies

- A. Textbook: Brunzel, Nancy A. 2018. *Fundamentals of Urine & Body Fluid Analysis*. 4th Edition. Elsevier.

B. Instructional Policies

1. Material and resources for the class will provided using the following:
 - a. Classroom lectures
 - Power Point
 - PDF
 - b. Blackboard
 - c. You Tube
2. Announcements, updates, notifications, and other important messages will be posted to Blackboard announcements.
 - a. It is the student's responsibility to check blackboard on a regular basis.

3. Students will be divided into groups randomly.
 - a. Study groups are meant to be help and support for all students through the semester.
 - b. All members ***must*** participate in class discussion.
4. An outline/study guide for each chapter/lecture will be uploaded to Blackboard in advance.
 - a. Students are ***strongly encouraged*** (should) to complete the outline/study ***before*** coming to class.
 - b. Outline/study guide will be discussed in class by students and guided by instructor.
 - c. There may be unannounced quizzes at the beginning of the class regarding the outline/study guide to be discussed that day.
 - d. Outline/study guide completion is strongly encouraged to be done with study group.
 - All members ***must*** participate in outline/study guide discussion in class.
5. The student must have available or have access to the following technological resources:
 - c. Computer/laptop with camera (webcam), audio and microphone.
 - d. USB flash drive
 - e. Good internet connection
 - f. Microsoft Office (Word, Power Point, Excel)
 - g. Adode (PDF) Flashplayer
 - h. Windows Media Player
 - i. Internet browser (i.e., Google Chrome, Mozilla Firefox)
 - j. Blackboard's Respondus LockDown Browser
6. LockDown Browser + Webcam Requirement
 - a. This course requires the use of LockDown Browser and a webcam for online quizzes and exams. The webcam can be the type that's built into your computer or one that plugs in with a USB cable. Watch this brief video to get a basic understanding of LockDown Browser and the webcam feature.
 - <https://www.respondus.com/products/lockdown-browser/student-movie.shtml>
 - b. Download Instructions
 - Download and install LockDown Browser from this link:<https://download.respondus.com/lockdown/download.php?id=586140509>

- Once Installed:
 - ◊ Start LockDown Browser
 - ◊ Log into Blackboard Learn
 - ◊ Navigate to the test
 - ◊ Note: You won't be able to access tests with a standard web browser. If this is tried, an error message will indicate that the test requires the use of LockDown Browser. Simply start LockDown Browser and navigate back to the exam to continue.

c. Guidelines

- When taking an online test, follow these guidelines:
 - ◊ Ensure you're in a location where you won't be interrupted
 - ◊ Turn off all other devices (e.g., tablets, phones, second computers) and place them outside of your reach
 - ◊ Before starting the test, know how much time is available for it, and that you've allotted sufficient time to complete it
 - ◊ Clear your desk or workspace of all external materials not permitted - books, papers, other devices
 - ◊ Remain at your computer for the duration of the test
 - ◊ If the computer, Wi-Fi, or location is different than what was used previously with the "Webcam Check" and "System & Network Check" in LockDown Browser, run the checks again prior to the exam
 - ◊ To produce a good webcam video, do the following:
 - i. Avoid wearing baseball caps or hats with brims
 - ii. Ensure your computer or device is on a firm surface (a desk or table). Do NOT have the computer on your lap, a bed, or other surface where the device (or you) is likely to move
 - iii. If using a built-in webcam, avoid readjusting the tilt of the screen after the webcam setup is complete

- iv. Take the exam in a well-lit room but avoid backlighting (such as sitting with your back to a window).
- d. Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted.
- e. Getting Help
 - Several resources are available if you encounter problems with LockDown Browser:
 - The Windows and Mac versions of LockDown Browser have a "Help Center" button located on the toolbar. Use the "System & Network Check" to troubleshoot issues. If an exam requires you to use a webcam, also run the "Webcam Check" from this area
 - As applicable, insert information about your institution's help desk, including details about how to contact them. Some help desks want students to run the "System & Network Check" and the "Webcam Check" before they are contacted - and even, to forward the results of these checks at the time of opening a ticket.
 - Respondus has a Knowledge Base available from support.respondus.com. Select the "Knowledge Base" link and then select "Respondus LockDown Browser" as the product. If your problem is with a webcam, select "Respondus Monitor" as your product.
 - If you're still unable to resolve a technical issue with LockDown Browser, go to support.respondus.com and select "Submit a Ticket". Provide detailed information about your problem and what steps you took to resolve it.

C. Quiz and Exam Policy

1. Quizzes and Exams will be taken in the classroom using Blackboard Respondus LockDown Browser + Webcam.
2. **Quizzes may be announced or unannounced.**
3. **No** make-up exams or quizzes will be administered.
4. If an exam or quiz is missed the grade will be 0. All grades will be used for calculating the final grade, no grades will be dropped.
5. If a student cannot attend a test, quiz, or final exam for a **university-acceptable excuse**, inform the instructor as soon as possible and a time

will be arranged accordingly with the instructor's schedule. It is responsibility of the student to notify the instructor of any absence and to provide legitimate documentation of absence as per university regulations.

6. The instructor will assign each student a seat for the examination.
7. All personal belongings including material, documents, book, etc. must be kept in the designated area assigned by the instructor.
8. If a calculator is needed for the exam, the instructor will let you know ahead of time. Calculator lids must be kept with your personal belongings. The instructor will check the calculators (especially if a scientific or graphic calculator is being used).

D. Assignment Policy

1. Assignments will be announced and assigned 1 to 2 weeks before the deadline.
2. Deadlines will be announced previously as assignments are programmed and requested throughout the semester.
 - a. Students are required to submit assignments in a timely manner.
 - b. Failure to submit/complete an assignment in a timely manner will lead to a 2-point deduction each day the assignment is late (includes weekends and holidays).
 - If a legitimate reason/excuse (death, illness, etc.) prevents the student from handing the assignment on the due date, inform the instructor as soon as possible, bring the necessary documentation and considerations may be made, depending on situations, on an individual basis.
 - **NO** make-up assignments will be offered.
 - c. Assignments are to be submitted **neatly** and in ink or typed and uploaded to corresponding Blackboard folder. They must also be properly identified (name, date).

E. Attendance and Participation Policies

1. The student is expected to attend all lecture sessions in a **timely fashion**.
2. The student is expected to participate during class sessions.
3. The student is expected to access Blackboard regularly for material availability, announcements, etc.
4. The student should spend 3-5 hours a week studying the material and resources provided by the instructor and textbook.
5. Absences: After 3 absences you will be given a written warning. If absent 4 times, you may be dropped from the course.
6. Tardiness: Students arriving after 10 minutes will be considered tardy.

7. It is the responsibility of the student to notify the instructor of any absence or tardiness, and to provide legitimate documentation of absence as per university regulations.
 - a. The student is responsible for the material discussed in class as well as announcements made in class.
8. The instructor reserves the right to drop a student due to tardiness or absenteeism, when, in the judgement of the instructor, a student has been absent to a degree as to impair their 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 an “**F**” after the course drop deadline.
 - a. Course **Drop** Deadline: October 28, 2022
9. The student is expected to participate in office hours.
 - a. Multiple students may be scheduled for the same office hour session.
 - b. If it is a private matter or you wish to discuss material or have questions and prefer to have a private office hour or online session, please make sure to notify the instructor when appointment is being made.

F. Classroom Policies

1. The student will present to the classroom wearing appropriate clothing, i.e.,
 - a. Scrubs
 - CLS Junior Year Scrubs
 - b. If student will not be wearing scrubs, the student must dress **appropriately** for a classroom, i.e.,
 - No cleavage, see through or short (crop tops) shirts or tops.
 - No short shorts, hot pants, or leggings.
2. Cell phone usage is **NOT** permitted in the classroom.
 - a. Exceptions can be made in case of an emergency. **Please talk to the instructor beforehand.**
 - b. Phone **MUST** remain in silent mode inside your backpack, purse, pocket, etc.
3. Masks are not mandated for students, faculty, or staff in the classroom or at UTEP (per UTEP policies). However, if the student prefers to wear a mask, he/she can.
 - a. **This policy is subject to change depending on public health circumstances and UTEP policy change regarding this matter.**

4. COVID-19 PRECAUTION STATEMENT

- a. Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.
- b. The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org.

G. Etiquette guidelines

1. Treat instructor and classmates with respect.
2. Address instructor and classmates properly and accordingly.
3. Use clear and appropriate language.
4. Vulgar/obscene language, discrimination for race, color, ethnicity, gender, political or religious views, and inappropriate conduct is prohibited in class.
5. The instructor reserves the right to ban the student from the classroom if vulgar language is being used if student is being disrespectful toward the instructor or classmates or exhibiting inappropriate conduct. This will be considered an absence. The student will be reported to the CLS program director.

H. Academic Integrity

There is a **zero-tolerance level** for academic dishonesty. Honesty and integrity are a critical aspect of your chosen profession, as well as patient confidentiality. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but it is not limited to:

1. Cheating

This means:

- a. Copying from the homework, in-class work, or exam paper of another student.
- b. Engaging in written, oral, or any other means of communication with another student during an exam or

homework assignment or giving aid to or seeking aid from another student during a test.

- c. Possession and/or use of test material (class notes, books, reviews, outlines, or any other material) not authorized by the instructor or exam proctor during an exam or quiz.
- d. Using, obtaining, or attempting to obtain, by any means, a part of the whole test, test key, homework solution, computer program, and tests administered during past semesters.
- e. Substituting for another person or another person substituting oneself to take a test/quiz.
- f. Falsifying data, laboratory reports and/or other records or academic work offered for credit.

2. Plagiarism

This means:

- a. The appropriation, buying, receiving as a gift, or obtaining by any means another's work, ideas, processes, results, or words without giving appropriate credit. This includes intentionally, knowingly, or carelessly, presenting the work of another as one's own; failing to credit sources used in a work product; attempting to receive credit for work performed by another; failing to cite the World Wide Web, databases, and other electronic resources.
- b. The submission for credit of any work or material that is attributable (whole or in part) to another person (i.e., copying from another student).

3. Collusion

This means the unauthorized (secret or illegal) collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on scholastic dishonesty.

Proven violations of the detailed regulations, as printed in the *Handbook of Operating Procedures (HOP)* (available in the Office of the Dean of Students), may result in sanctions ranging from disciplinary probation, failing grades on the work in question, failing grade in the course, suspension, or dismissal, among others.

I. Student Support

In case of needed assistance:

1. Helpdesk
 - a. <https://www.utep.edu/irp/technologysupport/>

2. Miner Learning Center
 - a. <https://www.utep.edu/mlc/>
3. University Library
 - a. <https://www.utep.edu/library/>
4. Counseling and Psychological Services
 - a. <https://www.utep.edu/student-affairs/counsel/>
5. Student Support Services Program
 - a. <https://www.utep.edu/student-affairs/student-support-services-program/>

J. Classroom Accommodations

If you have a disability and need special accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.

VII. Grading Policy

Evaluation Technique	%
Quizzes	15%
Assignments	10%
5 Partial Exams	15 % each (75% total)
Total	100%

Grading Scale	Grade
90-100	A
80-89	B
75-79	C
70-74.9*	D*
69 or below*	F*
* A grade of 75 or above is required to continue in the CLS program 100%	

VIII. Lecture Schedule*

Week	Date	Topic/Chapter
1	August 22 August 24	Intro, Syllabus & Schedule Discussion Chapter 2: Urine Specimen Types, Collection, and Preservation
2	August 29 August 31	Chapter 3: The Kidney
3	September 5 September 7	Labor Day Chapter 4: Renal Function
4	September 12 September 14	Chapter 4: Renal Function (cont.) Exam #1 Review
5	September 19 September 21	Exam #1: Chapters 2-4 Chapter 5: Physical Examination of Urine
6	September 26 September 28	Chapter 5: Physical Examination of Urine Chapter 6: Chemical Examination of Urine
7	October 3 October 5	Chapter 6: Chemical Examination of Urine (cont.)
8	October 10 October 12	Chapter 7: Microscopic Examination of Urine Sediment Mini Midterm Break
9	October 17 October 19	Chapter 7: Microscopic Examination of Urine Sediment (cont.) Exam #2 Review
10	October 24 October 26	Exam #2: Chapters 5-7 Chapter 8: Renal and Metabolic Diseases
11	October 31 November 2	Chapter 8: Renal and Metabolic Diseases (cont.) Chapter 9: Cerebrospinal Fluid Analysis
12	November 7 November 9	Exam #3: Chapters 8-9 Chapter 10: Pleural, Pericardial, and Peritoneal Fluid Analysis
13	November 14 November 16	Chapter 11: Synovial Fluid Analysis Chapter 12: Seminal Fluid Analysis
14	November 21 November 23	Exam #4: Chapters 10-12 Chapter 13: Analysis of Vaginal Secretions
15	November 28 November 30	Chapter 14: Amniotic Fluid Analysis Chapter 15: Fecal Analysis
16	December 9	Exam #5: Chapters 13-15 9am-12pm Room TBD

*Schedule subject to change