Wallenpaupack Area School District
Planned Course Curriculum Guide

Science

Anatomy and Physiology

Course Description: Anatomy and Physiology is an advanced biology course designed for students with a special interest in the structure and function of the human body. Disorders, maintenance, repair and aging of body systems will be stressed. The integumentary, skeletal, muscular, nervous, special senses, endocrine, circulatory, immune, respiratory, digestive, urinary, and reproductive systems will be covered in class. Students will learn details of human anatomy as well as conceptualize processes of human physiology.

Initial Creation Date (if applicable) and Revision Dates:
May 30, 2025

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 1: Introduction	**TIMEFRAME: 5 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Use anatomical terms when discussing body systems.**
- **Distinguish the different types of anatomical plans.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 1)

KEY VOCABULARY: Anatomy, physiology, metabolism, homeostasis, median plane, transverse plane, frontal plane, superior, inferior, anterior, posterior, medial, lateral, intermediate, proximal, superficial, deep

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 2: Histology	**TIMEFRAME: 5 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Describe the functions of epithelial, connective, muscle and nervous tissues.**
- **Distinguish structural characteristics that are unique to epithelial, connective, muscle and nervous tissues.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 3)**
- **Histology slides (epithelial, connective, muscle, nervous)**

KEY VOCABULARY: Epithelial tissue, connective tissue, muscle tissue, nervous tissue, stratified, simple, squamous, pseudostratified, transitional, areolar, adipose, reticular, dense connective, hyaline cartilage, osseous tissue, striated, intercalated discs.

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 3: Integumentary System	**TIMEFRAME: 8 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Explain the function of each layer of skin.**
- **Evaluate the role of cutaneous receptors.**
- **Visually distinguish skin disorders and identify the cause of the disorder.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 4)**

KEY VOCABULARY: epidermis, dermis, subcutaneous tissue, sebaceous gland, sudoriferous gland, arrector pili muscle, nerve fibers, cutaneous receptors, hair follicle, keratin, cornified, collagen, elastic fibers, adipose tissue, melanin, brown fat, acne, boils and carbuncles, MRSA, cellulitis, impetigo, warts, cold sores, chicken pox, shingles, athlete's foot, ringworm, Tinea versicolor, moles, seborrheic keratosis, liver spots, contact dermatitis, eczema, psoriasis, porphyria, epidermolysis bullosa, vitiligo, keloids, rosacea,

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 4: Skeletal System	**TIMEFRAME: 11 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Explain the functions of the skeletal system.**
- **Identify the microscopic anatomy of bones.**
- **Identify bones of axial and appendicular skeleton.**
- **Distinguish between types of fractures.**
- **Compare and contrast skeletons of humans vs other animals.**
- **Describe the cause and symptoms of skeletal system disorders.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 5)**

- **KEY VOCABULARY: compact bone, spongy bone, osteocytes, Haversian canals, canaliculi, lamella, hyaline cartilage, ossification, hematoma, fibrocartilage, bony callus, axial skeleton, appendicular skeleton, sutures, foramen magnum, fontanels, interverbal disk, herniated disk, scoliosis, kyphosis, lordosis, bone matrix, osteocyte, diaphysis, epiphysis, epiphyseal plate, periosteum, endosteum, tuberosity, process, condyle, foramen, meatus, parathyroid hormone, thyrocalcitonin, rickets, sinusitis, cleft palate, osteoarthritis, rheumatoid arthritis, gouty arthritis, amphiarthrosis, diarthrosis, names of sixty-seven skull, rib, vertebral column, individual vertebra, hip, leg, foot, arm, hand bones**

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 5: Muscular System	**TIMEFRAME: 10 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Identify the microscopic anatomy of muscle tissue.**
- **Distinguish between skeletal, cardiac and smooth muscle.**
- **Explain how muscles contract.**
- **Identify the major muscles of the body.**
- **Explain the effect muscle fatigue has on performance.**
- **Describe the cause and symptoms of muscular system disorders.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 6)**

KEY VOCABULARY: striated, sliding filament theory, slow twitch, fast twitch, glycogen, aerobic respiration, peristalsis, irritability, contractibility, extensibility, elasticity, flexion, extension, abduction, adduction, rotation, circumduction, pronation, supination, endomysium, epimysium, fascicle, fiber, myofilament, myofibril, perimysium, sarcomere, tendon, myosin, actin, ATP, insertion, origin, antagonist, anabolic steroids, tendon, myasthenia gravis, tetanus, flaccid, atrophy, torticollis, muscular dystrophy, names of forty facial, chest, back, arm, leg muscles

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 6: Nervous System	**TIMEFRAME: 12 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

3.1.4.B

Use a model to describe hat animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

UNIT OBJECTIVES (SWBATS):

- **Explain nerve impulse transmission.**
- **Explain the functions of brain structures.**
- **Distinguish between parasympathetic and sympathetic nervous systems.**
- **Examine the relations of cutaneous receptors and the somatic sensory area.**
- **Evaluate the effects of drugs on the nervous system.**
- **Describe the cause and symptoms of nervous system disorders**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 7)**

KEY VOCABULARY: neuroglial, astrocytes, microglia, ependymal, sensory neurons, motor neurons, association neurons, cell body, dendrites, axon, axonal terminals, myelin, receptor, effector, sodium-gated channel, potassium-gated channel, resting potential, depolarization, repolarization, sodium-potassium pump, active transport, acetylcholine, gyri, insomnia, irritability, conductivity, multiple sclerosis, Parkinson's disease, neurotransmitter, dopamine, meninges, cerebral vascular attacks, peripheral nervous system, , somatic, encephalitis, hydrocephalus, concussion, cerebral vascular attack, Alzheimer's, Parkinson's, Huntington's, spina bifida, orthostatic hypotension, transient ischemic attack, reflex arc, cerebral hemispheres, dura mater, arachnoid space, pia mater, all the lobes of the brain, olfactory bulb, optic chiasma, optic nerve, pons, medulla oblongata, pituitary gland

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 7: Special Senses	**TIMEFRAME: 9 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Identify and describe the functions of the structures of the eye, ear, nose and tongue.**
- **Explain the cause and treatment of myopia and hyperopia.**
- **Calculate reaction times based off of collecting fall time data.**
- **Explain the process of olfactory fatigue.**
- **Describe the cause and symptoms of special senses disorders.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 8),**

KEY VOCABULARY: ciliary body, suspensory ligaments, iris, aqueous humor, lens, cornea, vitreous humor, optic disk, optic nerve, sclera, choroid, retina, conjunctiva, conjunctivitis, lacrimal glands, lysozyme, myopia, hyperopia, fovea centralis, near point, blind spot, astigmatism, color blindness, cataracts, glaucoma, pinna, external ear, middle ear, internal ear, anvil, hammer, tympanic membrane, stirrup, semicircular canals, cochlea, cochlear nerve, round windows, external auditory canal, eustachian tube, ossicles, osseous labyrinth, olfactory neurons, supporting cells, olfactory bulb, cribriform plate, olfaction, gustation, papilla, taste bud, umami

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 8: Endocrine System	**TIMEFRAME: 5 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Identify the glands of the endocrine system.**
- **Compare actions and effects of peptide vs steroid hormones.**
- **Identify the hormones and their functions that are secreted by the various glands.**
- **Explain negative feedback using an example from the endocrine system.**
- **Understand the effects on the body of hypo and hyper secretion of hormones.**
- **Describe the cause and symptoms of endocrine system disorders.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 9)**

KEY VOCABULARY: steroid hormone, peptide hormone, target organ, target cell, glands including- parathyroid, thyroid, posterior pituitary, anterior pituitary, adrenal, testis, pancreas, ovary, all of the following hormones- adrenocorticotropic, antidiuretic, mineralocorticoids, androgens, glucocorticoids, epinephrine, estrogen, follicle stimulating hormone, growth hormone, glucagon, insulin, luteinizing hormone, melatonin, oxytocin, progesterone, prolactin, parathyroid hormone, testosterone, thymosin, thyrocalcitonin, thyroxine, thyroid stimulating hormone, pituitary dwarfism, gigantism, acromegaly, goiter, cretinism, myxedema, Grave's disease, Addison's disease, Cushing's syndrome, hypoglycemia, diabetes insipidus, diabetes mellitus, ketosis, menopause

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 9: Blood and Circulatory System	**TIMEFRAME: 9 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Describe functions of blood components.**
- **Evaluate patient blood results.**
- **Explain the body's response to decreased oxygen levels.**
- **Trace flow of oxygenated and deoxygenated blood throughout the heart and body.**
- **Identify and describe the major blood circulation pathways in the body: systemic and pulmonary circulation.**
- **Explain the purpose of the heart's electrical conduction system and how it regulates heartbeats.**
- **Describe the cause and symptoms of circulatory system disorders**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapters 10-11)**

KEY VOCABULARY: erythrocytes, biconcave, hemoglobin, immunoglobulins, leukocytes, phagocytes, antibodies, antigens, Rh disease, platelets, buffer action, coagulation, anticoagulant, hematopoiesis, anemia, sickle cell anemia, leukemia, thrombus, hemophilia, right atrium, tricuspid valve, pulmonary valve, pulmonary artery, pulmonary vein, left atrium, bicuspid valve, left ventricle, aortic valve, aorta, SA node, electrocardiogram, P wave, QRS wave, T wave, depolarization, repolarization, coronary circulation, intrinsic conduction system, bradycardia, fibrillation, tachycardia, myocardial infarction, heart murmur, congestive heart failure, pulmonary embolism, atherosclerosis, arteriosclerosis, orthostatic hypotension, hypertension, varicose veins, ductus arteriosum, foramen ovale, ligamentum arteriosum

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 10: Lymphatic System & Body Defenses	**TIMEFRAME: 3 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Identify structures and functions of the lymphatic system.**
- **Distinguish between specific and non-specific body defenses.**
- **Distinguish between active and passive immunity.**
- **Describe the processes of humoral and cell-mediated immunity.**
- **Describe the cause and symptoms of immune system disorders.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 12)**

KEY VOCABULARY: lymph, lymph nodes, spleen, thymus, tonsils, Peyer's patches, humoral immunity, cell-mediated immunity, antigen, macrophage, T-cell, B-cell, antibodies, pathogen, innate, lymphocytes, mucous membranes, inflammatory response, naturally acquired immunity, artificially acquired immunity, active immunity, passive immunity, vaccines, anaphylactic shock, autoimmune diseases, immunoglobulins

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 11: Respiration	**TIMEFRAME: 3 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Explain the pathway of gases throughout the body.**
- **Describe how breathing rates are controlled.**
- **Explain the effects of smoking and vaping on the respiratory system.**
- **Explain the process that allows lungs to exchange gases.**
- **Describe the cause and symptoms of respiratory system disorders.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 13)**

KEY VOCABULARY: thoracic cavity, lungs, carbon dioxide, oxygen, diaphragm, nasal cavity, pharynx, larynx, epiglottis, trachea, bronchi, bronchioles, alveoli, cilia, conchae, thyroid cartilage, pleura, pleurisy, surfactant, hyperventilation, SIDS, emphysema, asthma, simple squamous epithelium, diffusion

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 12: Digestive System	**TIMEFRAME: 3 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Trace the pathway of macromolecules through the alimentary canal.**
- **Explain the role of enzymes involved in digestion.**
- **Describe the cause and symptoms of digestive system disorders.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 14)**

KEY VOCABULARY: metabolism, salivary amylase, esophagus, bolus, peristalsis, mastication, deglutition, stomach, cardiac sphincter, pyloric sphincter, peritoneum, hydrochloric acid, pepsin, gastric juice, ulcer, hernia, small intestines, villi, microvilli, duodenum, jejunum, ileum, ascending colon, transverse colon, descending color, appendix, diarrhea, constipation, fabulation, hemorrhoids, appendicitis, pancreas, bile, emulsify, gall bladder, liver, cirrhosis, jaundice, gallstones, lipases, nucleases, rectum, anus

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 13: Urinary System	**TIMEFRAME: 3 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Explain the role of nephrons.**
- **Explain the process of protein metabolism from the stomach to the ureters.**
- **Understand the components found in normal urine.**
- **Describe the cause and symptoms of urinary system disorders.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Pre-evaluation assessment**
- **Online formative assessment review games**
- **Summative assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 15)**

KEY VOCABULARY: deamination, amino acids, ammonia, pyruvic acid, urea, kidney, ureters, urethra, bladder, renal vein, fibrous renal capsule, ptosis, nephrons, glomerulus, filtration, reabsorption, secretion, electrolyte balance, anti-diuretic hormone, aldosterone, blood buffers, micturition, internal sphincter, external sphincter, kidney stones

Wallenpaupack Area School District Curriculum	
COURSE: Anatomy and Physiology	**GRADE/S: 10-12**
UNIT 14: Reproductive System and Fetal Pig Dissection	**TIMEFRAME: 4 Blocks**

PA STEELS:

3.1.9-12.B

Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

UNIT OBJECTIVES (SWBATS):

- **Compare structures and functions of male and female reproductive systems.**
- **Describe the role of various hormones in the reproductive system.**
- **Explain events occurring during the female menstrual cycle.**
- **Explain the process of fertilization.**
- **Recognize and classify the organs essential to each system.**
- **Explain how the structure and function of the organs relate to the function of each body system**
- **Understand how the body tries to maintain homeostasis for each body system.**

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- **Direct instruction**
- **Lab activities**
- **Independent work**
- **Group work**
- **Written assignments**

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- **Individual and lab group assessment**

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

RESOURCES (Technology Based Resources, Text Resources, etc.):

- **Marieb, Elaine. Essentials of Human Anatomy & Physiology. Pearson, 2014. (Chapter 16)**

KEY VOCABULARY: scrotum, testes, prostate gland, urethra, seminal vesicles, interstitial cells, sperm, ovary, uterus, vagina, cervix, uterine tubes (fallopian tubes), endometrium, myometrium, estrogen, progesterone, menstrual cycle, ovarian cycle, follicle stimulating hormone, luteinizing hormone, umbilical vein, thymus, thyroid, larynx, trachea, lungs, diaphragm, heart, aorta, inferior and superior vena cavae, spleen, stomach, liver, pancreas, small intestine, large intestine, umbilical cord, umbilical arteries, urethra, bladder, kidneys, ovaries, testes, renal vein, ureters, gall bladder, gastrocnemius, pectoralis major, pharynx, esophagus, right atrium, left atrium, right ventricle, left ventricle, cardiac sphincter, pyloric sphincter, duodenum