Anatomy and Physiology Final Exam Review

The Final is scheduled for May 19 for 1st and 2nd periods and May 22 for 3rd period.

You will be required to take the final exam if you do not qualify for exemption. Please review the exemption policy in your agenda book if you are questions. The final will count 20% of your overall grade for the semester.

The final is cumulative. By creating a study packet that covers each of the components listed below, you should have a comprehensive view of the material on the exam.

To be successful on the final exam you must be able to:

**Unit 1**

* Identify directional terms and planes (coronal, sagittal, transverse)
* Dorsal versus ventral body cavities
* Identify major body cavities – pleural, pericardial, peritoneum, cranial, vertebral
* List and explain the function and organs of all 11 body systems
* Steps of a negative feedback loop- stimulus, receptor, afferent pathway, integration center, efferent pathway, effector.
* Visceral and Parietal Serosa- Peritoneum / Pleura / Pericardium

**Unit 2**

* List and explain the differences between epithelial tissues- simple squamous /Simple columnar / cuboidal/ stratified squamous / transitional / Pseudostratified.
* List and explain the difference between connective tissue- 4 types/ matrix , types of cells,
* List and explain the difference between nervous tissues
* List and explain the difference between muscle tissues- cardiac smooth skeletal muscle differences and similarities
* Label and explain the different layers of the skin- epidermis, dermis, hypodermis
* Identify the different cells of skin and what they do for the function of skin
* ABCD’S of skin cancer
* Degrees of skin burns
* What are the 3 types of cartilage and describe where you can find each
* Vocab: innervated / vascular/ basement membrane / hormone/ melanin/ keratinocytes / sudoriferous glands / sebaceous glands

**Unit 3**

* Compare the difference between the axial and appendicular skeleton
* Functions of the skeletal system-movement / hematopoiesis/ mineral storage / fat storage
* Label the structure of a long bone- endosteum / periosteum
* Describe the histology of bone including the osteon / lamella / Haversian canal
* Identify and explain the function of the different bone cells, osteogenic, osteoblasts, osteoclasts, osteocytes.
* List and explain the different types of synovial joints
* Major bones of the body
* Spinal cord- Cervical (7) Thoracic (12) Lumbar (5) Sacrum
* Vocab: compact bone/ spongy bone/ trabeculae/ Parathyroid hormone/ Wolff’s law/ compound fracture/ greenstick fracture/ hematoma/ callus/ foramen magnum/ synovial joint /tendon/ ligament/

**Unit 4**

* Describe the cellular components of a muscle fiber-sarcomere, myofiber, myofibril, actin, myosin, AcH
* Explain the steps in the sliding filament theory and what each component does- calcium, sarcoplasmic reticulum, actin, myosin, cross bridge, powerstroke, ATP.
* Explain the difference between a tendon and a ligament
* Discuss the organization of a skeletal muscle using the words endomysium, epimysium, perimysium, myofiber, myofibril, whole muscle, and fascicle?
* Explain what is meant by a motor unit and its importance to muscle strength.
* Differences in cardiac, smooth, skeletal muscle: locations, appearance, striated, gap junctions
* Vocab: neuromuscular junction, depolarization, threshold, aerobic respiration, anaerobic respiration, lactic acid fermentation.

**Unit 5**

* List the structure of a neuron and each part’s function- body, dendrites, axon, myelin sheath, synaptic terminals, nodes of ranvier.
* What are the 4 types of glial cells in the CNS? What are their functions?
* Branches of the nervous system- peripheral, autonomic, sensory, motor, enteric, sympathetic, parasympathetic.
* Know the different regions of the brain and functions from the worksheet in the portfolio.
* Types of receptors – mechano, noci, chemo, thermos, baro
* Vocab: afferent, efferent, tract, soma, saltatory conduction, white matter, interneurons, fissures, ventricles, CSF, Corpus callosum, cerebellum, arbor vitae, dura, arachnoid, blood brain barrier, ischemia, cauda equina, endoneurium, fascicle.

**Unit 6**

* List the blood components (plasma, cells, etc.)
* List and explain the function of the 5 different types of white blood cells
* Know the blood flow through the heart
* Describe the differences between arteries and veins
* Explain and label the conduction system of the heart
* Describe the pathway of the respiratory system
* Describe the difference between inspiration and expiration
* Functions of the lymphatic system- spleen, thymus, tonsils, peyer’s patches
* Vocab: plasma/ eyrthrocytes / leukocytes/ hemoglobin / Erythropoietin / macrophage/ vasoconstrict/ thrombus/ embolus/ agglutination/ pulmonary circuit/ chordae tendinae/ SA node/ Purkinje fibers/ systole / diastole/ endothelium/ tunica media / alveoli/ surfactant/ epiglottis/ bronchi/ hypoxia/

**Unit 7**

* Identify and describe the function of the digestive system organs
* Explain the difference between peristalsis and segmentation
* Describe the 4 layers of the alimentary canal- mucosa, submucosa, muscularis externa, serosa.
* Identify the sites for digestion with enzymes of each of the biomolecules
* Identify the functions of the different cells of the digestive system: chief, parietal, goblet.
* Identify the parts of the nephron and the functions of the organs in the urinary system
* Vocab: peristalsis, alimentary canal, mechanical breakdown, chemical breakdown, bile,

**ALL of the diseases we have talked about are fair game!** – Symptoms and causes

Melanoma/ basal cell carcinoma/ squamous cell carcinoma/ psoriasis / eczema/ Rheumatoid arthritis/ osteoarthritis/ osteosarcoma/osteoporosis/ paget’s disease/ gout/ osteomalacia/ scoliosis/ ankyloses / Multiple sclerosis/ Parkinson’s/ Alzheimer’s/ Polio/ ALS/ Hemiplegia / quadriplegia/ cerebral palsy/ Pulmonary embolism / emphysema / anemia / leukemia / mitral valve prolapse / valve stenosis / congestive heart failure / arrhythmias / atrial fibrillation / myocardial infarction / lung cancer / bronchitis / asthma / pleurisy / tuberculosis / mono / cystic fibrosis / lymphedema/Ulcerative colitis/ Irritable bowel disease/ hepatitis/ liver cancer/ pancreatic cancer/ Chrohn’s / gallstones / kidney stones / pyelonephritis/ urinary tract infection/ cirrohosis/ pancreatitis/ diverticulitis / colon cancer