ELIM OUTREACH TRAINING CENTER

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PATIENT CARE TECHNICIAN (PCT 11)





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Revise 2026

STUDENT CATALOG

PATIENT CARE TECHNICIAN 11

BASIC NURSE ASSISTANT
PHLEBOTOMY
DIALYSIS

PCT 11

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PATIENT CARE TECHNICIAN 11 .....
ADMISSION REQUIREMENTS

Prerequisites:

1. **High school diploma of equivalent**
2. **Reading and Math at minimal a ninth (9th) grade level**
3. **Physical ability to lift and move 50**
4. **Fine motor coordination(good manual dexterity and hand/eye coordination)**
5. **Good visual acuity to distinguish color.**
6. **Able to hear at normal levels.**
7. **Ability to stand for extended periods of time.**
8. **Criminal background check (IDPH requirement)**
9. **Current physical exam.**
10. **Tuberculosis(TB) skin test Mantoux of chest X-Ray within the last six(6) months Step 1 and step 2**
11. **Hepatitis Series**

PCT 11 Student must complete

1. **Up to 280 clock hours (BNA, Phlebotomy, Dialysis)**
2. **BNA clinical**
3. **Pass the course with a "C" or better (81%)**
4. **Clinical attendance requires 100% participation.**
5. **Financial obligation completed.**

PATIENT CARE TECHNICIAN 11(PCT11).....SYLLABUS

COURSE DESCRIPTION:

A Patient Care Technician (PCT) provides essential support to patients and healthcare staff assisting with daily living activities, monitoring vital signs, and ensuring patient comfort in various healthcare settings.
The course will equip the students with the needed skills to perform the assigned duties with knowledge and confidence in Basic Nurse Assistance, Phlebotomy, and Dialysis. The student will have the opportunity to take the state and national exams.

The duration of the PCT11 course is up to 36 weeks (up to 280 clock hours)

COURSE OBJECTIVES:

Graduates of this program shall:

1. Possess the readiness and proficiency to successfully pass the required State of Illinois exam.
2. Have a basic working knowledge of human anatomy sufficient to perform basic tasks assigned to support the physical needs of the patient.
3. Provide the required knowledge, skills, and compassionate personal care for the patient including bathing, oral hygiene, nutrition, range of motion, and accurate monitoring vital signs.
4. Demonstrate procedures of CPR and the Heimlich maneuver as approved by the American Heart Association.
5. Demonstrate. "21 skills" as required by the Illinois Department of Public Health.
6. Understand the association of the circulatory system in phlebotomy.
7. Demonstrate a working knowledge of infection control, safety, and first aid.
8. Explain and demonstrate venipuncture and skin puncture procedures.
9. Exhibit the essential knowledge of blood collection, equipment, specimen documentation, and transportation.
10. State the meaning of common medical abbreviation terms as related to phlebotomy.
11. Have a basic knowledge of anatomy and Physiology of the heart.
12. Possess knowledge of patients' rights and confidentiality.
13. Define, correctly spell, and identify common medical terminology related to dialysis
14. Explain various hemodialysis team members and their functions.
15. Understand basic chemistry of body fluids and electrolytes related to dialysis.
16. Understand the major signs and symptoms of End-stage renal disease.
17. Explain the dialysis machine system and identify equipment parts.
18. State the overview of peritoneal dialysis and renal transplantation.

WELCOME PATIENT CARE TECHNICIAN 11

Congratulations on your decision to join the exciting, challenging, and rewarding field of health care. You have made a wise career choice to learn important skills in the rapidly growing area of Allied Health.

Professionally trained PATIENT CARE TECHNICIANS are devoted to improving the quality of life for patients. Your skills, with a caring attitude, will be rewarded with the friendship and trust of patients, the respect of your employer and co-workers, and personal satisfaction.

Think about what this career means to you. Then answer the following questions:

1. **Why do you want to be a PATIENT CARE TECHNICIAN ?**

2. **What skills and strengths do you bring to the health-care professional?**

3. **If you were a resident at a long-term care facility or a patient in a hospital, what special qualities would you expect from a nursing assistant?**

4. **What are your long-term goals?**

Name_____ **Date** _____

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BASIC NURSE ASSISTANTS PROGRAM

CRIMINAL BACKGROUND CHECK

A criminal background check is needed before you start the program. This is required by Illinois Department of Public Health and is the first step toward the Certification process. The cost is $ 40.00 and is not included in the tuition fee. Results of this background check will be placed in the Health Care Workers Registry.

Location site(s) for the criminal background check will be given out on the first day of class.

If you have had a criminal background check and your name is on the Registry you will not have to take another background check.

Upon completion of the BNA course students are eligible to sit for the State of Illinois Nurse Assistant Exam initiated by SIUC/Nurse Aide Testing. The fee for the exam is $85.00, and it is not included in the tuition fee. Fees are set by the Illinois Department of Public Health (SIUC).

PHYSICAL EXAM

Students must fill out a physical exam form. Forms can be obtained from Elim's office or your instructor. Physicals are due before you attend your first assigned clinical. The physical includes a TB (Mantoux) or chest X-Ray taken within the last six months. Also, a Hepatitis series is recommended. If you decline to take the hepatitis series, you must sign a wavier. Failure to submit this information in a timely manner will result in a clinical absence until all information is received by Elim.

When a student has a noted illness of injury that would not meet the minimum physical requirement, he /she must bring this to the attention of the instructor immediately. It will be necessary to obtain a written doctor's statement, noting there are no limitations or restrictions to participate in both the classroom and clinical components of the course.

When a student is pregnant, this information must be provided to the instructor immediately. Also, a doctor's statement must be given, and states that the student is able to participate with, or without restrictions in both the classroom and the clinical components of the course.

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BASIC NURSE ASSISTANTS' REQUIREMENTS

Prerequisites:

1. High school diploma of equivalent
2. Reading and Math at a ninth(9th) grade level
3. Physical ability to lift and move 50
4. Fine motor coordination(good manual dexterity and hand/eye coordination)
5. Good visual acuity to distinguish color.
6. Able to hear at normal levels.
7. Ability to stand for extended periods of time.
8. Criminal background check (IDPH requirement)
9. Current physical exam.
10. Tuberculosis(TB) skin test Mantoux of chest X-Ray within the last six(6) months
11. Hepatitis Series

Basic Nurse Assistants Student must complete

1. Up to 80 hours of theory/ classroom laboratory
2. 40 hours of clinical (hospital or skill facility)
3. Pass the course with a "C" or better (81%)
4. Clinical attendance requires 100% participation.

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GRADING METHODOLOGY

A=	93-100 PERCENT
B=	86-92 PERCENT
C=	81-85 PERCENT

Students have the responsibility to keep both academic and professional veracity of the school and to meet the maximum standard of academic and proficient behavior.

Students must maintain an 81% average on all exams to remain in good standing. Also, grades below 81% represent unsatisfactory progress, and you must see your instructor immediately.

Students will receive progress reports from their daily exams, midterm exam, final exam, and clinical performances.

Students must pass MIDTERM, FINAL and ALZHEIMERS EXAMS with 81% or better. If the student receives a failing grade, he/she must see their instructor immediately. One exam will be dropped at the end of the course.

ABSENTEEISM:

Students are allowed two (2) absences. In the event of excused absenteeism, make-up exams may be granted by the instructor. Please be advised that only ONE make-up will be given for the entire course.

Excused absenteeism may include, but is not limited to the following: hospitalization, illness needing medical care, or death in the family. To obtain an excused absence, ELIM must be notified before the day of the absence.

Please see "ACADEMIS POLICY STATEMENT"

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BASIC NURSE ASSISTANTS' SYLLABUS

COURSE DESCRIPTION

Certification as a Basic Nurse Assistant (BNA) is a prerequisite toward advancement in offering numerous careers in healthcare. This course is an Illinois State Board of Education (ISBE) and Illinois Department of Public Health (IDPH) approved curriculum.
It provides intense training in both theory and practical application for nursing assistants in a professional clinical setting. Students will learn basic lifesaving methods including: CPR/First Aid and the Heimlich maneuver. Also, Dementia and Alzheimer's patients care focus on this course.

The duration of the program is up to 8½ weeks(PM) or 10.5 weeks(AM), including up to 80 hours of theory and 40 hours of clinical.

COURSE OBJECTIVES

Graduates of this program shall:

1. **Possess the readiness in proficiency to successfully pass the required State of Illinois competency exam.**
2. **Have a basic work knowledge of human anatomy sufficient to performed basic tasks assigned to support the physical needs of the patients.**
3. **Provide with required knowledge, skill, and compassionate personal care for the patient, including bathing, oral hygiene, nutrition, ROM, and accurate monitoring vital signs.**
4. **Demonstrate procedures of CPR and the Heimlich maneuver, as approved by the American Heart Association.**
5. **Demonstrate "21 Skills" as required by Illinois Department of Public Health.**
6. **Comprehend " What makes a good Certified Nurse Assistants through empathy and caring: also, a purposeful focus on the development of communication and attentive listening skills.**
7. **Better understand their role as a contributing member of a professional health team for his/her patient or resident.**

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DRESS/PERSONAL APPEARANCE FOR , CLINICAL AND CLASSROOM.

1. **Uniform,** Properlly fitted scrubs. Clinical color Purple Classroom any color

2. **Shoes,** White professional shoes with a non-skid sole close toe required. White athletic shoes with white laces are acceptable

3. **Hose,** White hosery or white socks.

4. **Identification Badge:**

   Visibly displayed on uniforms at all times.
   First badge is free. To replace a lost badge the cost is $2.50

5. **Hair,** Neatly combed and off the collar, male students mustache and beard must be neatly trimmed.

6. **Jewelry,** One (1) plain ring and one (1) pair of earrings are acceptable in the clinical setting, and one necklace is allowed. ABSOUTELY NO FACIAL, AND TONGUE RINGS ARE PERMITTED IN THE CLINICAL SETTING.

7. **Make-up and perfume,**

   Not excessive and no perfume allowed. The elderly residents/patients are sensitive to smells.

8. **Nails,** Trimmed to a reasonable length (filed to finger tips), clear nail polish only. NO SCULPTURE NAILS ARE PERMITTED

9. **Tattoo's** Must be covered, if possible

10. **Personal Hygiene,**

Good personal hygiene is as important as a clean uniform.

Failure to comply with Elim's dress codes, including consideration for the **clinical site,** will negatively affect clinical grades and possibly disrupt continued participation in the program. In the classroom students will wear a scrub uniform(color per instructor) If you arrive to the clinical site or to class improperly dressed you will be sent home and you will have to make up the class assignment on your time, Clinical will have to be made up with the next incoming class, if there is space available.

BASIC NURSE ASSISTANTS COURSE MATERIAL

THE TEXBOOK and Workbook:

Mosby's Nursing Assistants / 10th Edition [1]
Shelia a. Sorrentine RN,MSN, PHD
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Book Introduction

The book emphasizes the need of individuals across the life span, from infancy through old age. Patients and residents are presents as persons with dignity and value who has a past, a present and a future. Caring, understanding, ensuring the person's rights are expressed throughout this book.

1 Mosby's Nursing Assistants(9th) edition

BASIC NURSE ASSISTANTS COURSE OUTLINE

1. ORIENTATION

A. INTRODUCTION TO COURSE
B. PROGRAMS POLICIES AND PROCEDURES
C. ETHICAL AND LEGAL ISSUES
D. ROLES OF THE NURSING ASSISTANTS
E. MEDICAL TERMINOLOGY

2. INTRODUCTION TO THE CLIENT

A. BASIC ANATOMY
B. GROWTH AND DEVELOPMENT
C. CARE OF THE ELDERLY
D. PRINCIPLES OF BODY MECHANICS
E. BED MAKING
F. PERSONAL CARE (BATHS, ORAL HYGIENE,HAIR, AND NAIL CARE)
G. THE PERSON'S UNIT

3. WORKING ENVIRONMENT

A. COMMUNICATING WITH THE HEALTH TEAM
B. UNDERSTANDING THE PERSON
C. INFECTION CONTROL
D. SAFETY

4. NUTRITION AND FLUIDS

A. NORMAL NUTRITION NEEDS
B. DIET ORDERS
C. FEEDINGS TECHNIQUES
D. FLUIDS INTAKE AND OUTPUT
E. SPECIAL FLUID NEEDS OR RESTRICTION
F. SPECIMEN COLLECTION

5. VITAL SIGNS

A. TEMPERATURE, PULSE AND RESPIRATION
B. BLOOD PRESSSURE DETERMINATION
C. CARDIOPULMONARY EMEGENCIES (CPR & ANTI-CHOKING)
D. ASSESSMENT OF HEIGHT AND WEIGHT

6. HEALTH PROBLEMS

A. HEARING AND VISION PROBLEMS
B. COMMON HEALTH PROBLEMS
C. MENTAL HEALTH PROBLEMS
D. CONFUSION AND DEMENTIA
E. DEVELOPMENT DISABILITIES

7. DISEASE AND SPECIAL NURSING NEEDS

A. DISEASE OF THE INTEGUMENTARY, GASTROINTESTINAL, ENDOCRINE, NERVOUS, RESPIRATORY, AND GENITOURINARY SYSTEMS.
B. COMMUNICABLE DISEASE
C. EXERCISE AND ACTIVITY
D. COMFORT REST AND SLEEP
E. SEXUALITY

8. SPECIAL PROCEDURES

A. HEAT AND COLD APPLICATION
B. ENEMAS
C. VAGINAL DOUCHE
D. MANAGEMENT OF URINARY CATHETER
E. ASSISTING WITH PHYSICAL EXAM
F. COLOSTOMY
G. WOUND CARE
H OXYGEN NEEDS

9. CLIENTS IN SPECIALTY AREAS

A. THE SURGICAL CLIENT
B. THE OBSTETRICAL CLIENT AND NEWBORN
C. DEMENTIA AND ALZHEIMER 'S UNITS
D. THE CLIENT IN ISOLATION
E. THE EMOTIONALLY STRESSED CLIENT

10. CLENT CARE PLANNING

A. ADMISSION
B. DISCHARGE
C. TRANSFER
D. HOME HEALTH CARE
E. LONG TERM CAAARE
F. REHABILITATION

11. THE TERMINALLY ILL CLIENT

A. THE DYING CLIENT
B. POST MORTEM CARE

12. REVIEW

A. FINAL PROCEDURE TESTING
B. FINAL EXAM

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PHLEBOTOMY

By Unit, vocational or training objectives are listed below which includes, knowledge, specific skills, and understanding. Please review the Phlebotomy course Schedule for further breakdown detailing the sequences in meeting goals.

Unit 1:

ORIENTATION

- **A.** Course Introduction
- **B.** Program Policies and Procedures
- **C.** Professional organizations and Standards
- **D.** Role of the Phlebotomy Technician

THE HEALTHCARE SETTING

- **A.** Past and Present healthcare setting
- **B.** Quality Assurance and Legal Issues
- **C.** Infection Control
  - 1) Chain of infection and Isolation Procedure
  - 2) Hand Washing
  - 3) Personal Protective Equipment (PPE)
  - 4. Occupational Safety and Health Standard
  - 5. Blood-borne Pathogen and Cleaning up-spills
- **D.** Safety
  - 1). Occupational Safety and Health Administration
  - 2). Safety Hazards and Emergency First Aid
  - 3) Latex Sensitivity
- **E.** Personal Wellness

Unit 2:

OVERVIEW OF THE HUMAN BODY

- **A.** Medical Terminology
  - 1) Word breakdown
  - Basic Laboratory terminology, acronyms and abbreviations
- **B.** Human Anatomy and Physiology
  - 1). Defining body systems and function
- **C.** Circulatory system
  - 1). The Heart
  - 2). Vascular System
  - 3). The flow of blood
  - 4). Types of blood specimens
  - 5). The blood
  - 6). Blood disorders
  - 7). Lymphatic system

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Unit 3:

BLOOD COLLECTION PROCEDURES

A. Blood collection equipment, additives and order of draw
- **1). General blood collection equipment**
- **2). B blood collection additives**
- **3). Anticoagulant and EDTA**
- **4). NCCLS order of draw**

B. Venipuncture specimen collection procedure
- **1). Steps**
- **2). Requisitions**
- **3). Patient contact/Patient Identification**
- **4). Site selection**
- **5). Tourniquet procedure**
- **6). Butterfly procedure**
- **7). Syringe procedure**
- **8). Pediatric Venipuncture**
- **9). Geriatric Venipuncture**

C. Blood Collection Variable, Complication, and Errors

D. Skin (Dermal) puncture equipment and procedure
- **1). Steps**
- **2). Lancets**
- **3). Plastic/ clay sealant**

Unit 4:

SPECIAL PROCEDURE

A. Special collection and Point-of-Care Testing
- **1). Blood Bank**
- **2). Blood culture**
- **3). Coagulation specimens**
- **4). Postprandial glucose testing**
- **5). GTT**
- **6). Toxicology**
- **7). Drug monitoring**
- **8). Point of care testing**
- **9). Coagulation monitoring**

B. Arterial puncture procedure
- **1). Introduction**
- **2). ABG's**
- **3). Radial Artery**
- **4). Brachial Artery**
- **5). Femoral Artery**
- **6). Test requisition**
- **7). Equipment/ supplies**
- **8). Complications**
- **9). Sampling errors**

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C. **Non-blood specimens and tests**
   1). **Labeling and handling**
   2). **Body fluids specimen**

D. **Computers and specimen handling and processing**
   1). **Introduction**
   2). **General guidelines**
   3). **Handling of routine specimens**
   4). **Transporting specimens**
   5). **Specimens' processing/rejections**

E. **Vital Signs**

PHLEBOTOMY TECHNICIAN: REQUIREMENTS

Prerequisites:

1. High school diploma or equivalent
2. Physical ability to lift or move 10-20 pounds
3. Fine motor coordination (good manual dexterity and hand/eye coordination)
4. Good visual acuity to distinguish color
5. Able to heat at normal levels
6. Ability to stand for extended periods of time
7. Must be able to communicate effectively, both verbally and nonverbally
8. Must display flexibility, accept, and integrate constructive criticism at all times
9. Current physical exam
10. Tuberculosis (TB) skin test Mantoux or chest X-Ray
11. Hepatitis series (recommended)
12. COVID-19 vaccination or weekly testing

Student must complete:

1. Up to 100 clock hours (theory and simulated laboratory)
2. 30 OR more successful venipuncture
3. Pass the course with a 81% or better
4. Participate in all mock clinics
5. Financial obligation is meet

Phlebotomy Technician.....Syllabus

Certification as a Phlebotomy Technician (PT 100) is taught through didactic, laboratories and mock clinics. Students successfully completing course work shall master a variety of blood collecting methods guided by universal precautions. Also , syringes, capillary skin punctures, blood cultures and specimen collection are taught and evaluated through mock clinics and classroom laboratories.

Graduates of Elim Outreach Training Center 's Phlebotomy program are eligible to take the certification exams.

The duration of the program is up to 14 weeks, including up to 100 clock hours.

Course Objectives:

Graduates of this program shall:

1. **Possess the readiness in proficiency to successfully pass the required National exam**
2. **Demonstrate a basic knowledge of Anatomy and Physiology**
3. **Understand the association of the Circulatory system in phlebotomy**
4. **Demonstrate a working knowledge of infection control, safety and first aid**
5. **Exhibit a essential knowledge of the blood collection equipment, specimen documentation and transportation**
6. **Explain and demonstrate venipunctures and skin puncture procedures**
7. **Know complications in blood collection and common pediatric procedures**
8. **Have an understanding of special collection procedures and Arterial Blood collection.**
9. **Understand quality assurances and legal issues as it relates to phlebotomy**
10. **State the meaning of common medical abbreviations terms related to phlebotomy.**

PHLEBOTOMY TEXTBOOK.....

Textbook: **Phlebotomy Worktext and Procedures Manual ...*10TH edition***

Robin S. Warekois

Richard Robinson

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"This textbook introduces phlebotomy. It guides the students to the development of skills beyond blood collection. Each major skill in phlebotomy, from hand washing to venipuncture to the preparing a blood smear is revealed and described step-by-step."

DIALYSIS REQUIREMENTS.....

1. **High School diploma or GED**
2. **Able to lift 20lbs or more**
3. **Reading and math levels not less than 9th grade**
4. **Fine motor coordination (good manual dexterity and hand/eye coordination)**
5. **Must communicate effectively, both verbally and nonverbally**
6. **Must be able to display flexibility, accept and integrate constructive criticism in the classroom and clinical setting.**
7. **Able to stand for long periods at a time.**
8. **Physical Exam must include:**
   TB
   Hepatitis

Dialysis Technician must complete:

1. **Complete up to 60 clock hours**
2. **Must complete the course with an 81% average.**
3. **100% Laboratory and clinical participation**
4. **Financial obligation completed**

DIALYSIS TECHNICIAN.....SYLLABUS

Course Description:

Dialysis Technicians set up and operate hemodialysis machines to provide dialysis treatment for patients with kidney failure. Some of the daily tasks that technicians perform are removing waste, salt, and extra fluid from patients' blood, while keeping a safe level of chemicals within the body. They also take vital signs and monitor the patient throughout the treatment time. Dialysis Technicians helps patients feel comfortable during the procedure also, they keep the machine in good working condition.

The duration of the Dialysis Technician Program is up to 14 weeks up to (60 clock hours).

Class Structure: **Lectures, Demonstrations and Simulated Laboratories.**

Course Objectives:

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

1. **Explain various hemodialysis team members and their functions.**
2. **Recognized and correctly use related terms, mark, abbreviations and symbols related to Dialysis.**
3. **Examine, define and employ medical terminology related to dialysis.**
4. **Understand Basic Chemistry of Body Fluids and Electrolytes related to dialysis.**
5. **Explain the normal functions of the kidney and the disease process that may cause Renal Failure.**
6. **Understand the major signs and symptoms of End-Stage Renal Disease.**
7. **Interpret laboratory data for Dialysis patients.**
8. **Explain the dialysis machine systems and identify equipment parts.**
9. **Explain the different types of vascular access to the Circulation System.**
10. **State the overview of Peritoneal Dialysis and Renal Transplantation.**
11. **Explain the importance of Infection Control related to dialysis.**
12. **Possess the readiness in proficiency to successfully pass the National Certification Exams.**

COURSE MATERIAL..... TEXTBOOK

Main Textbook:

Review of Hemodialysis or Nurse and Dialysis Personnel 9th Edition

By: Judith Z. Kallenbac
C.F. Gutch
Martha H. Stoner
Anna L. Corea
Copyright © 2005, 199 Elseiver, Inc

This book provides the student with a realistic approach to giving care to the patient with End Stage Renal Disease.

Additional Reading:

Kidney Disease and Common Labs and Medical Terminology
By; Mathea Ford. RD/LD

DIALYSIS TECHNICIAN.....COURSE OUTLINE

UNIT 1

The Hemodialysis Team

A. Structure of the Dialysis Facility
B. Role of the dialysis team
C. Ethics, Rights, and Responsibility

Unit Objectives:
____At the end of this unit the student will be able to:

1. State policies and procedures that will guide staff members in the clinical practice and patient care.
2. List the role and functions of each member of the dialysis team.
3. Explain several rights and responsibilities of the patients and personnel.

UNIT 2

Basic chemistry of Body Fluids and Electrolytes

A. Metric system
B. Chemistry
C. Body Water

Unit Objectives:
____At the end of this unit the student will be able to:

1. Understand how the metric system is used in chemical and physical measurements.
2. State the basic elements of chemistry as it relates to dialysis.
3. Explain the importance of water within the body.

UNIT 3

Renal Physiology and the Pathology of Renal Failure

A. Renal Physiology
B. Renal Failure

Unit Objectives:
_____At the end of this unit the student will be able to:

A. Know the normal functions of the kidneys.
B. Explain the cause of renal failure.

UNIT 4

Clinical Manifestations of End-Stage Renal Disease (ESRD)

A. Cardiovascular System
B. Integumentary System
C. Immune System
D. Gastrointestinal System
E. Hematological System
F. Musculoskeletal System
G. Neurological System
H. Respiratory System
I. Reproductive system
J. Metabolic Disturbances

Unit Objectives:
_____At the end of this unit the student will be able to:

1. List several abnormal changes seen in each body system.

UNIT 5

Laboratory Data: analysis and Interpretation

A. Important Laboratory Data for Dialysis Patients
B. Blood Urea Nitrogen

Unit Objectives:
_____At the end of this unit the student will be able to:

1. Identify important laboratory tests used to monitor dialysis patients.
2. Define Urea and list signs and symptoms.

UNIT 6

Principles of Hemodialysis

A. Historical Background
B. Solute Transfer
C. Transport

Unit Objectives:
_____ At the end of this unit the student will be able to:

1. Name several pioneers and their contributions to dialysis.
2. Define Hemodialysis.
3. Define Transport.

UNIT 7

Dialyzers, Dialystate, and Delivery Systems

A. Parallel Plate Dialyzers
B. Hollow-Fiber Dialyzers
C. Membranes for Hemodialysis
D. Membrane Biocompatibility
E. Dialyzer Reuse
F. Delivery System
G. Additional Equipment and Function
H. High-Efficiency and High -Flux Dialysis

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **Know the difference between dialyzer and dialystate.**
2. **State the characteristics of plate dialyzers.**
3. **List several advantages and disadvantages of hollow-fiber dialyzers.**
4. **List the two basic types of membranes for hemodialysis.**
5. **State how an inflammatory response may trigger a membrane biocompatibility.**
6. **List several advantages and disadvantages for dialyzer reuse.**
7. **State the functions of the delivery systems.**
8. **List several complementary functions essential to the hemodialysis procedure.**
9. **State the equipment requirements and system requirements for high-flux dialysis.**

8. **List several complementary functions essential to the hemodialysis procedure.**
9. **State the equipment requirements and system requirements for high-flux dialysis.**

UNIT 8

Water Treatment

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **List several impurities found in tap water.**
2. **List 4 inorganic chemicals that may be present in tap water.**
3. **State several methods used to treat water in Hemodialysis.**
4. **Define RO.**
5. **State several advantages and disadvantaged of the RO systems.**
6. **State the different tests used to maintain the water treatment systems.**

UNIT 9

Dialyzer Preparation and Reprocessing

A. Dialyzer Preparation
B. Dialyzer Reprocessing

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **Tell how to prepare the dialyzer for patient use.**
2. **List the basic steps for reprocessing.**

UNIT 10

Access to the Bloodstream

A. Historical Background
B. Internal Accesses
C. Arteriovenous Fistula
D. Single-Needle Technique

Unit Objectives:
_____ At the end of this unit the student will be able to:

1. **Give details on major historical developments that led to the development of dialysis accesses.**
2. **Describe an internal access.**
3. **Describe an Arteriovenous fistula.**
4. **State the reason for the single-needle technique.**
   - **Types of needles used.**
   - **Positioning of the needle**
   - **Anesthetic used before needle placement**
5. **List temporary vascular access and tell which veins are used.**

UNIT 11

Patient and Machine Monitoring and Assessment

A. General Assessment
B. First Hemodialysis Assessment
C. Predialysis Assessment
D. Intradialytic Assessment and Monitoring
E. Postdialytic therapy Assessment
G. Monthly Assessments

Unit Objectives:
_____ At the end of this unit the student will be able to:

1. **State what is patient monitoring.**
2. **List the different types of hemodialysis assessment**
3. **State the importance of the first hemodialysis assessment.**
4. **Define Predialysis assessment.**
5. **Describe intradialytic monitoring.**
6. **Define Postdialytic assessment**
7. **State the purpose of monthly assessments for ESRD patients.**

UNIT 12

Anticoagulation and Heparin Administration

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **Define anticoagulation**
2. **Know the nature of heparin**
3. **List drugs that interact with heparin**
4. **Describe regional heparinization .**

UNIT 13

Medication Problems and Dialysis

- **A. Medication Consideration**
- **B. Antihypertensive**
- **C. Different types of antihypertensive medications**
- **D. Cation exchange**
- **E. Intradialytic Parenteral Nutrition**
- **F. Levocarnitine**
- **G. Phosphate Binders**
- **H. Vitamins and Vitamin Analogs**

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **List several drugs that interfere with laboratory tests.**
2. **Define hypertension.**
3. **List several antihypertensive drugs and their side effects.**
4. **State the importance of Cation exchange.**
5. **Define intradialytic Parenterals nutrition.**
6. **Describe the role of Levocarnitine.**
7. **State the importance of phosphate binders.**
8. **List several vitamins and vitamin analogs and their functions.**

UNIT 14

Nutrition Management

Unit Objective:
_____At the end of this unit the student will be able to:

1. **State why the correct diet is important for people with renal disease.**

UNIT 15

Acute Renal failure and Dialysis

- **A. Procedures**
- **B. Hemofiltration**
- **C. Hemoperfusion**
- **D. Dialysis in Relation to Transplant**
- **E. Dialysis Patients with Transplant Rejection**

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **List different types of acute renal failure and their treatments.**
2. **State several complications that can occur with acute renal failure.**
3. **Tell what isolated ultrafiltration means.**
4. **Define hemofiltration and complications that may occur.**
5. **Describe hemoperfusion and the adverse effects of hemoperfusion.**
6. **Define post-transplant kidney dysfunction.**
7. **List several special problems in the dialysis of post-transplant patients.**

UNIT 16

Transplantation

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **State the advantages and disadvantages of renal transplant.**
2. **List several contraindications to transplantation.**
3. **Define tissue typing.**
4. **Define cross matching.**
5. **Describe several electrolyte abnormalities after transplantations**

UNIT 17

Peritoneal Dialysis and Home Dialysis Therapies

A. Home Dialysis therapy: Peritoneal
B. Home dialysis Therapy: Hemodialysis

Unit Objectives:
_____At the end of this unit the student will be able to:

1. Define peritoneal dialysis and state how it works.
2. Name at least 3 peritoneal dialysis solutions.
3. Describe how exit site care is performed.
4. List several complications of peritoneal dialysis
5. State how patients are selected for home peritoneal dialysis

UNIT 18

Diabetes and Hemodialysis

Unit Objectives:
_____At the end of this unit the student will be able to:

1. Define diabetes mellitus.
2. State the two types of diabetes.
3. Describe the treatments for diabetes.
4. Name the different medications use to treat diabetes.
5. Differentiate between hyperglycemia and hypoglycemia.

UNIT 19

Infection Control

Unit Objectives:
_____At the end of this unit the student will be able to:

1. Define standard precautions.
2. Define OSHA.
3. State the importance of hand washing.
4. Define PPE.
5. Describe the Needle stick Safety and Prevention Act.
6. List the two most significant blood-borne pathogens.

7. Describe hepatitis A, B, and C.
8. State how hepatitis A, B, and C are transmitted.
9. Define HIV and tell how it is transmitted.
10. Define Tuberculosis (TB) and tell how it is transmitted.
11. Give CDC recommendations for TB screening.
12. List several drug-resistant organisms and tell how they are transmitted.
13. State the procedures for sterilizing and disinfecting a dialysis unit.

UNIT 20

Psychosocial Aspects of Dialysis Therapy

Unit Objectives:
_____At the end of this unit the student will be able to:

1. State several psychosocial consequences of long-term dialysis.
2. List several coping mechanisms of patients on maintenance dialysis.
3. Define professional boundaries.
4. Define HIPPA.

UNIT 21

Pediatric Hemodialysis

Unit Objectives:
_____At the end of this unit the student will be able to:

1. Describe the causes of acute renal failure in children.
2. List several caused of CKD in children.
3. List the vascular access considerations in pediatrics.
4. State how pain is managed in children.
5. Describe high blood pressure in children.

UNIT 22

End-Stage Renal Disease (ESRD) in the Elderly

Unit Objectives:
_____At the end of this unit the student will be able to:

1. Define trial dialysis.
2. List several advantages and disadvantages for elderly patients in being on peritoneal dialysis
3. List several advantages and disadvantages of Hemodialysis in treating elderly ESRD patients.

UNIT 23

The Management of Quality in Dialysis Care.

Unit Objectives:
_____At the end of this unit the student will be able to:

1. **Define CQI.**
2. **Describe the origin of CQI.**
3. **List several CQI concepts and terms .**
4. **Describe PDCA Cycle.**