



# HI-1014 - Anatomy & Physiology

## **Course Introduction**

10m

Course Introduction

## **Chapter 01 - Medical Terminology**

24m

Medical Terminology

Word Analysis

History of Medical Terms

The Process

The Approach

Translating Medical Terms

Creating Medical Terms

The Root Word

Prefixes

Suffixes

Building the Word

Root Word Rules

Creating Plural Forms

Other Considerations

Pronunciation Help

Similarity with Terms

Abbreviations, Acronyms and Symbols

Eponym's

Purpose of Eponym's

Vocabulary Words & Pronunciation

Chapter 01 - Review

## **Chapter 02 - Organization of the Body**

26m

Organization of the Body

Structural Organization

Anatomy of the Cell

Inside the Cell

The Cell

Functions of the Cell

Cell Differences

Tissue Types

Epithelial Tissue

Muscle Tissue

Connective Tissue

Nerve Tissue

Organs

Systems of the Body

Body Cavities, Regions and Quadrants

Cavities of the Body

Thoracic Cavity

Abdominal Cavity

Abdominopelvic Regions

The Nine Regions

Abdominopelvic Quadrants

Spinal Column  
Anatomy of the Spine  
Function of the Spine  
Divisions of the Spine  
Positional and Directional Terms  
Positions & Directions  
Directional Views  
Planes of the Body  
Vocabulary Words & Pronunciation  
Chapter 02 - Review

### **Chapter 03 - Suffixes and Appendices**

29m

Suffixes and Appendices  
Suffixes  
Using Suffixes  
Noun Suffixes  
Adjective Suffixes  
Appendices  
Types of Hernias  
Amniocentesis  
Streptococcus  
Staphylococcus  
Diplococcus  
Erythrocytes  
Leukocytes  
Granulocytes  
Agranuloctyes  
Thrombocytes  
Anemia  
Ischemia  
Tonsillitis  
Acromegaly  
Splenomegaly  
Leukocytosis  
Achondroplasia  
Laparoscopy  
Vascular System  
Adenoids  
Vocabulary Words & Pronunciation  
Chapter 03 - Review

### **Chapter 04 - Prefixes and Appendices**

21m

Prefixes and Appendices  
The Prefixes  
Using Prefixes  
Prefixes  
Appendices  
Adrenal Glands  
Antibiotics  
Antigens and Antibodies  
The Rh Factor  
Autoimmune  
Congenital Anomaly  
Contralateral  
Dialysis  
Ectopic Pregnancy

Parathyroid Glands  
Prolapse  
Recombinant DNA  
Syndrome  
Symbiosis  
Symphysis  
TURP  
Ultrasounds  
Vocabulary Words & Pronunciation  
Chapter 04 - Review

## **Chapter 05 - Digestive System**

49m

Digestive System  
Digestive System Process  
The Alimentary Canal  
The Digestive Process  
Absorption and Metabolism  
Elimination Process  
Mechanical Process  
Chemical Process  
The Oral Cavity  
The Uvula  
The Tonsils  
The Tongue  
Taste Buds  
Anatomy of a Tooth  
The Teeth  
Surface of the Teeth  
Salivary Glands  
Pharynx, Esophagus and Stomach  
The Pharynx  
The Esophagus  
The Stomach  
Digestion in the Stomach  
Small and Large Intestine  
The Small Intestine  
The Absorption Process  
The Large Intestine  
The Elimination Process  
The Accessory Organs  
The Liver  
The Liver's Many Roles  
Glucose Conversion  
The Gallbladder  
Bile's Importance  
The Pancreas  
The Digestive Process Chart  
Vocabulary Words & Pronunciation  
Chapter 05 - Review

## **Chapter 06 - Pathology & Diagnostic Testing of the Digestive System**

31m

Pathology & Diagnostic Testing of the Digestive System  
Pathology of the Digestive System  
Symptoms  
Mouth  
Upper GI  
Lower GI  
Accessory Organs  
Laboratory, Clinical & Diagnostic Testing  
Laboratory Tests  
Clinical Procedures  
Diagnostic Tests  
Vocabulary Words & Pronunciation  
Chapter 06 - Review

## **Chapter 07 - Urinary System**

57m

Urinary System  
Urinary System Process  
The System  
Waste Product  
The Kidney's Function  
Electrolytes  
Anatomy of the Urinary System  
Kidneys  
Parts of the Kidney  
Ureters  
Urinary Bladder  
Urethra  
Urine Production  
The Vascular System Role  
Inside the Kidney  
The Secretion & Reabsorption Process  
Urine Elements  
The Urinary Process Chart  
Pathology of the Urinary System  
Kidney Pathology  
Urinary Bladder Pathology  
Associated Conditions  
Laboratory Testing  
Testing with Urine  
Blood Urea Nitrogen (BUN)  
Creatinine Clearance Test  
Clinical Procedures  
Dialysis  
Cystoscopy  
Urinary Catheterization  
ESWL  
Renal Biopsy and Angioplasty  
Renal Transplantation  
Diagnostic Testing  
Radiology  
Ultrasound  
Nuclear  
Vocabulary Words & Pronunciation  
Chapter 07 - Review

## **Chapter 08 - Female Reproductive System**

1h 14m

Female Reproductive System  
Anatomy of the Female System  
Female Anatomy  
Uterus (1)  
Ovaries (1)  
Fallopian Tubes (1)  
The Cervix  
The Vagina  
External Genitalia  
Breasts  
The Fertility Cycle  
Associated Hormones  
Menopause  
Hormone Interactions  
FSH & LH  
Negative Feedback  
Estrogen  
Progesterone  
PMS  
HCG  
ERT  
The Reproductive Process  
Reproduction  
The Sex Cells  
Menstrual Cycle  
Ovulation  
Fertilization  
The Placenta  
The Trimesters  
Labor  
Delivery  
Pathology of the Female System  
Uterus (2)  
Ovaries (2)  
Fallopian Tubes (2)  
Breast  
Pregnancy  
Neonatal  
Neonatal Apgar Chart  
Laboratory, Clinical Procedures & Diagnostic Testing  
Laboratory Tests  
Hysterectomy  
Gynecological Procedures  
Pregnancy Procedures  
Radiology  
Vocabulary Words & Pronunciation  
Chapter 08 - Review

## **Chapter 09 - Male Reproductive System**

44m

Male Reproductive System  
Anatomy of the Male System  
Male Reproductive Anatomy  
Male Anatomy  
The Testes and Scrotum  
The Tubules

Epididymis  
Vas Deferens  
Seminal Vesicles  
Prostate Gland (1)  
Cowper Gland  
The Penis  
Hormones  
The Reproductive Process  
The Sperm  
The Sperms Journey  
Sperm Passage Chart  
Multiple Fertilization  
Pathology of the Male System  
Testes  
Prostate Gland (2)  
Penis  
STD  
Laboratory, Clinical Procedures & Diagnostic Testing  
Laboratory Testing  
Clinical Procedures  
Diagnostic Testing  
Vocabulary Words & Pronunciation  
Chapter 09 - Review

## **Chapter 10 - Nervous System**

50m

Nervous System  
Structure of the Nervous System  
Nervous System  
The Nervous System  
Functions of the Nervous System  
Nerve Receptors  
Divisions of the Nervous System  
Sensory vs. Motor  
Cranial Nerves  
Voluntary vs. Involuntary  
Autonomic Nerves  
Sympathetic & Parasympathetic  
The Human Nervous System  
Transmitting Signals  
Anatomy of the Nerve Cell  
The Axon  
Neurons  
At the Synapse  
Neurotransmitters  
Nerves  
Glial Cells  
Nerve Pathway  
The Brain and Spinal Cord  
Anatomy of the Brain  
The Brain  
Parts of the Brain  
The Lobes  
Functions of the Brain  
Additional Structures  
The Spinal Cord  
The Meninges

What's with the Matter?  
What is CSF?  
Laboratory, Clinical Procedures & Diagnostic Testing  
Laboratory Test  
Diagnostic Testing  
Vocabulary Words & Pronunciation  
Chapter 10 - Review

## **Chapter 11 - Cardiovascular System**

1h 16m

Cardiovascular System  
The Blood Vessels  
Arteries  
Arterioles  
Capillaries  
Venules  
Veins  
Pulmonary Artery  
Pulmonary Vein  
Aorta  
Anatomy of the Heart  
The Normal Heart Anatomy  
Characteristics of the Heart  
Right Side of Heart  
Left Side of Heart  
Heart Valves  
Heart Septum  
Layers of the Heart  
Systemic Circulation  
Blood Circulation  
Circulation Pattern  
Flow Circulation  
Pulse Points of the Body  
Physiology of the Heart  
Heart Facts  
Heartbeat  
Conduction System  
Blood Pressure  
Pathology of the Heart  
Diseases of the Heart  
Congenital Heart Disease  
Diseases of the Vessels  
Hypertension  
What Causes Hypertension  
Symptoms of Hypertension  
High Risk for Hypertension  
Labs, Clinical/Surgical Procedures & Diagnostic Testing  
Lab tests  
Clinical Procedures  
Surgical Procedures  
Diagnostic Treatments  
Vocabulary Words & Pronunciation  
Chapter 11 - Review

## **Chapter 12 - Respiratory System**

1h 1m

Respiratory System  
Anatomy of the Respiratory System  
Nose and Sinuses  
Pharynx  
Larynx  
Trachea  
Bronchial Tubes  
Alveoli  
Lungs  
Diaphragm  
Process of Respiration  
Understanding Respiration  
Respiratory Facts  
Air Passage  
Pathology of the Respiratory System  
Upper Respiratory Disorders  
Bronchial Tube Disorders  
Lung Disorders  
Pleural Disorders  
Laboratory Testing, Clinical/Surgical Procedures & Diagnostic Testing  
Laboratory Testing  
Clinical/Surgical Procedures  
Pulmonary Resection  
Diagnostic Testing  
Diagnostic Terms  
Vocabulary Words & Pronunciation  
Chapter 12 - Review

## **Chapter 13 - Blood System**

58m

Blood System  
Composition and Formation of Blood Cells  
Function of Blood  
Characteristics of Blood  
Blood Cell Formation  
Stages of Blood Development  
Erythrocytes  
Breakdown of RBC's  
Hemoglobin Breakdown  
Leukocytes  
Polymorphonuclear Cells  
Neutrophils  
Eosinophils  
Basophils  
Mononuclear  
Lymphocytes  
Monocytes  
Thrombocytes  
Plasma  
Albumin  
Globulins  
Blood Types and Groups  
Blood Types & Donors  
Rh Factors  
Blood Clotting  
Pathology Conditions, Lab Testing & Clinical Procedures



Anemia  
RBC Disorders  
Blood Clotting Disorders  
WBC Disorders  
Leukemia  
Bone Marrow  
Laboratory Testing  
Clinical Procedures  
Vocabulary Words & Pronunciation  
Chapter 13 - Review

## **Chapter 14 - Lymphatic and Immune Systems**

37m

Lymphatic and Immune Systems  
The Lymph System Process  
The Lymphatic System  
Lymph's Main Purpose  
Anatomy of the Lymph System  
Relationship to the Circulatory System  
Life of the Lymphocyte  
Lymphatic Vessels  
Drainage Ducts  
Lymph Nodes  
Location of the Nodes  
Structure of the Lymph Node  
Spleen  
Thymus  
Understanding the Immune System  
Immune System's Purpose  
Immunity  
Acquired Immunity  
Immediate Immunity  
Immune Responses  
B Cells  
T Cells  
Immunology Cell Types  
Dendritic Cells  
Pathology, Labs, Clinical & Diagnostic Testing  
Pathology Conditions  
Malignant Pathology  
Laboratory Tests  
Vocabulary Words & Pronunciation  
Chapter 14 - Review

## **Chapter 15 - Musculoskeletal System**

1h 50m

Musculoskeletal System  
Anatomy and Function of the Musculoskeletal System  
Introduction (1)  
Facts  
Professionals  
Main Functions  
Bones  
Muscles  
Joints  
Formation and Structure of the Bones  
Formation  
Development

Bone Growth  
Structure  
Anatomy of the Bone  
Anatomy of a Long Bone  
Inside the Bone  
Processes  
Depressions  
Cranial Bones  
Anatomy of the Skull Bones  
Internal Cranial Bones  
Facial Bones  
Vertebral Column  
Axial vs. Appendicular  
Thoracic Bones  
Upper Extremity Bones  
Anatomy of the Arm Bones  
Pelvic Bones  
Pelvic Differences  
Lower Extremity Bones  
Anatomy of the Leg Bones  
Types and Actions of Joints  
Types of Joints  
Joint Movements  
Anatomy of a Joint  
Joint Movement  
Types of Joints Found  
Types and Actions of Muscles  
Introduction (2)  
Striated Muscle  
Smooth Muscle  
Cardiac Muscle  
Understanding Movement  
Origin & Insertion  
Type of Movements  
Pathology of the Musculoskeletal System  
Pathology of Bones  
Osteoporosis  
Bone Fractures  
Typical Fractures  
Pathology of Joints  
Arthritis  
Pathology of Muscles  
Laboratory, Surgical Procedures & Diagnostic Studies  
Laboratory Testing  
Surgical Procedures  
Diagnostic Studies  
Vocabulary Words & Pronunciation  
Chapter 15 - Review

## **Chapter 16 - Integumentary System**

1h 2m

Integumentary System  
Function of the Integumentary System  
Introduction  
First  
Second  
Third  
Fourth  
Skin Facts  
Anatomy of the Skin  
The Layers  
Epidermis  
Epidermal Layers  
Skin Coloring  
Dermis  
Hypodermis  
Accessory Organs and Glands  
Hair  
Nails  
Nail Anatomy  
Sebaceous Glands  
Sweat Glands  
Eccrine Glands  
Apocrine Glands  
Pathology of the Skin, Laboratory & Clinical Procedures  
Lesions  
Types of Lesions  
Skin Conditions  
Acne  
Burns  
Skin Neoplasm's  
Malignant Lesions  
The ABCD's of Skin Cancer  
Laboratory Testing  
Clinical Procedures  
Vocabulary Words & Pronunciation  
Chapter 16 - Review

## **Chapter 17 - Sensory Organs**

1h 4m

Sensory Organs  
Anatomy and Physiology of the Eye  
Anatomy of the Eye  
Diagram of the Eye  
Front of the Eye  
Pupil  
Conjunctive  
Cornea  
Sclera  
Choroid  
Iris  
Ciliary Body  
Anterior Chamber  
Lens  
Back of the Eye  
Vitreous Chamber  
Retina

Optic Nerve & Disc  
Macula  
Fovea Centralis  
Choroid  
Lacrimal Gland  
The Lacrimal Gland  
Visual Pathway  
Visual Path Chart  
Refraction Errors  
Pathology, Clinical Procedures & Treatment of the Eye  
Pathology of the Eye  
Clinical Procedures (1)  
Treatment  
Anatomy and Physiology of the Ear  
Anatomy of the Ear  
The Ear  
External Ear  
Middle Ear  
Anatomy of the Middle Ear  
Internal Ear  
Anatomy of the Inner Ear  
Pathway of Sound  
Pathway of Sound Chart  
Pathology & Clinical Procedures of the Ear  
Pathology of the Ear  
Clinical Procedures (2)  
Vocabulary Words & Pronunciation  
Chapter 17 - Review

## **Chapter 18 - Endocrine System**

44m

Endocrine System  
Introduction  
Function of the Endocrine System  
Major Glands  
Hormones  
Purpose of Hormones  
Gland Locations and Functions  
Anatomy of the Thyroid  
Function of the Thyroid  
Anatomy of the Parathyroid Gland  
Function of the Parathyroid Gland  
Anatomy of the Adrenal Gland  
Function of the Adrenal Gland  
Glucocorticoids  
Mineralcorticoids  
Gonadocroticoids  
Medulla  
Anatomy of the Pancreas  
Function of the Pancreas  
Anatomy of the Pituitary Gland  
Function of the Pituitary Gland  
Anterior  
Posterior  
Anatomy of the Ovaries  
Function of the Ovaries  
Anatomy of the Testes

Function of the Testes  
Pathology of the Endocrine System  
Thyroid Pathology  
Parathyroid Pathology  
Adrenal Pathology  
Pancreas Pathology  
Pituitary Gland Pathology  
Laboratory and Diagnostic Testing  
Laboratory Tests  
Diagnostic Testing  
Vocabulary Words & Pronunciation  
Chapter 18 - Review

## **Chapter 19 – Oncology**

56m

Oncology  
Characteristics of Tumors (1)  
Cancer Facts  
Characteristics of Tumors (2)  
Benign Tumors  
Malignant Tumors  
Hyperplasia  
Dysplasia  
Benign vs. Malignant  
Causes of Cancer  
Deoxyribonucleic Acid (DNA)  
DNA Mutation  
Environment  
Hereditary  
Classifications, Grading and Staging of Tumors  
About Cancers  
Carcinomas  
Sarcomas  
Mixed Tissue  
About Grading & Staging  
Tumor Grading  
Tumor Staging  
The ABCD's of Skin Cancer  
Testing & Treatments of Cancer  
Screenings  
Diagnostic Testing  
Treating Cancer  
Surgery  
Radiation  
Types of Radiation  
Radiation Treatment  
Chemotherapy  
Biological Therapy  
Vocabulary Words & Pronunciation  
Chapter 19 - Review

## **Chapter 20 - Radiology and Nuclear Medicine**

1h 3m

Radiology and Nuclear Medicine  
History of Radiology & Nuclear Medicine  
Founder of Radiology  
Dental X-rays  
Eradication Discovery  
Contrast Discovery  
X-ray Portrait Studios  
Early Hand Held Devices  
Danger of Radiation  
Historical Time Line  
Characteristics of Radiology  
What is Radiology?  
X-ray Characteristics  
Risks of Overexposure  
Characteristics of Nuclear Medicine  
What is Nuclear Medicine?  
Radioactivity & Radionuclides  
In Vivo & In Vitro  
Nuclear Studies  
Types of Diagnostic Techniques  
X-Rays  
Contrast X-rays  
CT Scans  
Fluoroscopy  
Interventional Radiology  
Ultrasound  
MRI  
Vocabulary Words & Pronunciation  
Chapter 20 - Review

## **Chapter 21 – Pharmacology**

1h 21m

Pharmacology  
Introduction to Pharmacology  
Defining Pharmacology?  
Professionals  
Where do drugs come from?  
Homeopathic Medicine  
Subspecialties of Pharmacology  
Drug Names and Standards  
Name that Drug  
Chemical Name  
Generic Name  
Brand Name  
Standards  
Drug References  
Drug Dangers  
Patients Rights  
Types of Drug Administration  
Oral Administration  
Sublingual Administration  
Rectal Administration  
Parenteral Administration  
Inhalation  
Topical  
Understanding Drug Actions

Receptors  
Antagonistic & Synergistic  
Tolerance vs. Addiction  
Drug Toxicity  
Drug Classifications  
Drug Schedule  
Analgesics  
Anesthetics  
Antibiotics & Antivirals  
Anticoagulants  
Anticonvulsants  
Antidepressants  
Antidiabetics  
Antihistamines  
Antiosteoporosis  
Cardiovascular  
Endocrine  
Gastrointestinal  
Respiratory  
Sedatives  
Stimulants  
Tranquilizers  
Vocabulary Words & Pronunciation  
Chapter 21 - Review

## **Chapter 22 – Psychiatry**

47m

Psychiatry  
Introduction to Psych  
Introduction  
Psychosis  
Professionals  
Clinical Symptoms  
Psychiatric Disorders  
Sigmund Freud's Theory  
Personality Traits vs. Disorders  
Personality Disorders  
Anxiety Disorders  
Delirium & Dementia  
Dissociative Disorder  
Eating Disorders  
Mood Disorders  
Schizophrenia  
Types of Schizophrenia  
Sexual & Gender Identity Disorders  
Somatoform Disorders  
Substance-Related Disorders  
Therapy  
Psychotherapy  
Electroconvulsive Therapy  
Drug Therapy  
Vocabulary Words & Pronunciation  
Chapter 22 - Review  
Course Closure

Total Duration: 19h 33m