





Multiple Category Scope and Sequence: Scope and Sequence Report For Course Standards and Objectives, Content, Skills, Vocabulary

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	Unit	Course Standards and Objectives	Content	Skills	Vocabulary
District Intermediate Medical Anatomy & Physiology (51.1399) (District) 2014-2015 Sontum, Krista	<u>Unit 1 Body Organization</u>  (Week 1, 3 Weeks) 	UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 01 Anatomy and Physiology/Diseases and Disorders Students will describe the body plan and organization and homeostasis. 7% - 5 Questions <ul style="list-style-type: none"> ▪ Objective 01.01 Contrast the science of anatomy with physiology. ▪ Objective 01.02 Describe the six levels of structural organization of the human body. (chemical, cellular, tissue, organ, system, organism) ▪ Objective 01.03 Describe metabolism and its anabolic and catabolic processes. ▪ Objective 01.04 Apply directional terms used in human anatomy. (posterior/anterior, medial/lateral, proximal/distal, superficial/deep, superior/inferior) ▪ Objective 01.05 Apply these commonly used planes to divide the body into portions. (sagittal, midsagittal, transverse [horizontal], frontal [coronal]) ▪ Objective 01.06 	<u>Body Organization</u> <ul style="list-style-type: none"> ▪ Anatomy versus physiology ▪ Six level of organization <u>Body Directional References</u> <ul style="list-style-type: none"> ▪ Directional Terms ▪ Body Planes <u>Cavities and Quadrants</u> <ul style="list-style-type: none"> ▪ Five Body Cavities ▪ Quadrants of the Abdomen <u>Homeostasis</u> <ul style="list-style-type: none"> ▪ Metabolism ▪ Anabolism ▪ Catabolism ▪ Homeostasis ▪ Stress ▪ Positive Feed-Back ▪ Negative Feed-Back 	Students will be able to: <ul style="list-style-type: none"> ▪ Compare and contrast the science of anatomy and the science of physiology ▪ List and organize the six levels of structural organization ▪ Apply directional terms for use in anatomy ▪ Show the planes used to divide the body ▪ Differentiate and Label the five cavities of the body ▪ Organize the organs of the body into their appropriate body cavity ▪ Describe and Label the abdominal quadrants ▪ Organize the abdominal organs into their appropriate abdominal quadrant ▪ Describe catabolism and anabolism and how they relate to metabolism ▪ Define and give examples of stress ▪ Formulate how homeostasis combats stress in regards to positive and negative feed-back 	<ul style="list-style-type: none"> ▪ Anatomy ▪ Physiology ▪ Chemical ▪ Cellular ▪ Tissue ▪ Organ ▪ System ▪ Organism ▪ Metabolism ▪ Anabolism ▪ catabolism ▪ Posterior ▪ Anterior ▪ medial ▪ lateral ▪ proximal ▪ distal ▪ superficial ▪ deep ▪ superior ▪ inferior ▪ sagittal ▪ midsagittal ▪ transverse ▪ frontal ▪ dorsal cavity ▪ vertebral cavity ▪ cranial cavity ▪ thoracic cavity ▪ mediastinum ▪ pericardial ▪ pleural ▪ abdominopelvic cavity ▪ pelvic cavity ▪ quadrant ▪ homeostasis ▪ stress ▪ negative feedback ▪ positive feedback

Identify the body cavities and locate the following organs within each cavity.

- a. Dorsal Cavity
 - Vertebral - Spinal Cord
 - Cranial - Brain
- b. Ventral Cavity
 - Thoracic - Heart & Lungs
 - Mediastinal - Heart, Bronchi & Esophagus
 - Pericardial – Heart
 - Pleural - Lungs
- c. Abdominal -Liver, Spleen, Intestines, Kidneys & Stomach
- d. Pelvic - Intestines, Urinary Bladder & Sex Organs)

- Objective 01.07
Identify the major organ in each abdominal quadrant. (RUQ - Right Upper Quadrant – Liver, RLQ - Right Lower Quadrant - Cecum & Appendix LUQ - Left Upper Quadrant - Spleen, Stomach & Left Kidney, LLQ - Left Lower Quadrant – Left Ovary)
- Objective 01.08
Examine the relationship between homeostasis and stress.
- Objective 01.09
Differentiate between negative and positive mechanisms.

Unit 2

Chemistry

(Week 4, 2 Weeks)



UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 02
Students will explain basic principles of body chemistry. 7%
- 5 Questions

Atoms

- States of Matter
- Components of an Atom
- Compound vs. Molecule
- Cation, Anion, Ion and Electrolytes

- Investigate where ionic, covalent, and hydrogen bonds are found in the human body
- Assess the importance of water in the human body.
- Construct a pH scale and show the range of pH in the blood.

- States of Matter
- Elements
- Atom
- Nucleus
- Electrons
- Protons
- Neutrons
- Ion

- Objective 02.01
Review the following terms and concepts. (states of matter, basic components of the atom [nucleus, electrons, protons, and neutrons], ion, element)
- Objective 02.02
Identify the four major elements in the body. (carbon, hydrogen, oxygen, nitrogen)
- Objective 02.03
Differentiate between a compound and a molecule.
- Objective 02.04
Differentiate between a cation and an anion.
- Objective 02.05
Describe the characteristics of ionic, covalent, and hydrogen bonds.
- Objective 02.06
Define pH.
- Objective 02.07
Categorize acidic, basic, or neutral solutions based on the pH of a solution.
- Objective 02.08
Distinguish between “neutral” pH and the “average” pH range of the blood. (neutral pH = 7.0, average pH of blood = 7.35 to 7.45)
- Objective 02.09
Describe the properties of water and how it is utilized in the human body. (universal solvent, transport, lubricant, heat capacity, chemical reactions)
- Objective 02.10
Distinguish between inorganic and organic

Bonds

- Ionic
- Covalent
- Hydrogen

pH

- pH scale
- Acidic, Basic and Neutral solutions
- pH of blood

Inorganic vs. Organic

- Molecular structure of organic vs. inorganic molecules
- Properties of water
- Carbohydrates, Proteins, Lipids and Nucleic Acids
- Purpose and regeneration of ATP


- Explain each component of the energy equation.
- Describe relationships between homeostasis and pH.

- Electrolyte
- Carbon
- Hydrogen
- Oxygen
- Nitrogen
- Compound
- Molecule
- Cation
- Anion
- Ionic
- Covalent
- Hydrogen Bonds
- pH
- Acidic
- Basic
- Neutral Solution
- Water
- Universal Solvent
- Inorganic
- Organic
- Solute
- Solution
- Carbohydrates
- Proteins
- Lipids
- Nucleic Acids
- Cellular Respiration
- ATP
- ADP
- Phosphate

compounds. (Inorganic compounds do not usually contain carbon, are small molecules, and are usually ionic bonds. Organic compounds contain carbon, are large molecules, covalent bonding, and flammable.)

- Objective 02.11
Describe the structures and functions of carbohydrates, proteins, lipids, and nucleic acids.
- Objective 02.12
Contrast the characteristics of saturated fats, monounsaturated fats, and polyunsaturated fats.
- Objective 02.13
Describe how the body produces energy during cellular respiration. (ATP < - -> ADP + P + ENERGY conversion)

Unit 3A Cells

 (Week 5, 3 Weeks) 

UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 03
Students will describe basic concepts of structures and functions of cells, histology, and the integumentary system. 11% - 8 Questions

- Objective 03.01
Identify the four principle parts of a generalized animal cell and their functions. (nucleus, cytosol, organelles & cell membrane)
- Objective 03.02
Describe the structure

Functions

- Four principle parts of an animal cell
- Organelles
- Selective permeability

Anatomy of a Cell

- Four principle parts of an animal cell - cell membrane, cytosol, nucleus, organelles
- DNA
- RNA

Physiology

- Organelles

- Students will describe the 4 principle parts of an animal cell.
- Students will compare and contrast active versus passive transport processes.
- Students will be able to discriminate between an animal cell's organelles and structures as well as their functions.
- Students will explain the osmotic effects of placing a RBC into a hypotonic, hypertonic or isotonic solution.

- Nucleus
- Cytosol
- Organelles
- Cell Membrane
- Selectively Permeable Membrane
- Permiability
- Intracellular Fluid
- Extracellular Fluid
- Passive Pocess
- Diffusion
- Osmosis
- Facilitated Diffusion
- Dialysis
- Filtration
- Active Process
- Phagocytosis
- Exocytosis
- Active Transport

- and function of the cell membrane.
- Objective 03.03
Describe selectively permeable membranes and factors which influence permeability.
- Objective 03.04
Describe each of the following transport processes, and classify them as active or passive. (Passive processes – diffusion, osmosis, facilitated diffusion, dialysis, and filtration. Active processes phagocytosis and exocytosis).
- Objective 03.05
Review the osmotic effects that occur when a cell is placed in an isotonic, hypotonic, or hypertonic solution.
- Objective 03.06
Describe the function of the following structures within the cell nucleus. (nucleolus, gene, chromatin, chromosome)
- Objective 03.07
Identify the major functions and characteristics of the following organelles or cell membrane modifications. (ribosomes, endoplasmic reticulum, Golgi complex, mitochondria, lysosomes, peroxisomes, microfilaments, microtubules, centrioles, centrosomes, flagella, cilia, microvilli, vacuole)
- Objective 03.08

- Transport Processes - active and passive
- Mitosis, meiosis, cytokinesis

Diseases

- None

- Isotonic Solution
- Hypertonic Solution
- Hypotonic Solution
- nucleolus
- gene
- chromatin
- chromosome
- DNA
- ribosomes
- endoplasmic reticulum
- golgi complex
- mitochondria
- lysosomes
- vacuole
- peroxisomes
- microfilaments
- microtubules
- centrioles
- centrosomes
- flagella
- cilia
- microvilli
- mitosis
- meiosis

Relate mitosis, meiosis, and cytokinesis to cell division.

- Objective 03.09
Discuss the structure of DNA. (nucleotide, names of complementary bases & codon)
- Objective 03.10
Describe the process of protein synthesis. (transcription, translation)

Unit 3B

Histology

(Week 5, 3 Weeks)



UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology
Standard 03
Students will describe basic concepts of structures and functions of cells, histology, and the integumentary system. 11% - 8 Questions

- Objective 03.11
Identify the general characteristics and functions of each of the principle types of tissues. (Epithelial - strategies for tissue identification [arrangement & cell shape], Connective - adipose, cartilage, dense fibrous, blood & bone, Muscular - skeletal, smooth & cardiac, and Nervous)
- Objective 03.13
Differentiate between the basic types of membranes. (mucous, serous, synovial, cutaneous)

Fundamental Tissue Types

- epithelial
- connective
- nervous
- muscular



Membrane types

- mucus
- serous
- synovial
- cutaneous

- Compare the design of the 4 membranes, considering the effectiveness of each type, with its location and function.
- Compare the different compositions of various connective tissues.
- Contrast the 3 major shapes of epithelium and identify areas in the body with these types.

- epithelium
- connective
- nervous
- muscular
- adipose
- cartilage
- dense fibrous
- blood
- bone
- skeletal muscle
- smooth muscle
- cardiac muscle
- mucus membrane
- serous membrane
- synovial membrane
- cutaneous membrane
- matrix
- cuboidal
- squamous
- columnar

Unit 3C
Integumentary

 (Week 5, 3 Weeks) 

UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 03
Students will describe basic concepts of structures and functions of cells, histology, and the integumentary system. 11% - 8 Questions

- Objective 03.12
Contrast exocrine and endocrine glands.
- Objective 03.14
Describe the structures and functions of the integumentary system components. (skin, glands, hair, nails)
- Objective 03.15
Describe the major layers of skin. (epidermis, dermis, subcutaneous [hypodermis])
- Objective 03.16
Describe the functions of sudoriferous (sweat) and sebaceous (oil) glands.
- Objective 03.17
Identify the following diseases or disorders of the integumentary system. (acne, athlete's foot, burns, cancer, decubitus ulcers)

Glands

- exocrine (sudoriferous and sebaceous)
- endocrine

Layers of Skin

- epidermis
- dermis
- subcutaneous

Functions of Skin

- temperature regulation
- sensation
- prevent invasion
- prevent dehydration

Structure and Function of the appendages of the integument

- glands
- hair
- nails


Diseases or Disorders

- acne
- skin cancers(basal cell carcinoma, squamous cell carcinoma, malignant melanoma)
- decubitus ulcer
- athlete's foot
- burns

- Justify the design of the layers of the integument with the function of each layer.
- Support the hypothesis: "The appendages of the skin have functions, that humans might alter, were they to remove or change the appendages.
- Compare the design of the exocrine and endocrine glands, considering the effectiveness of each type with its function.

- exocrine gland
- endocrine gland
- epidermis
- dermis
- subcutaneous
- sweat gland
- sebaceous gland
- nerve endings
- vasoconstriction
- vasodilation

Unit 4 Skeletal System

 (Week 8, 4 Weeks) 

UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 04
Students will describe the structures and functions of the

Functions

- Support
- Protection
- Facilitates movement

- Identify the 206 bones of the skeleton.
- Describe and identify bone markings.
- Identify the bones of the skull

- Osteoblast
- Osteoclast
- Osteocyte
- Periosteum
- Diaphysis

skeletal system and its components. 9% - 6 Questions

- Objective 04.01
Identify the general functions of the skeletal system.
- Objective 04.02
Identify the roles of the osteoblasts, osteocytes, and osteoclasts in bone growth and ossification.
- Objective 04.03
Describe the features of a long bone. (periosteum, diaphysis, epiphysis, metaphysis, medullary cavity, red marrow, yellow marrow, articular cartilage, endosteum)
- Objective 04.04
Contrast the structural differences between compact and spongy bone.
- Objective 04.05
Identify the four classes of bones with characteristics and examples of each. (long, short, flat & irregular)
- Objective 04.06
Describe and locate the following bone markings. (foramen, meatus, sinus, fossa, condyle, tuberosity, trochanter, tubercle & process)
- Objective 04.07
Describe the terms "suture" and "fontanel".
- Objective 04.08
Contrast the axial and appendicular skeletons.
- Objective 04.09
Locate the following skull bones. (mandible, maxilla, zygomatic,

- Mineral Storage
- Storage of Energy
- Hematopoiesis

Anatomy of the Skeletal System

- Bone Cells
- Long Bone Features
- Bone Shapes
- Bone Markings
- Suture vs. Fontanel
- Axial vs. Appendicular Skeleton
- Bones of Skull
- Vertebrae location and function
- Articulations
- Ligaments vs. Tendons

Diseases

- Herniated Disk
- Osteoarthritis
- Osteoporosis
- Scoliosis
- Spina Bifida

and face and the vertebral column.

- Construct features of a long bone.
- Compare and contrast the axial vs. appendicular skeleton.

- Epiphysis
- Red bone marrow
- Compact bone
- Spongy bone
- Suture
- Fontanel
- Ligament
- Tendon
- Osteoarthritis
- Osteoporosis
- Scoliosis
- Axial skeleton
- Appendicular skeleton
- Vertebrae
- Articulation

frontal, parietal,
occipital, sphenoid,
ethmoid, hyoid,
temporal, mastoid
process of the temporal
bone)

- Objective 04.10
Contrast the general
number, location and
function of each of the
five groups of
vertebrae.
- Objective 04.11
Describe the functional
classifications of
articulations & the
associated types within
diarthrotic articulations.
(synarthrotic,
amphiarthrotic and
diarthrotic [gliding,
hinge, pivot, ellipsoidal,
saddle & ball and
socket])
- Objective 04.12
Explain the structural
classifications of
articulations. (fibrous,
synovial &
cartilaginous)
- Objective 04.13
Describe a ligament
and its role in a
synovial joint.
- Objective 04.14
Discuss the influence
of aging, exercise and
lifestyle on bone
remodeling.
- Objective 04.15
Identify the following
diseases or disorders
of the skeletal system.
(fractures, herniated
disc, kyphosis,
lordosis, osteoarthritis,
osteoporosis, rickets,
scoliosis, sprain, strain,
spina bifida)

- Students will compare and
contrast the appearance,
location and function of each
- elasticity
- extensibility

(Week 12, 3 Weeks) Standard 05



Students will describe the structures and functions of the muscular system and its components. 9% - 6 Questions

- Objective 05.01 Identify the general functions of the muscular system.
- Objective 05.02 Describe the four characteristics of muscle tissue. (elasticity, excitability [irritability], extensibility, flexibility)
- Objective 05.03 Contrast the general location, microscopic appearance, control, and functions of the three specific types of muscle tissue. (skeletal, smooth, cardiac)
- Objective 05.04 Contrast thick and thin myofilaments.
- Objective 05.05 Describe the sliding-filament theory of muscle contraction.
- Objective 05.06 Describe the role of each of the following structures in muscle contraction. (motor neuron, neuromuscular junction, motor end plate, ACh (acetylcholine) receptors, acetylcholine, motor unit)
- Objective 05.07 Define the terms "origin" and "insertion."
- Objective 05.09 Explain the role of prime movers (agonist), antagonists, synergists, and

- Movement
- Thermogenesis
- Protection
- Organ volume
- Posture

Anatomy

- Three types of muscle
- Muscles: appearance, location and function
- Motor neurons

Physiology

- Sliding-Filament Theory
- Muscle contraction
- Characteristics of muscle tissue

Diseases

- Fibromyalgia
- Muscular Dystrophy
- Shin Splints
- Strains

- muscle type.
- Students will label anterior and posterior skeletal muscles.
- Students will be able to explain the sliding filament theory.
- Students will be able to describe how the skeletal and muscular systems work together to produce movement.

- excitability
- flexibility
- thick myofilament
- thin myofilament
- origin
- insertion
- muscle fiber
- neuromuscular junction
- motor unit
- motor neuron
- acetylcholine
- agonist
- antagonist
- synergist
- fixator
- sarcomere

fixators.

- Objective 05.10
Describe the locations and functions of the following skeletal muscles: (biceps brachii, triceps brachii, sternocleidomastoid, trapezius, deltoid, diaphragm, pectoralis major, latissimus dorsi, gastrocnemius, hamstrings, quadriceps, gluteus maximus)
- Objective 05.11
Locate three commonly chosen sites for intramuscular injections. (deltoid, gluteus medius, vastus lateralis)
- Objective 05.12
Identify the following diseases and disorders of the muscular system. (abnormal contractions, fibromyalgia, muscular dystrophy, myasthenia gravis, shin splints)

Unit 6A Nervous

System

(Week 15, 5 Weeks)



UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology

Standard 06

Students will describe the structures and functions of the nervous system and special senses. 11% - 8 Questions

- Objective 06.01
Restate the three broad functions of the nervous system: (sensory, integration, motor)
- Objective 06.02
Describe the general organization of the nervous system.
- Objective 06.03

Functions of the nervous system

- Sensory/Integration/Motor
- Principle parts of the brain
- Neurons
- Neuroglia
- CSF
- Meninges
- Nerve Impulse

Anatomy of the nervous system

- Principle parts of the brain
- Generalized neuron structure
- Meninges
- Reflex Arc
- White Matter/Gray Matter

Students will be able to:

- identify and label the four principle parts of the brain
- list functions of neuroglia
- draw and describe a typical neuron
- explain action potential
- describe each part of the brain, including structure and function
- identify diseases by symptoms

- sensory
- integration
- motor
- neuron
- neuroglia
- astrocyte
- microglia
- oligodendrocyte
- ependymal cell
- Schwann cell
- Central Nervous System
- Peripheral Nervous System
- Somatic Nervous System
- Autonomic Nervous System
- Sympathetic Nervous System
- Parasympathetic Nervous System
- action potential

List the functions and structures of neurons and neuroglial cells: (astrocytes, microglia, oligodendrocytes, ependymal cells, Schwann cells, and satellite cells)

- Objective 06.04 Sequence the major events when nerve impulse (action potential) is initiated and transmitted in a neuron.
- Objective 06.05 Contrast white and gray matter of nervous tissue.
- Objective 06.06 Identify the structures responsible for the maintenance and protection of the central nervous system. (meninges [dura mater, arachnoid mater and pia mater])
- Objective 06.07 Explain the role of each of the components of a reflex arc. (reflex, reflex arc, receptor, sensory neuron, association [interneurons] neuron, motor neuron, effector)
- Objective 06.08 Identify the origins and targets of the phrenic and sciatic nerves.
- Objective 06.09 Identify the four principle parts of the brain. (cerebrum, cerebellum, brain stem, diencephalon)
- Objective 06.10 Describe the production, location, and function of CSF. (ventricles, subarachnoid space and choroid plexus)

Organization of the nervous system

- CNS
- PNS
- Autonomic
- Sympathetic
- Parasympathetic

Diseases of the nervous system

- ALS
- Alzheimer's
- bacterial meningitis
- cerebral palsy
- epilepsy
- multiple sclerosis
- Parkinson's

Listed above but NOT on the current MAP 3 CD: cephalgia, depression, headache, lumbar puncture, polio, Reye's syndrome

- myelin (myelin sheath)
- white matter
- gray matter
- meninges
- dura mater
- arachnoid mater
- pia mater
- reflex arc
- cerebrum
- cerebellum
- diencephalon
- brainstem
- Cerebral Spinal Fluid
- ventricles
- medulla oblongata
- pons
- midbrain
- thalamus
- hypothalamus
- frontal lobe
- parietal lobe
- temporal lobe
- occipital lobe
- ALS
- Alzheimer's disease
- meningitis
- cerebral palsy
- epilepsy
- multiple sclerosis
- Parkinson's disease

- Objective 06.11
Describe the functions of the three structures found in the brain stem. (midbrain, pons & medulla oblongata)
- Objective 06.12
Describe the structures and functions of the diencephalon. (thalamus & hypothalamus)
- Objective 06.13
Describe the locations and functions of the four lobes of the cerebrum. (frontal, parietal, temporal and occipital)
- Objective 06.14
Explain the major functions of the cerebellum.
- Objective 06.15
Identify the following diseases, disorders, or procedures of the nervous system. (ALS, Alzheimer's, bacterial meningitis, cephalgia, cerebral palsy, depression, epilepsy, headache, lumbar puncture, multiple sclerosis, Parkinson's, polio, Reye's syndrome)

Unit 6B Special

Senses

(Week 15, 5 Weeks)



UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 06

Students will describe the structures and functions of the nervous system and special senses. 11% - 8 Questions

- Objective 06.16
Describe the principle anatomical structures of the eye. (accessory structures [eyelid,

Structure of the eye

- accessory structures (eyelid, conjunctiva, lacrimal, muscles)
- layers of the eye

Structure of the ear

- regions of the ear
- auricle
- auditory canal
- tympanic membrane
- Eustachian (auditory) tube

Students will be able to:

- describe the structures of the eye
- trace a beam of light through the eye from outermost to innermost
- differentiate between accessory structures and layers of the eye
- explain how the eye works
- describe the structures of the ear
- differentiate between outer,

- eyelid (*palpabrae*)
- conjunctiva
- lacrimal apparatus
- extrinsic muscle
- fibrous tunic
- vascular tunic
- nervous tunic
- sclera
- cornea
- choroid
- ciliary body
- iris
- lens

conjunctiva, lacrimal apparatus, and extrinsic muscles of the eyeball] (fibrous tunic [sclera and cornea], vascular tunic [choroid, ciliary body, iris, and lens], nervous tunic [retina])

- Objective 06.17 Describe the principle anatomical structures of the ear. (outer ear [auricle and auditory canal], middle ear [tympenic cavity, tympanic membrane, auditory or Eustachian tube, and auditory ossicles - malleus, incus & stapes], inner ear [bony labyrinth, membranous labyrinth, semicircular canals, vestibule, cochlea, and Organ of Corti])
- Objective 06.18 Identify the following diseases or disorders associated with special senses. (amytropia [presbyopia, myopia, hyperopia], cataracts, conjunctivitis, deafness [conductive and sensorineural], glaucoma, macular degeneration, middle ear infection, strabismus, tinnitus, vertigo)

- auditory ossicles
- semicircular canals
- vestibule
- cochlea
- Organ of Corti

Disease/disorders related to special senses

- presbyopia
- myopia
- hyperopia
- cataracts
- conjunctivitis
- deafness [conductive and sensorineural]
- glaucoma
- macular degeneration
- middle ear infection
- strabismus
- tinnitus
- vertigo

- middle, and inner ear
- explain how the ear works
- identify symptoms related to each disorder/disease related to special senses
- differentiate between diseases affecting outer, middle, and inner ear

- pupil
- retina
- outer ear
- middle ear
- inner ear
- auricle
- auditory canal
- tympanic cavity
- tympanic membrane
- Eustachian (*auditory*) tube
- ossicles
- malleus
- incus
- stapes
- semicircular canals
- vestibule
- cochlea
- Organ of Corti
- presbyopia
- myopia
- hyperopia
- cataract
- conjunctivitis
- conductive deafness
- sensorineural deafness
- glaucoma
- macular degeneration
- middle ear infection
- strabismus
- tinnitus
- vertigo

Unit 7
Endocrine

System 
(Week 20, 2 Weeks)


UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 07 Students will describe the structures and functions associated with the endocrine system. 6% - 4 Questions

- Objective 07.01

Endocrine System Functions

- Coordination
- Regulation
- Homeostasis (Positive and Negative Feedback)

Hormone Description

- Explain the location of each endocrine gland
- Debate which hormone is the most important
- Distinguish the differences between each of the endocrine diseases.

- Hormone
- Pituitary Gland
- Growth Hormone (GH)
- Thyroid Stimulating Hormone (TSH)
- Adrenocorticotrophic Hormone (ACTH)
- Thyroid Gland
- Thyroxine
- Adrenal Glands

Identify the general functions of the endocrine system.

- Objective 07.02 Describe a “hormone” and how they function in the body.
- Objective 07.03 Describe the locations, secretions, and functions of the major endocrine glands. (Pituitary gland [GH, TSH and ACTH], Thyroid gland [thyroxine], Adrenals [epinephrine, norepinephrine and cortisol], and Pancreas [glucagon and insulin])
- Objective 07.04 Define the general adaptation syndrome, and compare homeostatic response and stress response.
- Objective 07.05 Identify the following diseases or disorders of the endocrine system. (acromegaly, cretinism, Cushing’s Syndrome, diabetes mellitus, dwarfism, gigantism, goiter, Grave’s disease, hyperthyroidism [exophthalmus], myxedema)

- Definition
- Function

Glands and Hormones

- Location of glands
- Hormone(s) secreted by each gland
- Hormone functions

Diseases

- Etiology (Cause of Disease)
- Signs and Symptoms
- Acromegaly
- Cretinism
- Diabetes Mellitus
- Dwarfism
- Gigantism
- Hyperthyroidism
- Hypothyroidism
- Myxedema

- Epinephrine
- Norepinephrine
- Cortisol
- Pancreas
- Glucagon
- Insulin
- Acromegaly
- Cretinism
- Diabetes Mellitus
- Dwarfism
- Gigantism
- Hyperthyroidism
- Myxedema

Unit 8A Blood and Lymph

(Week 22, 5 Weeks)



UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 08 Students will describe the components and functions associated with blood, and the structures and functions of the lymphatic and cardiovascular systems. 11% - 8 Questions

- Objective 08.01

Components of Blood

- erythrocytes
- leukocyte
- thrombocyte
- plasma

Functions of Blood

- thermoregulation
- transportation of nutrients,

Students will be able to...

- Compare and contrast formed elements of blood
- Construct a blood type table
- Explain different types of white blood cells
- Label a vial of blood into components

erythrocyte

leukocyte

thrombocyte

plasma

hemoglobin

Identify the formed elements of the blood and their functions. (erythrocytes, leukocytes, thrombocytes)

- Objective 08.02 Describe erythrocytes including the structure of hemoglobin.
- Objective 08.03 Define "leukocyte" and list the two major groups with their cell types. (granulocytes – neutrophils, basophils, eosinophils, and agranulocytes – monocytes, lymphocytes)
- Objective 08.04 Differentiate between plasma and serum.
- Objective 08.05 Describe the process of hemostasis. (vascular spasm, platelet plug formation, coagulation)
- Objective 08.06 Contrast a thrombus and an embolus.
- Objective 08.07 Identify the antigens (agglutinogens) found on the erythrocytes and the antibodies (agglutinins) that compose the ABO blood types.
- Objective 08.08 Compare the Rh factor to the ABO blood types.
- Objective 08.09 Identify the following diseases or disorders associated with the blood. (anemias, hemolytic disease of the newborn, hemophilia, leukemia, mononucleosis,

- oxygen/carbon dioxide, medication
- chemical protection (clotting)

Description of erythrocytes

- size, shape, characteristics
- hemoglobin components

Description of leukocyte

- size, shape, characteristics
- granulocyte: neutrophil, basophil, eosinophil
- agranulocyte: monocyte, lymphocyte

Process of hemostasis

- vascular spasm
- platelet plug formation
- coagulation
- thrombus
- Embolus

Antigens and antibodies on ABO blood types

- Anti-A
- Anti-B
- Antigen A
- Antigen B

Identify Rh factor

- D-antigen

Components of lymph system

- tonsils
- spleen
- thymus
- lymph nodes
- lymph
- bone marrow

- Diagram lymph system
- Differentiate antigens and antibodies
- Examine different immunity types

granulocyte
neutrophil
basophil
eosinophils
agranulocytes
monocytes
lymphocyte
hemostasis
vascular spasm
platelet plug formation
coagulation
thrombus
embolus
antigens
antibodies
ABO blood type
Rh factor
anemia
hemolytic disease of newborn
hemophilia
leukemia
mononucleosis

- polycythemia)
 - Objective 08.10
Identify the components of the lymphatic system. (tonsils, spleen, thymus, lymph nodes, bone marrow, lymph vessels)
 - Objective 08.11
Describe how lymph is moved throughout the body.
 - Objective 08.12
Contrast antigens and antibodies.
 - Objective 08.13
Describe the general roles of the different types of T cells in cellular immunity. (helper T-cell, cytotoxic T-cell, suppressor T-cell, memory T-cell)
 - Objective 08.14
Describe the role of the B cells in humoral immunity. (plasma cell, memory B-cell)
 - Objective 08.15
Distinguish between active and passive immunity, and natural vs. artificial acquisition of immunity.
 - Objective 08.16
Identify the following diseases or disorders associated with the lymphatic system. (AIDS, allergies, autoimmune (lupus), measles, mumps, rubella, tetanus, tissue rejection)

- lymph vessels

How lymph is moved through the body

- lymph vessels
- lymph
- lymph nodes

Antigens and antibodies

Immune response

- T-cells
- B-cells

Types of immunity


- active
- passive
- natural acquired
- artificially acquired

Diseases and disorders

- anemia
- hemolytic disease of newborn
- hemophilia
- leukemia
- mononucleosis
- polycythemia
- AIDS
- measles
- mumps
- rubella
- tetanus

polycythemia
tonsils
spleen
thymus
lymph nodes
bone marrow
lymph vessels
lymph
T-cell
B-cell
Immune response
active immunity
passive immunity
natural immunity
artificial immunity
AIDS
measles
mumps
rubella
tetanus

Unit 8B
Cardiovascular

 (Week 22, 5

Weeks) 

UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology

Standard 08

Students will describe the components and functions associated with blood, and the structures and functions of the lymphatic and cardiovascular systems. 11% - 8 Questions

- Objective 08.17 List the general functions of the cardiovascular system.
- Objective 08.18 Describe the layers of the heart. (epicardium, myocardium, endocardium)
- Objective 08.19 Identify the chambers of the heart.
- Objective 08.20 Locate the great blood vessels of the heart. (superior and inferior vena cava, pulmonary trunk, pulmonary arteries, pulmonary veins, aorta, branches of the aorta)
- Objective 08.21 Identify the valves of the heart. (tricuspid, pulmonary semilunar, bicuspid (mitral), aortic semilunar)
- Objective 08.22 Trace blood flow through the heart.
- Objective 08.23 Identify the components of the conduction system of the heart and trace the pathway.
- Objective 08.24 Sequence the principle events of the cardiac cycle in terms of systole and diastole.
- Objective 08.25

Functions of the Cardiovascular System

- Blood circulation
- Movement of CO₂, O₂, heat, nutrients, hormones, waste, enzymes, and electrolytes

Anatomy of the Cardiovascular System

- Layers of the heart
- Chambers of the heart
- Great blood vessels of the heart
- Valves of the heart
- Conduction System
- Vessels

Blood Flow through the Heart and Body

- Blood flow through the heart
- Cardiac Cycle
- Pulmonary and Systemic Circulation Routes

Cardiac Output, Pulse, and Blood Pressure

- Stroke volume, heart rate, cardiac output
- Pulse and Pulse Points
- Blood Pressure

Diseases and Disorders

- Aneurysm
- Arteriosclerosis
- Cerebrovascular Accident
- Coronary Artery Disease

Students will be able to:

- Describe the function of the cardiovascular system
- Differentiate between the layers, chambers, and valves of the heart
- Create a trace of the conduction system of the heart
- Compare and contrast the different types of blood vessels
- Create a trace of the blood flow through the heart
- Describe the events of the cardiac cycle
- Discriminate between pulmonary and systemic circulation
- Define stroke volume, heart rate and cardiac output
- Describe pulse and find pulse points on themselves and class-mates
- Explain blood pressure
- Define and describe signs and symptoms, treatment, causes, and prevention of the diseases of the cardiovascular system

- Pericardium
- Epicardium
- Myocardium
- Endocardium
- Atria
- Ventricles
- Tricuspid Valve
- Bicuspid/Mitral Valve
- Aortic Semilunar valve
- Pulmonary Semilunar valve
- SA Node
- AV Node
- Bundle of His/AV Bundle
- Bundle branches
- Perkinje Fibers
- Artery
- Vein
- Capillary
- Pulmonary Circulation
- Systemic Circulation
- Stroke volume
- heart rate
- cardiac output
- Pulse
- Blood Pressure
- Aneurysm
- Arteriosclerosis
- Cerebrovascular Accident
- Coronary Artery Disease
- Hypertension
- Murmur
- Myocardial Infarction

- Define stroke volume, heart rate, and cardiac output.
 - Objective 08.26 Identify factors that determine cardiac output.
 - Objective 08.27 Contrast the structures and functions of arteries, capillaries, and veins.
 - Objective 08.28 Define pulse and identify the general location of arteries where pulse may be felt.
 - Objective 08.29 Describe blood pressure and how to measure it.
 - Objective 08.30 Contrast pulmonary and systemic circulation routes.
 - Objective 08.31 Explain the general risk factors associated with cardiovascular disease.
 - Objective 08.32 Identify the following diseases or disorders of the cardiovascular system. (aneurysm, angina pectoris, arrhythmias, atherosclerosis, CAD, CVA/Stroke, hyperlipidemia, hypertension, myocardial infarction, shock [types])
- Hypertension
 - Murmur
 - Myocardial Infarction

Unit 9

Respiratory

(Week 27, 3 Weeks)



UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 09

Students will describe the structures and functions associated with the respiratory system. 7% - 5 Questions

Functions of the Respiratory System

- Brings oxygenated air to the alveoli
- Removes air containing carbon dioxide
- Filters, warms, and humidifies the air

Students will be able to:

- List and describe the functions of the respiratory system
- Construct a trace (listing structures) of a molecule of air from outside the body

- nasopharynx
- oropharynx
- laryngopharynx
- epiglottis
- glottis
- hyoid bone
- thyroid cartilage
- cricoid cartilage

- Objective 09.01 Identify the general functions of the respiratory system.
- Objective 09.02 Sequence the organs of the respiratory system in the order in which air will pass through them from the exterior.
- Objective 09.03 Identify the three regions of the pharynx. (nasopharynx, oropharynx and laryngopharynx)
- Objective 09.04 Identify the following anatomical features of the larynx. (epiglottis, glottis, hyoid bone, thyroid cartilage, cricoid cartilage, true and false vocal cords)
- Objective 09.05 Identify the coverings of the lungs and the gross anatomical features of the lungs. (apex, base, lobes, horizontal fissures, visceral pleura, parietal pleura, pleural cavity)
- Objective 09.06 Identify the site at which gas exchange occurs in the lungs.
- Objective 09.07 Identify the volumes and capacities of air exchanged during ventilation. (tidal volume, inspiratory reserve, expiratory reserve, residual volume, vital capacity)
- Objective 09.08 Differentiate between ventilation, external respiration, and internal respiration.

- Produces sound
- Helps with the sense of smell
- Assists to regulate the pH within the blood

Anatomy of the Respiratory System

- Nose/Nares/Nasal Cavity
- Pharynx (Naso-, Oro-, Laryngo)
- Larynx (Epiglottis, Glottis, Thyroid Cartilage, Cricoid Cartilage, Hyoid Bone, True Vocal Chords, False Vocal Chords)
- Trachea
- Bronchi (Primary, Secondary, Tertiary), Bronchioles
- Alveolar Duct, Alveoli
- Lungs (Base, Apex, Parietal Pleura, Visceral Pleura, Pleural Cavity)

Ventilation

- Lung capacities: tidal volume, vital capacity (inspiratory reserve volume, expiratory reserve volume, residual volume - listed above, but are not on current standards and objectives)
- CO₂'s effect on ventilation

Gas Exchange

- Alveoli
- Capillaries
- Tissue Cells
- CO₂ and O₂ Exchange at lungs and tissue - External Respiration, Internal Respiration

- to inside the alveoli
- Label the anatomy of the respiratory system as well as parts of the lung
- Compare and contrast the types of lung capacities
- Discuss CO₂'s effect on ventilation
- Differentiate between external and internal respiration and the structures involved.
- Describe common diseases of the respiratory system, including signs and symptoms, treatments, and cause/prevention.

- true vocal cords
- false vocal cords
- apex
- base
- lobes
- visceral pleura
- parietal pleura
- pleural cavity
- tidal volume
- vital capacity
- ventilation
- external respiration
- internal respiration
- emphysema
- influenza,
- lung cancer
- pneumonia
- SIDS
- tuberculosis

- Objective 09.09 Describe the effects of carbon dioxide on ventilation.
- Objective 09.10 Identify the following diseases or disorders of the respiratory system. (asthma [bronchial], bronchiogenic carcinoma, coryza, cystic fibrosis, emphysema, influenza, pleurisy, pneumonia, respiratory distress syndrome, rhinitis, SIDS, tuberculosis)

Diseases and Disorders

- emphysema
- influenza
- lung cancer
- pneumonia
- SIDS
- tuberculosis

Listed above, but not on version 3 CD from the state: asthma [bronchial], bronchiogenic carcinoma, coryza, cystic fibrosis, emphysema, influenza, pleurisy, pneumonia, respiratory distress syndrome, rhinitis, SIDS, tuberculosis

Unit 10 Digestive

System 
(Week 30, 3 Weeks)


UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 10
Students will describe the structures and functions associated with the digestive system. 7% - 5 Questions

- Objective 10.01 Identify the general functions of the digestive system.
- Objective 10.02 Contrast chemical and mechanical digestion.
- Objective 10.03 Differentiate between alimentary canal structures and the accessory structures of digestive system.
- Objective 10.04 Identify the location of the salivary glands.
- Objective 10.05 Define the functions of saliva and of salivary amylase in digestion.
- Objective 10.06 Identify the following parts of a typical tooth. (crown, neck, root,

Functions of the Digestive System

- Digestion
- Absorption
- Excretion

Anatomy of the Digestive System

- Parts of the tooth
- Structures of the alimentary canal
- Accessory Structures

Movement through the Digestive System

- Peristalsis
- Deglutition
- Maceration
- Segmentation
- Haustral Churning

Enzymes of the Digestive System

- Salivary Amylase
- Hydrochloric Acid
- Pepsin
- Bile

Students will be able to:

- Describe the functions of the digestive system
- Draw and label the parts of the tooth
- Differentiate organs of the alimentary canal and accessory organs
- Identify parts of the stomach, small intestines and large intestines
- Trace food from ingestion through the gastrointestinal tract and out of the body as waste
- Explain the differences between the different types of movement in the digestive system
- Compare and contrast different types of digestive enzymes
- Outline causes, signs & symptoms and treatments of digestive system diseases & disorders.

- Deglutition
- Maceration
- Segmentation
- Peristalsis
- Haustral churning
- Emulsification
- Fundus
- Pylorus
- Rugae
- Sphincter
- Bile
- Salivary amylase
- Gingiva
- Enamel
- Dentin
- Pepsin
- Mucus
- Appendicitis
- Cirrhosis
- Gallstones
- Hepatitis

gingiva, periodontal ligament, enamel, dentin, pulp and root canal)

- Objective 10.07
Define deglutition, mastication, maceration, segmentation, and haustral churning.
- Objective 10.08
Identify the anatomical features of the esophagus and stomach.
- Objective 10.09
Identify the four basic components of gastric juice. (pepsin, hydrochloric acid, intrinsic factor and mucus)
- Objective 10.10
Identify the location and digestive functioning of the pancreas.
- Objective 10.11
Describe the function of bile and the role of the gallbladder in digestion.
- Objective 10.12
Identify the three sections of the small intestine. (duodenum, jejunum, ileum)
- Objective 10.13
Identify two major mechanical movements of the small intestine. (segmentation, peristalsis)
- Objective 10.14
Identify the structures and sections of the large intestine. (cecum, colon [ascending, transverse, descending, sigmoid, taeniae, haustra], rectum, anal canal)

Diseases and Disorders

- appendicitis
- cirrhosis
- colorectal cancer
- gallstones
- hepatitis
- obesity
- ulcers

- Objective 10.15
Identify the following diseases or disorders of the digestive system. (anorexia nervosa, appendicitis, bulimia, cirrhosis, colorectal cancer, dental caries, gallstones, hepatitis, hernia, obesity, ulcers)

Unit 11 Urinary

System 
(Week 33, 3 Weeks)


UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology
Standard 11
Students will describe the structures and functions associated with the urinary system. 6% - 4 Questions

- Objective 11.01
State the general functions of the urinary system.
- Objective 11.02
Identify the four major organs of the urinary system. (kidneys, ureters, bladder, urethra)
- Objective 11.03
Identify the gross anatomy of the kidney. (renal cortex, renal medulla, renal pyramids, renal pelvis)
- Objective 11.04
Identify the microscopic structure of the nephron: (renal capsule, glomerulus, glomerular [Bowman's] capsule, afferent arteriole, efferent arteriole), renal tubule (proximal convoluted tubule, descending limb, nephron loop, ascending limb, distal convoluted tubule & collecting duct) and peritubular capillaries.

General functions

- Regulate volume, composition and pH of blood
- Remove water and wastes from body
- Maintain blood pressure
- Assist in metabolic process

Major organs

- Kidney
- Ureter
- Bladder
- Urethra

Anatomy of the kidney

- Renal Cortex
- Renal Medulla
- Renal Pelvis
- Renal Pyramids

structure of the nephron

- renal capsule
- glomerulus
- glomerular capsule
- afferent/efferent arteriole
- renal tubule
- proximal convoluted tubule
- descending limb
- nephron loop
- ascending limb
- distal convoluted tubule
- collecting duct

- Identify functions of urinary system
- Organize the major organs of urinary system in order
- Explain the gross anatomy and function of kidney
- Describe components and functions of nephron
- Construct a trace of blood and urine through the kidney and nephron showing urine formation
- Compare and contrast normal and abnormal constituents of urine
- Describe intake and output methods
- Outline the signs and symptoms, cause, treatment and definition of common diseases of the urinary system, including signs and symptoms, treatments, and cause/prevention
- kidney
- ureter
- bladder
- urethra
- renal
- renal cortex
- renal medulla
- renal pyramid
- renal pelvis
- renal corpuscule
- glomerulus
- glomerular capsule
- afferent
- efferent
- renal tubule
- peritubular
- filtration
- reabsorption
- secretion
- glucose
- ketone
- bilirubin
- microbe
- micturition
- voiding
- exhaled
- specific gravity
- turbidity
- insipidus
- incontinence
- cystitis

- Objective 11.05
Describe the three basic physiological processes and the structures involved in urine formation. (filtration, reabsorption, secretion)
- Objective 11.06
Identify the physical characteristics and normal chemical constituents of urine.
- Objective 11.07
Describe the methods of fluid intake and output, including micturition, voiding, sweat, feces, & exhaled vapor.
- Objective 11.08
Identify the following diseases or disorders associated with the urinary system. (cystitis, diabetes insipidus, glomerulonephritis [Bright's disease], incontinence, kidney stones, nephrotic syndrome (nephritis), renal failure, renal ptosis, urinary tract infections)

- peritubular capillaries

Urine formation

- Glomerular Filtration
- Tubular reabsorption
- Tubular secretion

Physical characteristics and normal chemical constituents of urine

- color
- turbidity
- odor
- pH
- specific gravity
- organic/inorganic components
- volume
- abnormal components

Fluid intake and output

- input: oral intake, intravenous, metabolic fluid
- output: micturition, voiding, sweat, feces, exhaled vapor

Diseases or disorders of the urinary system

- cystitis
- diabetes insipidus
- glomerulonephritis
- incontinence
- kidney stones
- nephritis
- renal failure
- renal ptosis
- urinary tract infection

Unit 12 Reproductive

(Week 36, 3

Weeks) 

UT: CTE: Health Education, UT: Grades 9-12, Medical Anatomy and Physiology Standard 12

Function of reproductive system

- continuation of species
- puberty, growth, development

Students will be able to:

- List and describe the functions of the reproductive

- genitalia
- testes
- testosterone
- ovaries

Students will describe the structures and functions associated with the reproductive system. 9% - 6 Questions

- Objective 12.01 Identify the general functions of the reproductive system.
- Objective 12.02 Describe the anatomy of the male genitalia.
- Objective 12.03 Identify the function of the testes.
- Objective 12.04 Identify the functions of testosterone in the male.
- Objective 12.05 Describe the anatomy of the female reproductive structures.
- Objective 12.06 Identify the functions of the ovaries.
- Objective 12.07 Identify the structure and function of the uterine (Fallopian) tubes, including fimbriae and infundibulum.
- Objective 12.08 Describe the structure and function of the uterus (perimetrium, myometrium, endometrium, fundus, cervix)
- Objective 12.09 Define the menstrual cycle including the ovarian and uterine cycles.
- Objective 12.10 Describe the physiological effects of estrogens, progesterone and relaxin.

- pass on genetic material

Anatomy of the male genitalia

- testes
- epididymis
- Ductus Deferens
- Seminal Vesicles
- Ejaculatory Duct
- Prostate Gland
- Urethra
- Bulbourethral Gland
- Semen/Seminal fluid
- Scrotum
- Penis

Functions of testosterone

- main male hormone
- puberty
- testosterone
- sperm

Anatomy of the female reproductive system

- ovaries
- uterus
- uterine tubes
- vagina
- labia minora/majora
- mons pubis
- clitoris
- vestibule
- cervix
- ova
- mammary glands

Functions of the ovaries

- egg production and storage
- hormone production

Structure and functions of the uterine (Fallopian) tubes

system

- Construct a trace of a sperm cell from development to the outside world.
- Construct a trace of an egg cell from maturation to implantation
- Label the anatomy of the reproductive system, male and female
- Explain the role of the menstrual cycle
- Differentiate between the hormones of males and females
- Diagram events of human development
- Describe common diseases of the reproductive system, including signs and symptoms, treatments, and cause/prevention.

- uterine tube
- fimbriae
- infundibulum
- uterus
- perimetrium
- myometrium
- endometrium
- fundus
- cervix
- menstrual cycle
- menopause
- estrogens
- progesterone
- relaxin
- spermatogenesis
- oogenesis
- fertilization
- zygote
- implantation
- embryo
- fetus
- dilation
- effacement
- delivery
- placenta
- expulsion
- endometriosis
- impotence

- Objective 12.12
Contrast the general outcomes of spermatogenesis vs. oogenesis.
- Objective 12.13
Define the following sequence of events that occur during human development. (fertilization, zygote, cleavage, morula, blastocyst, implantation, embryonic period, fetus)
- Objective 12.14
Identify the principal events associated with the three stages of labor. (Stage 1 - dilation and effacement, Stage 2 - delivery and birth, Stage 3 - placental expulsion)
- Objective 12.17
Identify the following diseases or disorders of the reproductive system. (amenorrhea, cancers [breast, testicular, cervical, ovarian, prostate], cryptorchidism, endometriosis, infertility, impotence, PMS, Sexually Transmitted Infections – STI's [gonorrhea, syphilis, genital herpes, chlamydia, trichomoniasis, genital warts, PID], Toxic Shock Syndrome, yeast infection)

- Fimbriae
- infundibulum
- transport egg
- site of fertilization

Structures and function of the uterus

- perimetrium
- myometrium
- endometrium
- fundus
- cervix
- house and feed developing embryo
- method of delivery for baby and placenta

Menstrual cycle

- uterine cycle
- ovarian cycle
- changes during menopause

Physiological effects of estrogens, progesterone, relaxin

- puberty
- physical changes during menstrual cycle
- emotional changes during menstrual cycle
- delivery of fetus

Spermatogenesis vs. oogenesis

- sperm
- eggs

Sequence of events that occur during human development

- fertilization
- zygote
- implantation
- embryo

- fetus

Stages of labor

- dilation
- effacement
- delivery and birth
- placental expulsion

Diseases and disorders of the reproductive system

- breast, testicular, cervical, ovarian, prostate cancers
- endometriosis
- impotence
- gonorrhea
- syphilis
- genital herpes
- chlamydia
- trichomoniasis
- genital warts
- HPV