

MEDICAL ASSISTANT

Levels: 12
Units of Credit: 2.0
CIP Code: 51.0801
Core Code: 36-01-0000-120/36-01-0013-120
Prerequisite: None, MAP Recommended
Skill Certificate: #710, 712, 714, 716

Medical Assistant Description: An instructional program that prepares individuals to support physicians by providing assistance during patient examinations, treatment administration and monitoring; by keeping patient and related health record information; and by performing clinical, administrative and laboratory duties.

CORE STANDARDS, OBJECTIVES, AND INDICATORS

MEDICAL TERMINOLOGY - Benchmark 1

STANDARD 1

Students will interpret and apply medical terminology.

Objective 1: Identify basic structure of medical words associated with Medical Assisting.

- a. Recognize word construction and dissection.
- b. Apply word building and definitions.

Objective 2: Identify and utilize anatomical positions, planes, and directional terms.

- a. Demonstrate what anatomical position is and how it is used to reference the body.
- b. Distinguish between the commonly used anatomical planes and recognize their individual views.
 1. Sagittal / Midsagittal Plane
 2. Frontal / Coronal Plane
 3. Transverse / Horizontal Plane
- c. Apply directional terms to their locations on the human body.
 1. Superior / Inferior
 2. Anterior / Posterior
 3. Medial / Lateral
 4. Distal / Proximal
 5. Superficial / Deep
 6. Ventral / Dorsal
 7. Prone / Supine
 8. Unilateral / Bilateral

STANDARD 2

Students will identify medical abbreviations in a healthcare setting.

Objective 1: Interpret and apply identified medical abbreviations.

- a. Interpret and extract information from realistic medical documents.
- b. Apply medical abbreviations to interpreting and writing prescriptions.

Objective 2: Interpret identified healthcare symbols.

- a. Identify pharmacological symbols.
- b. Identify medical symbols.

MEDICAL OFFICE MANAGEMENT - Benchmark 2

STANDARD 1

Students will explore the medical assisting profession and its role in the healthcare setting.

Objective 1: Describe the job responsibilities of a medical assistant.

- a. Describe the training required for a medical assistant.
 1. Compare and contrast endorsed and certified and registered medical assistants.
 2. Describe the current Utah medical assistant job training requirements.
- b. Compare administrative and clinical skills.
 1. Administrative skills including office management and clerical functions.
 2. Clinical skills including therapeutic procedures and diagnostic procedures.

Objective 2: Analyze characteristics needed for a quality medical assistant and apply the skills necessary for obtaining employment.

- a. Recognize the following basic attributes:
 1. Positive attitude
 2. Team work
 3. Adapt to change
 4. Communication skills
 5. Professional appearance
 6. Confidentiality (verbal and written correspondence)
 7. Exhibit initiative
 8. Cultural competency
 9. Integrity
 10. Discretion
 11. Organize and prioritize
 12. Continuing education
- b. Discuss professionalism.
- c. Apply job-seeking skills.
 1. Prepare a resume
 2. Write a cover letter
 3. Practice job interviewing skills
 4. Write a follow-up letter
- d. Identify job opportunities available for Medical Assistants.
 1. Inpatient setting
 2. Ambulatory setting
 3. Healthcare departments and specialties

Objective 3: Describe other healthcare professionals with whom medical assistants will work.

- a. Categorize medical practice specialties.
- b. Identify ancillary healthcare departments.

STANDARD 2

Students will analyze the legal and ethical issues that impact the medical office.

Objective 1: Identify the legal guidelines/requirements for a medical office.

- a. Define a medical assistant's scope of practice and understand the principle of delegation.
- b. Apply risk management procedures.
- c. Define HIPAA regulations for the medical office.
- d. Discuss patient self-determination acts.
 1. Medical (Durable) Power of Attorney
 2. Living Will / Advanced Directives
 3. Anatomical Gift Act (Organ Donation)

Objective 2: Define classifications of law.

- a. Discuss criminal law.
- b. Discuss civil law.
 1. Torts
 - a. Battery
 - b. Assault
 - c. Liable
 - d. Slander
 - e. False imprisonment
 - f. Defamation
 - g. Invasion of privacy
 2. Contracts

Objective 3: Explain malpractice and the terms associated with malpractice litigation.

- a. Compare and contrast negligence and malpractice.
- b. Identify malpractice terms.
 - a. Informed Consent
 - b. Patient Rights
 - c. Good Samaritan Law
 - d. Statute of Limitations
 - e. Commission and Omission

Objective 4: Evaluate medical ethics and related issues.

- a. Differentiate between law, etiquette, and ethics.
- b. Discuss ethical situations.
- c. Apply ethical situations in personal and professional practice.

STANDARD 3

Students will identify procedures that contribute to a professional and safe medical office environment.

Objective 1: Identify the elements important in the medical office.

- a. Discuss the environment appropriate to maintain comfort for patients.
 1. Aesthetics
 2. Temperature
 3. Cleanliness
 4. Compliance with ADA
- b. Describe the professional way of greeting and responding to patients.
 1. Explain the process of collecting new and updated information from patients.
 2. Describe the professional way of escorting and instructing patients.
 3. Learn general techniques of how to resolve conflicts with patients.
 - a. Late appointment
 - b. Angry patient
 - c. Talkative patient
 - d. Missed appointment

Objective 2: Identify the duties of opening and closing the office.

- a. Discuss steps used in opening the medical office.
- b. Discuss steps used in closing the medical office.

STANDARD 4

Students will apply effective medical office communication principles in the healthcare setting.

Objective 1: Describe general guidelines for telephone communication.

- a. Describe the medical assistant's role in the triage of telephone calls.
- b. Explain the importance of documenting telephone calls.
- c. Demonstrate professionalism when answering telephone calls.
- d. Identify the process of obtaining and making referrals.
- e. Discuss the process of calling in prescription refills.

Objective 2: Describe scheduling techniques.

- a. Establish a matrix/master schedule.
- b. Describe different types of scheduling.
 1. Double booking
 2. Group/Cluster booking
 3. Open office hours
- c. Describe how to document a no-show appointment and a cancellation.

STANDARD 5

Students will apply effective interpersonal communication principles in a healthcare setting.

Objective 1: Differentiate between verbal and nonverbal communication.

- a. Describe the importance of body language and gestures during communications.
- b. Explain the importance of tone of voice, word choice, and silence during communications.
- c. Identify the parts of a communication model.

Objective 2: Identify effective listening skills/habits.

- a. Differentiate between active and passive listening.
- b. Identify types of questions to elicit patient information.
 1. Open ended questions
 2. Restating
 3. Reflecting
 4. Clarification
 5. Leading

Objective 3: Identify communication barriers.

- a. Describe the following communication barriers.
 1. Physical
 2. Mental
 3. Cultural
 4. Maturity
 5. Age
 6. Stress
- b. Describe the following defense mechanisms.
 1. Repression
 2. Regression
 3. Rationalization
 4. Sarcasm
 5. Denial
 6. Compensation
 7. Projection
 8. Displacement
 9. Physical avoidance
 10. Apathy

Objective 4: Contrast sympathy and empathy.

- a. Describe appropriate body language to express empathy.
- b. Demonstrate appropriate expressions of empathy.

Objective 5: Describe the steps of the grieving process.

- a. Identify the psychological implications of disease to a patient.
- b. Describe the five psychological stages of grieving.
 1. Denial
 2. Anger
 3. Bargaining
 4. Depression
 5. Acceptance

STANDARD 6

Students will accurately maintain medical records.

Objective 1: Identify the contents of a medical record.

- a. Discuss the standard medical record and various types of reports.
 1. Patient's past records
 2. History and physical
 3. Insurance
 4. Office notes
 5. Progress notes
 6. Pathology results
 7. Nursing notes
 8. Medication
 9. Physician orders
 10. X-ray reports
 11. Laboratory reports
 12. Operative reports
 13. Consultation reports
 14. EKG
 15. Miscellaneous
- b. Describe common documentation approaches for medical records.
 1. SOAP
 2. POMR
- c. Describe how to initiate a new patient medical record.

Objective 2: Differentiate between subjective and objective information.

- a. Use subjective information to document patient complaints.
- b. Use objective information to document patient complaints.

Objective 3: Discuss the legalities associated with the medical record.

- a. Demonstrate how to correct errors in the patient chart.
- b. Explain the importance of documenting all interventions.

Objective 4: Demonstrate the correct method of filing patient information.

- a. Compare and contrast the benefits of alphabetic and numerical filing.
- b. Explain the steps for locating a missing file.

STANDARD 7

Students will perform bookkeeping and financial functions in a medical office setting.

Objective 1: Differentiate between accounts receivable and accounts payable.

- a. Define bookkeeping terms.
 1. Credit
 2. Debit
 3. Adjustment

4. Balance
 5. Asset
 6. Liability
 7. Collections
- b. Describe the following financial forms.
1. Bank deposit
 2. Bank statement
 3. Receipt
 4. Petty cash
 5. Day sheet

Objective 2: Discuss the difference between various methods of payment.

- a. Differentiate between different types of checks.
1. Cashiers
 2. Personal
 3. Money order
 4. Certified
 5. Third party check
 6. Electronic checks
- b. Define terms associated with a checking account.
1. Payee
 2. Payer
 3. Endorsement
- c. Describe differences between credit card and debit cards.
- d. Discuss flexible spending accounts.

STANDARD 8

Students will perform proper insurance, coding, and billing procedures.

Objective 1: Identify terms associated with medical insurance.

- a. Define the following terms associated with medical billing.
1. Birthday Rule
 2. Preauthorization/Precertification
 3. Premium
 4. Copayment/Coinsurance
 5. Deductible
 6. Explanation of Benefits (EOB)
 7. Fee Schedule
- b. Define various insurance carriers.
1. HMO
 2. PPO
 3. Medicare
 4. Medicaid
 5. Fee for Service
 6. Tricare
 7. Workers Compensation
- c. Explain the process to prepare a healthcare claim.

Objective 2: Explain how to determine procedural and diagnostic coding.

- a. Define the following terms associated with medical coding.
1. CPT code
 2. ICD-9
 3. HCFA/CMS 1500
 4. E codes / V codes

- b. Understand legalities associated with coding and billing in a medical office including fraudulent claims.

ANATOMY AND PHYSIOLOGY - Benchmark 3

STANDARD 1

Students will identify the body cavities and quadrants and the organs they contain.

Objective 1: Locate the body cavities and the organs contained therein.

- a. Cranial: Brain
- b. Spinal or Vertebral: Spinal cord
- c. Thoracic: Heart and lungs
- d. Abdominal: Liver, most of the intestines, stomach, gallbladder, spleen, kidneys
- e. Pelvic: Urinary bladder, internal reproductive organs

Objective 2: Identify the four major abdominal quadrants and the organs in each quadrant.

- a. Right upper quadrant (RUQ): Liver, gallbladder, right kidney
- b. Left upper quadrant (LUQ): Stomach, spleen, pancreas, left kidney
- c. Right lower quadrant (RLQ): Appendix, right ovary
- d. Left lower quadrant (LLQ): Left ovary

STANDARD 2

Students will identify the structures and functions of the cell and tissues.

Objective 1: Compare and contrast mitosis and meiosis.

- a. Describe the purpose of mitosis and meiosis.
- b. Identify the outcome of chromosomes for each.
- c. Identify the outcome of numbers of cells for each.

Objective 2: Differentiate between cellular transport mechanisms.

- a. Describe diffusion.
- b. Describe osmosis.
- c. Describe filtration.

Objective 3: Identify the six levels of body organization.

- a. Describe the chemical level.
- b. Describe the cellular level.
- c. Describe the tissues.
- d. Describe the organs.
- e. Describe the organ systems.
- f. Describe the organism.

Objective 4: Distinguish between the four basic tissue types.

- a. Contrast the functions of the four tissue types.
 - 1. Epithelial – coverings and linings
 - 2. Connective – support and structure
 - 3. Muscular – movement
 - 4. Nervous – interpretation and nerve impulse conduction
- b. Identify the locations of the four tissue types.
 - 1. Epithelial – skin and mucous membranes
 - 2. Connective – bones, blood, adipose, cartilage
 - 3. Muscular – muscles
 - 4. Nervous – nerves, brain, spinal cord

STANDARD 3

Students will describe the anatomy and physiology of the integumentary system.

Objective 1: Identify the layers of the skin.

- a. Epidermis
- b. Dermis
- c. Subcutaneous

Objective 2: Identify the appendages.

- a. Nails
- b. Sweat (sudoriferous) glands
- c. Oil (sebaceous) glands
- d. Hair

Objective 3: Describe the functions of the integumentary system.

- a. Protection against water loss
- b. Protection against infection
- c. Vitamin D production
- d. Sensory organ
- e. Absorption of medications
- f. Excretion of water, salts, and waste
- g. Temperature regulation
- h. Protection against UV light

Objective 4: Identify the signs and symptoms of disorders of the integumentary system.

- a. Athlete's foot
- b. Hives
- c. Herpes
- d. Melanoma
- e. Decubitus ulcers
- f. Warts
- g. Pediculosis
- h. Rash
- i. Ringworm

Objective 5: Describe the signs and symptoms of infection and inflammation.

- a. Recognize redness, swelling, heat, and pain.
- b. Identify how the inflammation process is initiated.
- c. Describe the effects of histamine in inflammation.

STANDARD 4

Students will describe the anatomy and physiology of the skeletal system.

Objective 1: Identify the functions of the skeletal system.

- a. Hematopoiesis (blood cell production)
- b. Structure
- c. Support
- d. Muscle attachment and movement
- e. Mineral storage

Objective 2: Identify the basic bones of the skeleton.

- a. Cranium (frontal, parietal, occipital, temporal, maxillae, mandible)
- b. Vertebrae (cervical, thoracic, lumbar, sacral, coccyx)
- c. Rib cage (ribs, sternum, xiphoid process)

- d. Arm (humerus, radius, ulna, carpals, metacarpals, phalanges)
- e. Pelvis (ilium, ischium, pubis)
- f. Leg (femur, tibia, fibula, tarsals, metatarsals, phalanges)

Objective 3: Distinguish between the following fractures:

- a. Simple (closed)
- b. Compound (open)
- c. Greenstick
- d. Impacted (compression)
- e. Comminuted
- f. Spiral
- g. Colles

Objective 4: Identify the signs and symptoms of disorders of the skeletal system.

- a. Arthritis (osteoarthritis, rheumatoid arthritis, gouty arthritis)
- b. Osteoporosis
- c. Scoliosis, Lordosis, Kyphosis
- d. Herniated disc
- e. Carpal tunnel syndrome
- f. Bursitis
- g. Sprains

STANDARD 5

Students will describe the anatomy and physiology of the muscular system.

Objective 1: Identify the functions of the muscular system.

- a. Heat production
- b. Movement
- c. Structure
- d. Protection

Objective 2: Differentiate between the three types of muscle tissue.

- a. Locate cardiac muscles and describe its characteristics (striated, involuntary, and found in the heart).
- b. Locate smooth muscles and describe its characteristics (non-striated, involuntary, and found in hollow organs like the stomach).
- c. Locate skeletal muscles and describe its characteristics (striated, voluntary, found on the bones).

Objective 3: Contrast the differences between tendons and ligaments.

- a. Tendons – connect muscles to bones
- b. Ligaments – connect bone to bone

Objective 4: Identify the basic muscles of the human body.

- a. Deltoid
- b. Gluteus (maximus, medius)
- c. Rectus femoris
- d. Vastus lateralis
- e. Diaphragm

Objective 5: Identify the signs and of disorders of the muscular system.

- a. Strains
- b. Atrophy
- c. Tendonitis

- d. Fibromyalgia

STANDARD 6

Students will describe the anatomy and physiology of the cardiovascular system.

Objective 1: Identify the components of the cardiovascular system.

- a. Blood
- b. Heart
- c. Blood vessels

Objective 2: Identify the functions of the cardiovascular system.

- a. Transportation of nutrients and wastes
- b. Transportation of heat
- c. Transportation of oxygen and carbon dioxide
- d. Transportation of hormones, antibodies, and enzymes

Objective 3: Identify the structures of the heart.

- a. Aorta
- b. Coronary arteries
- c. Septum
- d. Myocardium
- e. Inferior and superior vena cavae
- f. Right and left atrium
- g. Tricuspid valve, Bicuspid valve (mitral valve)
- h. Right and left ventricle
- i. Pulmonary semilunar valve, aortic semilunar valve
- j. Pulmonary arteries, pulmonary veins

Objective 4: Locate the major arteries and veins of the cardiovascular system.

- a. Identify appropriate arteries for taking an accurate blood pressure and pulse.
 - 1. Apical
 - 2. Carotid
 - 3. Radial
 - 4. Brachial
 - 5. Femoral
- b. Identify appropriate veins for venipunctures.
 - 1. Median cubital
 - 2. Basilic
 - 3. Cephalic

Objective 5: Describe the layers of and functions of blood vessels.

- a. Arteries
 - 1. Takes blood away from the heart.
 - 2. Thicker to withstand the pressure from the heart.
- b. Veins
 - 1. Takes blood toward the heart.
 - 2. Modified with valves to prevent backflow of blood.
- c. Capillaries
 - 1. Gas and nutrient exchange between the blood and body cells.
 - 2. Single cell layered.

Objective 6: Identify the signs and symptoms of disorders of the cardiovascular system.

- a. Myocardial infarction
- b. Cerebrovascular accident (CVA – stroke)

- c. Hypertension
- d. Embolus/Thrombus
- e. Arteriosclerosis, Atherosclerosis
- f. Cardiac arrest
- g. Phlebitis
- h. Arrhythmia
- i. Congestive heart failure
- j. Aneurysm

STANDARD 7

Students will describe the anatomy and physiology of the lymphatic/immune system.

Objective 1: List the functions of the lymphatic system.

- a. Transport excess tissue fluid to the blood vessels
- b. Immunity

Objective 2: Describe the functions of the major structures of the immune system.

- a. Tonsils
 - 1. Lymphatic tissue in the pharynx
 - 2. Helps to remove pathogens from food and air
- b. Lymph nodes
 - 1. Masses of lymphatic tissue
 - 2. Filters pathogens from lymph

Objective 3: Describe the human body's lines of defense against disease.

- a. Discuss the physical and chemical barriers.
 - 1. Mucous membranes (traps pathogens)
 - 2. Cilia (propel pathogens out of respiratory tract)
 - 3. Coughing and Sneezing
 - 4. Hydrochloric acid (stomach)
 - 5. Tears in the eyes (contain bactericidal chemicals)
- b. Discuss non-specific immunity.
 - 1. Fever
 - 2. Inflammation (WBC's destroy pathogens)
- c. Discuss specific immunity.
 - 1. Immune response
 - 2. Production of antibodies
- d. Differentiate between active and passive immunity.
 - 1. Vaccination
 - 2. Delivery of antibodies
 - a. Through mother
 - b. Through injection (gamma globulin)

Objective 4: Identify the signs and symptoms of disorders of the lymphatic and immune systems.

- a. Influenza
- b. H1N1
- c. HIV/AIDS
- d. Mononucleosis
- e. Autoimmune disorders

STANDARD 8

Students will describe the anatomy and physiology of the respiratory system.

Objective 1: Identify the structures of the respiratory system.

- a. Nose and nasal cavity
- b. Pharynx
- c. Epiglottis
- d. Larynx
- e. Trachea
- f. Bronchi
- g. Bronchioles
- h. Lungs
- i. Alveoli

Objective 2: Describe the functions of the respiratory system.

- a. Warm, moisten, and filter air
- b. Sound production
- c. Carbon dioxide-oxygen gas exchange

Objective 3: Identify the signs and symptoms of disorders of the respiratory system.

- a. Asthma
- b. Tuberculosis (TB)
- c. Upper respiratory infection (URI)
- d. Pneumonia
- e. Respiratory Syncytial Virus (RSV)
- f. Chronic obstructive pulmonary disease (COPD)
- g. Bronchitis
- h. Epistaxis (Bloody nose)

Objective 4: Identify the signs and symptoms of respiratory distress.

- a. Dyspnea (pursed lip breathing)
- b. Tachypnea
- c. Wheezing

STANDARD 9

Students will describe the anatomy and physiology of the digestive system.

Objective 1: Describe the functions of the digestive system.

- a. Ingestion
- b. Digestion
- c. Absorption
- d. Excretion

Objective 2: Identify the structures of the alimentary canal organs and their basic functions.

- a. Mouth – chemical and mechanical digestion
- b. Pharynx – passageway
- c. Esophagus – passageway to stomach
- d. Stomach – chemical and mechanical digestion
- e. Small intestine – nutritional absorption
- f. Large intestine – absorption of water, collects food residue for excretion

Objective 3: Identify the structures of the accessory organs and their basic functions.

- a. Salivary glands – produce saliva to breakdown food
- b. Pancreas – releases digestive enzymes into the small intestine
- c. Liver – produces bile to breakdown fats
- d. Gallbladder – storage of bile

Objective 4: Identify the signs and symptoms of disorders of the digestive system.

- a. Irritable bowel syndrome (IBS)
- b. Diverticulitis
- c. Hemorrhoids
- d. Celiac disease
- e. Appendicitis
- f. Hepatitis
- g. Ulcers
- h. Hernia
- i. Colon cancer

STANDARD 10

Students will describe the anatomy and physiology of the nervous system.

Objective 1: Describe the general functions of the nervous system.

- a. Detects and interprets sensory information
- b. Voluntary and involuntary integration of the stimulus
- c. Response to stimulus (movement or secretion)

Objective 2: Differentiate between the central nervous system (CNS) and the peripheral nervous system (PNS).

- a. CNS
 - 1. Brain
 - 2. Spinal cord
- b. PNS
 - 1. Peripheral nerves
 - 2. Sympathetic division
 - 3. Parasympathetic division

Objective 3: Identify the structures of the nervous system and their major functions.

- a. Brain
 - 1. Cerebrum
 - a. Frontal lobe – personality, reason, and speech
 - b. Parietal lobe – taste and skin sensations
 - c. Occipital lobe – sight
 - d. Temporal lobe – hearing and memory
 - 2. Cerebellum – balance and coordination
 - 3. Midbrain – relay station for impulses
 - 4. Brainstem – heart rate and respirations
 - a. Medulla
 - b. Pons
 - 5. Hypothalamus – control of endocrine functions, blood pressure and temperature regulation
 - 6. Pituitary gland – secretes many hormones
- b. Spinal cord – reflex center, conduction of nerve impulses
- c. Cerebrospinal fluid (CSF) – shock absorption and provide nutrients to CNS
- d. Meninges (dura mater, arachnoid mater, pia mater) – protection of CNS
- e. Neurons (sensory, motor, and interneuron) – nerves

Objective 4: Identify the signs and symptoms of disorders of the nervous system.

- 1. Alzheimer's disease
- 2. Meningitis
- 3. Headaches
- 4. Epilepsy
- 5. Paralysis (Hemiplegia, Paraplegia, Quadriplegia)

6. Herpes zoster
7. Multiple sclerosis
8. Sciatica

STANDARD 11

Students will describe the anatomy and physiology of the endocrine system.

Objective 1: Describe the general functions of the endocrine system.

- a. Regulates growth, development, and maturation
- b. Regulates chemical balance by the production of hormones

Objective 2: Describe what a hormone is and how it works.

- a. Chemicals secreted into the blood to have an effect on a target tissue
- b. Produced by endocrine glands

Objective 3: Describe the major locations, secretions (hormones), and functions of the following glands:

- a. Pituitary – growth hormone, ACTH, TSH, oxytocin
- b. Thyroid – thyroxine
- c. Pancreas – insulin
- d. Adrenal – cortisol, adrenaline
- e. Ovaries – estrogen, progesterone
- f. Testes – testosterone

Objective 4: Identify the signs and symptoms of disorders of the endocrine system.

- a. Diabetes Mellitus (Types 1 and 2)
- b. Hypothyroidism/Hyperthyroidism
- c. Dwarfism/Gigantism

STANDARD 12

Students will describe the anatomy and physiology of the urinary system.

Objective 1: Describe the functions of the urinary system.

- a. Excrete waste and water from the body
- b. Regulate fluid balance and blood composition

Objective 2: Identify the structures of the urinary system and their major functions.

- a. Kidneys – filter the blood and form urine
- b. Ureters – passageway for urine from the kidneys to the bladder
- c. Bladder – temporary storage of urine
- d. Urethra – passageway of urine to the outside of the body

Objective 3: Identify the signs and symptoms of disorders of the urinary system.

- a. Kidney stones
- b. Cystitis
- c. Pyelonephritis
- d. Incontinence
- e. Renal failure

STANDARD 13

Students will describe the anatomy and physiology of the reproductive system.

Objective 1: Describe the functions of the reproductive system.

- a. Production of gametes (egg and sperm) by the gonads
- b. Produce hormones to help in the maturation process

Objective 2: Identify the structures of the female reproductive system and their major functions.

- a. Breasts – lactation
- b. Ovaries – production of eggs, estrogen, and progesterone
- c. Uterine tubes – site of fertilization, passage between ovaries and uterus
- d. Uterus – nourishment and protection of the fetus
 1. Cervix
 2. Endometrium
- e. Vagina – birth canal, exit for menstrual flow

Objective 3: Identify the structures of the male reproductive system and their major functions.

- a. Penis – protects the urethra
- b. Testes – production of testosterone and sperm
- c. Scrotum – muscular sac housing the testicles
- d. Epididymis – storage and maturation of sperm
- e. Vas deferens – passageway of semen from the testicles meeting connecting with the urethra
- f. Prostate gland – secretes fluids for sperm motility
- g. Urethra – passageway for urine and semen

Objective 4: Identify the signs and symptoms of disorders of the reproductive system.

- a. Female
 1. Ovarian cyst
 2. Premenstrual syndrome (PMS)
 3. Menopause
 4. Cancer
 - a. Cervical cancer
 - b. Ovarian cancer
 - c. Breast cancer
 5. Endometriosis
 6. Human Papillomavirus (HPV)
 7. Pelvic Inflammatory Disease (PID)
- b. Male
 1. Cancer
 - a. Prostate cancer
 - b. Testicular cancer
 2. Epididymitis
 3. Prostatitis
 4. Benign Prostatic Hypertrophy (BPH)

Objective 5: Review the following self examinations:

- a. Breast self exam (BSE)
- b. Testicular self exam (TSE)

CLINICAL AND LABORATORY PROCEDURES - Benchmark 4

STANDARD 1

Students will examine basic concepts of asepsis.

Objective 1: Describe the infection control cycle.

- a. Review the five types of microorganisms.
 1. Bacteria
 2. Virus
 3. Protozoa
 4. Fungi
 5. Rickettsiae

- b. Discuss the chain of infection.

Objective 2: Demonstrate disease prevention principles.

- a. Describe the three levels of infection control.
 - 1. Sanitization
 - 2. Disinfection
 - 3. Sterilization
- b. Describe the common standard precautions of infection control.
 - 1. Hand washing / Hand sanitizing
 - 2. Gloving
 - 3. Personal protective equipment (PPE)
 - 4. Coughing etiquette / masks
 - 5. Hygiene
 - 6. Nutrition

Objective 3: Apply personal safety procedures based on OSHA and CDC regulations.

- a. List blood-borne pathogens.
 - 1. Hepatitis B and C
 - 2. HIV
- b. Describe techniques for preventing pathogen transmission.
 - 1. Sharps containers
 - 2. Biohazardous waste
- c. Discuss the use of safety devices.
- d. Discuss the use of Materials Safety Data Sheets (MSDS).
- e. Discuss the use of Incident/injury reports.

Objective 4: Demonstrate procedures for the proper cleaning and sanitizing of instruments.

- a. Sanitizing instruments
- b. Chemical disinfecting
- c. Autoclaving

STANDARD 2

Students will obtain baseline vital sign information and compare it to normal values.

Objective 1: Measure and obtain the five baseline vital signs.

- a. Temperature (tympanic, electronic oral, temporal)
- b. Pulse (rate, rhythm, volume) (peripheral, apical)
- c. Respiration (rate, rhythm, depth)
- d. Blood Pressure
- e. Oxygen Saturation

Objective 2: Define terms which describe normal and abnormal vital signs values.

- a. Bradycardia / Tachycardia
- b. Hypotension / Hypertension
- c. Febrile / Afebrile
- d. Bounding / Thready pulse
- e. Shallow / Dyspnea / Stridor / Hyperventilation / Wheezing
- f. Hypoxia

Objective 3: Obtain body measurements for adults.

- a. Height
- b. Weight

Objective 4: Obtain body measurements for infants.

- a. Length
- b. Weight
- c. Head circumference
- d. Chest circumference

STANDARD 3

Students will accurately obtain the patient history and assist with the physical examination.

Objective 1: Demonstrate the ability to obtain an accurate patient history.

- a. Chief complaint
- b. Use of open-ended questions to obtain information
- c. Pain scale
- d. Document allergies
- e. Relevant observations or information

Objective 2: Prepare the patient and the examination room.

- a. Prepare and clean the examination room properly.
- b. Assemble all necessary equipment and supplies.
- c. Demonstrate patient positioning.
 - 1. Supine
 - 2. Prone
 - 3. Lithotomy (pelvic exam)
 - 4. Dorsal recumbent (abdominal exam)
 - 5. Trendelenburg (shock)
 - 6. Fowler's (respiratory)
 - 7. Semi-Fowler's (respiratory)
 - 8. Sims' (rectal)
- d. Demonstrate draping techniques.
- e. Assist the physician as necessary.
- f. Clean the examination table and replace supplies.

Objective 3: Describe common examinations and procedures in medical specialties.

- a. Sigmoidoscopy
- b. Prostate exam
- c. Pap smear
- d. Snellen eye chart (visual acuity)
- e. Ishihara (color visual acuity)
- f. Jaeger (near vision acuity)
- g. Ear wax removal (irrigation)
- h. Eye irrigation

Objective 4: Assist the patient with ambulatory devices.

- a. Assist patient from a wheelchair to an exam table and back to the wheelchair.
- b. Instruct patient in using walkers, canes, and crutches.

STANDARD 4

Students will discuss pharmacology principles and demonstrate accurate medication administration.

Objective 1: Classify common medications.

- a. Antihypertensives
- b. Antihistamines
- c. Antidiuretics / Diuretics
- d. Antitussives

- e. Antidepressants
- f. Antianxiety
- g. Contraception
- h. Antipyretics
- i. Analgesics
- j. Antibiotics
- k. Laxatives
- l. Antidiabetic / Hypoglycemic
- m. Anticoagulants
- n. Hormones
- o. Anesthetics
- p. Anti-inflammatories
- q. Bronchodilators
- r. Narcotics

Objective 2: Describe the schedule for controlled substances.

- a. Schedule I – illegal, not prescribed
- b. Schedule II – high potential for addiction and abuse
- c. Schedule III – moderate to low potential for addiction and abuse
- d. Schedule IV – lower potential for addiction and abuse
- e. Schedule V – low potential for addiction and abuse

Objective 3: Demonstrate how to find medication information.

- a. Physician's Desk Reference (PDR)
- b. Nursing Drug Reference
- c. Internet

Objective 4: Document medication administration.

- a. Medication record
 - a. Medication
 - b. Dosage
 - c. Site
 - d. Patient reaction
- b. Immunization record
 - a. Lot number
 - b. Expiration date
 - c. Site

Objective 5: Understand principles involved with prescription medication.

- a. Describe the necessary components of a valid prescription.
- b. Compare and contrast prescription and over-the-counter medications.
- c. Explain the appropriate procedure for calling or faxing a prescription.

Objective 6: Perform accurate dosage calculations.

- a. Evaluate and simplify numerical expressions containing real numbers using the order of operations.
 - 1. Addition, subtraction, multiplication, division
 - 2. Fractions
 - 3. Decimals
 - 4. Ratios
 - 5. Proportions
 - 6. Metrics
 - 7. Conversions

- b. Compute solutions to problems and determine the reasonableness of an answer by relating them to the problem.

Objective 7: Identify the following “rights” of medication administration.

- a. Right patient
- b. Right medication
- c. Right time
- d. Right route
- e. Right dosage

Objective 8: Demonstrate the procedures for administering medications.

- a. Oral, including buccal and sublingual
- b. Transdermal
- c. Intradermal
- d. Subcutaneous
- e. Intramuscular, including Z track method
- f. Ear/Eye Drops
- g. Ointments
- h. Inhalation
- i. Epi-pen

Objective 9: Describe the side-effects of medications.

- a. Compare and contrast common side effects with adverse effects.
- b. Recognize signs and symptoms of Anaphylactic shock and describe its treatment.

STANDARD 5

Students will demonstrate the ability to assist with minor surgery.

Objective 1: Identify common instruments by name, use, and category.

- a. Cutting instruments
 1. Scissor (bandage, suture)
 2. Scalpel
- b. Grasping and Clamping
 1. Hemostat
 2. Forceps
 3. Towel Clamp
- c. Probing and Dilating
 1. Scope
 2. Speculum
 3. Punch (biopsy)
- d. Suture Materials
 1. Sutures (absorbable, non-absorbable)
 2. Suture needles
 3. Needle holder
 4. Steri-Strips
 5. Staples
 6. Dermabond

Objective 2: Prepare the patient and the procedure room.

- a. Obtain a patient consent form.
- b. Explain pre- and post- procedure care and education of the patient.
- c. Demonstrate a surgical hand wash.
- d. Demonstrate applying sterile gloves.
- e. Demonstrate creating a sterile field and opening a sterile pack.

- f. Describe ways of maintaining the sterile field.
- g. Demonstrate the ability to assist with procedures, including skin preparation.
- h. Demonstrate sterile dressing changes.
- i. Demonstrate suture and staple removal techniques.

STANDARD 6

Students will demonstrate how to use the electrocardiograph machine.

Objective 1: Describe the electrical conduction system of the heart.

- a. Identify the SA node, AV node, AV bundle, bundle branches, and Purkinje fibers.
- b. Correlate the “PQRST” waves on an EKG with the conduction system of the heart.

Objective 2: Prepare the patient for an EKG.

- a. Demonstrate electrode placement and obtain a 12 lead EKG.
- b. Identify artifacts and describe ways to prevent them.
 - 1. Somatic tremor
 - 2. Wandering baseline
 - 3. Current interference

Objective 3: Identify other tests used to determine heart function.

- a. Holter monitor (24-48 hour)
- b. Stress test
- c. Event monitor (30 days)

STANDARD 7

Students will learn skills necessary to work in a physician’s office laboratory.

Objective 1: Describe procedures associated with urinalysis.

- a. Explain different types of urine collection.
 - 1. Clean-catch midstream
 - 2. Catheterization
- b. Explain the physical characteristics of urine (color, odor, appearance).
- c. Demonstrate the ability to use a reagent strip to identify abnormalities in urine.
- d. Demonstrate the ability to set up a wet mount for microscopic analysis.
- e. Describe urine pregnancy testing.

Objective 2: Describe terms and procedures associated with hematology.

- a. Identify the components of blood and the function of each.
 - 1. White blood cells – fight infection
 - 2. Red blood cells – carry oxygen
 - 3. Platelets – clotting
 - 4. Plasma – liquid portion of the blood
- b. Differentiate between plasma and serum.
- c. Describe the normal values for these tests:
 - 1. Hematocrit (37 – 47% women; 40 – 54% men)
 - 2. Hemoglobin (14 – 18 g men; 12 – 16 g women)
 - 3. WBC count (5,000 – 10,000)
 - 4. RBC count (4.2 million – 6 million)
 - 5. Platelet count (150,000 – 350,000)
 - 6. Glucose (80 – 120 mg)
 - 7. Total Cholesterol (<200)
- d. Locate capillary and common venipuncture sites.
- e. Demonstrate a skin puncture with a sterile lancet/autolet.
- f. Demonstrate venipuncture using vacuum method with multiple tubes.
- g. Perform a microhematocrit and glucose from finger stick.

- h. Demonstrate a hemocult (guaiac).
- i. Describe the procedure for obtaining a PKU.
- j. Describe common blood tests (FBS, GTT, blood typing).

Objective 3: Describe terms and procedures associated with microbiology.

- a. Differentiate between gram positive and gram negative bacteria.
- b. Demonstrate the ability to obtain a throat culture specimen.
- c. Differentiate between culturing bacteria and rapid testing.
- d. Identify the parts of and use of the microscope.

STANDARD 8

Student will be able to respond to emergencies.

Objective 1: Obtain CPR certification.

- a. Adult, child, and infant CPR
- b. AED training

Objective 2: Obtain First Aid certification.

- a. Describe how to respond to bleeding, shock, and poisoning emergencies.
- b. Demonstrate bandaging techniques.

EXTERNSHIP

STANDARD 1

Students will successfully complete a clinical externship.

Objective 1: Complete a 160 hour minimum externship.

- a. Have clinical site complete evaluation and return to instructor.
- b. Discuss student externship evaluation with instructor.

Objective 2: Externship evaluations will indicate satisfactory or higher rating.

STANDARD 2

Students will demonstrate professional attributes.

Objective 1: Demonstrate the following characteristics:

- a. Honesty and integrity
- b. Reliability and punctuality
- c. Appropriate communication skills
- d. Cooperation and teamwork
- e. Initiative and adaptability

Objective 2: Externship evaluations will indicate satisfactory or higher rating.