



**Fascinating Medicine is composed of two sub-courses – Fascinating Anatomy & Physiology AND Fascinating Logic of Medicine. In Fascinating Anatomy & Physiology, you will learn 14 different organ systems, defined by the anatomic structures a specialist in that organ system would diagnosis and treat. Fascinating Logic of Medicine then takes you through the two step process of understanding how a diagnosis is made.**



### **Lesson 1: Diagnosis a Two-Step Process**

- Two Step Process
- The Organ Systems
- Step 1: Where
- Anatomy and Physiology

### **Lesson 2: Skin**

- Epidermis and Dermis

### **Lesson 3: Neurologic System**

- Divisions of the Neurologic System
- Newborn Skull
- Brainstem
- Cerebellum and Thalamus

- Basal Ganglia
- Nerve Cells
- Cerebral Cortex
- Motor Strip
- Lobes of the Cerebral Hemispheres
- Hippocampus
- Papez Circuit
- Amygdala
- Autonomic Nervous System
- Limbic System
- Smell
- Reptiles
- Limbic System and Basal Ganglia
- Ventricles
- Central and Peripheral Nervous Systems
- Spinal Column
- Spinal Cord and Cauda Equina
- Temporalis and Masseter Muscles
- Temporalis and Masseter Muscles in Paintings
- Sternocleidomastoid Muscle
- Muscles of the Upper Arm

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- Humerus Bone
- Radius and Ulna Bones
- Forearm Muscles
- Forearm Tendons
- Hand Muscles
- Leg Muscles

#### **Lesson 4: Eyes**

- Overview of Light Entering the Eye
- Rods and Cones
- Macula
- Nerve Fiber Layer
- Blind Spot
- Eye Muscles
- Lens
- Anterior Chamber
- Upside Down Images
- Occipital Lobes
- Tear Glands

#### **Lesson 5: Ears**

- The Ear System
- Sound Direction
- Middle Ear
- Cochlea
- Converting Sounds Into Electrical Impulses
- Semicircular Canals
- Ampulla
- Utricle and Saccule
- Vestibular Eye Movements
- Head Tilt
- Eustacian Tube
- Sinuses
- Salivary Glands
- Nasopharynx, Pharynx, and Larynx

#### **Lesson 6: Endocrine System**

- Overview of the Endocrine System
- Hormones
- Pituitary Gland
- Ovaries and Testes
- Adrenal Glands
- Thyroid and Parathyroid
- Prolactin and Growth Hormone
- Islets of Langerhans
- Posterior Pituitary
- Other Hormones

#### **Lesson 7: Respiratory System**

- Epiglottis
- Vocal Cords
- Trachea and Bronchi
- Alveoli
- Air Pressure
- Diaphragm and Pleura
- Inspiration
- Breathing Center

#### **Lesson 8: Cardiac System**

- Left and Right Ventricles
- Circulation Through the Heart
- Ventricular Walls
- Heart Valves
- Chordae Tendineae
- Purkinje Fibers
- Pericardium

## Lesson 9: Gastrointestinal System

- Components of the Gastrointestinal System
- Tooth
- Salivary Glands
- Esophagus
- Stomach
- Duodenum
- Small Intestines
- Large Intestine
- Peritoneum

## Lesson 10: Reticuloendothelial System

- Overview of the Reticuloendothelial System
- Lymphatic Channels
- Antibodies
- Major Histocompatibility Complex
- B Cell Defense
- Antigen-Presenting Cells
- T Helper Cells
- Plasma Cells
- Cytotoxic T Cells
- Memory Cells
- Branches of the Immune System

## Lesson 11: Urological System

- Gross Anatomy
- Nephron
- Proximal Convoluted Tubule
- Renal Medulla
- Loop of Henle
- Distal Convoluted Tubule
- Collecting Duct
- Urea
- Desert Animals
- Bladder

## Lesson 12: Genital System

- Meiosis
- Testicular Descent
- Seminiferous Tubules
- Epididymis and Vas Deferens
- Egg Development and Fertilization
- Placenta
- Mitochondrial DNA

## Lesson 13: Vascular System

- Arteries vs. Veins
- Systolic and Diastolic Blood Pressure
- Oxygen and Glucose Delivery
- Filling Up the Vascular Tree
- Renin
- Angiotensin II
- Blood Volume/Pressure Sensors
- Wide Open Arteries
- Coronary Arteries
- Aortic Arch and Branches
- Arteries to the Brain
- Arteries Below the Diaphragm
- Brain Veins
- Veins Into the Heart
- Capillaries

## Lesson 14: Hematologic System

- Components of the Blood
- Blood Clotting
- Intrinsic and Extrinsic Pathways
- Bone Marrow
- Hemoglobin
- Hemoglobin Dissociation Curve
- Carbon Dioxide
- Erythropoietin
- Spleen

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## Lesson 15: Bones and Joints

- Skull
- Spinal Column
- Clavicle
- Pulling the Scapulae Together
- Pulling the Scapulae Forward
- Pulling the Arms Back
- Shoulder Joint
- Forearm
- Wrist
- Pelvis
- Leg and Knee
- Ankle
- Growth Plate



## Lesson 1: The Presenting Organ System

- Presenting Organ System
- Systemic Symptoms
- Skin Symptoms
- Neurologic Symptoms
- Eye Symptoms
- Ear Symptoms
- Endocrine Symptoms
- Respiratory Symptoms
- Cardiac Symptoms
- Gastrointestinal Symptoms
- Reticuloendothelial Symptoms
- Urologic Symptoms
- Genital Symptoms
- Vascular Symptoms
- Hematologic Symptoms
- **Bone and Joint Symptoms**

## Lesson 2: Arriving at the Etiologic Differential Diagnosis

- Anatomic Differential Diagnosis
- Overview of Pathophysiologies
- Individual Pathophysiologies
- Organ Dysfunction
- The Etiologic Differential Diagnosis

## Lesson 3: Why the Physical Exam

- Why the Physical Exam
- Examining by Organ Systems
- Systemic Signs
- Skin Signs
- Neurologic Signs
- Eye Signs
- Ear Signs
- Endocrine Signs
- Respiratory Signs
- Cardiac Signs
- Gastrointestinal Signs
- Reticuloendothelial Signs
- Urologic Signs
- Genital Signs
- Vascular Signs
- Hematologic Signs
- Bone and Joint Signs

## Lesson 4: Prioritizing the Etiologic Differential Diagnosis

- Prioritizing the Etiologic Differential Diagnosis
- Prioritizing the Differential Diagnosis
- Risk Assessment
- Minimizing Risks to the Patient
- Summarizing the Patient's History

## Lesson 5: Practice Cases

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