

FOUNDATIONS OF HEALTH SCIENCE ONLINE LEARNING PLATFORM

THE DEAN VAUGHN TOTAL RETENTION SYSTEM®

COURSE OUTLINE

The Dean Vaughn Total Retention System® applied to *Foundations of Health Science* is designed to be the fastest and most effective method to teach medical terminology through the exploration of basic human anatomy. It works in conjunction with the natural learning process of the brain by converting abstract medical word elements into images of real and familiar objects that make it incredibly easy to learn and remember program content.

This fully online and interactive course teaches the names and locations of all the major parts in each principal body system including structure, basic function, common diseases and disorders, associative medical terminology, and universal medical terminology.

MATERIALS

Foundations of Health Science consists of the following components:

- Educator Resource – Single use license with access to course content and *Boost Dashboard* (i.e., monitors student progress and grades, provides feedback)
- Student Course – Single use license with access to course content

ASSIGNMENTS

As active learners in *Foundations of Health Science*, students will be expected to:

- Complete the Pre-test to establish a basis for measuring individual accomplishment
- View and carefully participate (i.e., pronouncing the medical and anatomical information along with the narrator; visualizing the audionym and its association) in the video presentation for each lesson
- Complete all associated, lesson-based learning activities and reading assignments
- Perform a final review of medical terminology and basic human anatomy (including associated medical terminology) content
- Complete the Final Test to assess knowledge and understanding of health science foundations

OBJECTIVES

On completion of *Foundations of Health Science* students will be able to:

- Identify the structure of medical terminology and recognize word roots, prefixes, suffixes, and combining forms
- Understand that the meaning of most complex medical terms is derived by analysis of simpler components or word parts
- Understand the terminology and fundamental concepts of basic human anatomy
- Identify the structures of the human body – including anatomical positions, body planes, abdominopelvic quadrants, regional subdivisions, and body cavities – through concepts of organ and system structure
- Identify the names and locations of all the major parts in each principal body system including all 206 bones of the skeletal system and the structures of the eye and the ear
- Understand the primary functions of each principal body system
- Complete a final test and achieve a percentage score of 70 percent or better

INTRODUCTION

- The Dean Vaughn Total Retention System®
- Importance of the Learning Activities
- Important Definitions

medical term
Root
combining form

element
word terminal

prefix
combining vowel

- Review Activity

MODULE 2 – MEDICAL TERMINOLOGY

- Basic Structure of Medical Terminology

- Suffix Elements

-itis	-osis	-malacia	-megal	-algia
-oma	-plast	-path	-ologist	-ology
-penia	-spasm	-oid	-scop	-gram
-otomy	-ostomy	-ectomy	-lysis	-rrhexis
-desis	-trophy	-ptosis	-dyn	-rraphy
-emesis	-ectasis	-esthesia	-pexy	-cele
-asthenia	-tope	-crine	-plegia	-rrhag
-rrhe	-aculus	-phil	-ptysis	-stasis

- Prefix Elements

a-	an-	auto-	bi-	brady-
dys-	hemi-	hyper-	hypo-	inter-
intra-	multi-	peri-	poly-	post-
pre-	quad-	retro-	semi-	sub-

- Overcoming Problems of Literal Interpretations

- Review Activities

MODULE 3 – ANATOMICAL TERMS, LOCATION & DIRECTION

- Introduction to Anatomy & Physiology

- Anatomical Location

cranial	cephal	caudal	superior	inferior
epi-				
hypo-	proximal	distal	ventral	anterior
dorsal	posterior	lateral	renal	chondr-
axillary	brachial	inguinal	cubital	popliteal
pulmonary	viscera			

- Anatomical Direction & Location

anatomical position	body planes	midsagittal plane
sagittal plane	horizontal plane	frontal plane
lumbar	unbilical	iliac
abdominopelvic area	quadrants	epigastric region
hypochondriac region	thoracic	abdominal
pelvic	abdominopelvic cavity	ventral cavity
dorsal cavity		

- Medical Elements Associated with Anatomical Direction & Location

intra-	inter-	infra-	capit-	cau-
infer-	cata-	cata-		

- Review Activities

MODULE 4 – THE SKELETAL SYSTEM

- Basic Function & Structure of the Skeletal System

- Bones of the Cranium & Face (The Skull)

frontal bones
temporal bones

parietal bones
sphenoid bone

occipital bone
ethmoid bone

zygomatic (malar) bone
vomer bone
maxilla bone

lacrimal bone
concha bone
mandible bone

nasal bone
palatine bone

- Bones of the Ear, Neck & Trunk

malleus (hammer)

incus (anvil)

stapes (stirrup)

hyoid bone
lumbar vertebrae

cervical vertebrae
sacrum

thoracic vertebrae
coccyx

sternum

ribs

- Bones of the Upper & Lower Extremities

clavicle
ulna
metacarpals

scapula
radius
phalanges

humerus
carpals

hip
tibia
metatarsals

femur
fibula

patella
tarsals

- Diseases & Disorders of the Skeletal System

- Associated Medical Elements

oste-
hallux-
digit-

arthr-
pod-

lumbo-
dactyl-

orth-
tarso-

pelvi-
cheir-

- Review Activities

MODULE 5 – THE MUSCULAR SYSTEM

- Basic Function & Structure of the Muscular System
 - Muscle fibers
 - Types of muscles
 - Movements performed by muscles

- How Muscles are Named

my- location shape	myo- size origin; insertion	direction number action
rectus longus minor biceps	transverse brevis maximus triceps	oblique major minimus quadriceps

- Muscles Named by Action

flexor adductor supinator plantar flexor sphincter	extensor levator pronator invertor tensor	abductor depressor dorsiflexor evertor rotator
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- Diseases & Disorders of the Muscular System

- Associated Medical Elements

burso- spas-	facia- ton-	cine- lig-	vuls-	tens-
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- Review Activities

MODULE 6 – THE INTEGUMENTARY SYSTEM

- Basic Function & Structure of the Integumentary System
 - Skin layers
 - Skin color
- Major Structures of the Integumentary System

dermat-epidermis	cutis-dermis	skin
hair	shaft	hypodermis
hair follicle		root
sebaceous glands	sweat glands	
nail body	free edge	nail root
nail bed		
- Diseases & Disorders of the Integumentary System
- Associated Medical Elements

cut-lip-tegument-	pil-pilo-sarc-	trich-squam-	onych-fistul-	adip-colla-
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- Review Activities

MODULE 7 – THE CARDIOVASCULAR SYSTEM

- Basic Function & Structure of the Cardiovascular System
 - Diastole, systole & electrical impulses
 - Blood
- Major Structures of the Cardiovascular System

atrium	ventricle	chambers
blood vessels	artery	arteriole
capillary	venule	vein
pulmon	aorta	vena cava
- How Arteries and Veins are Names

coronary	carotid	jugular
saphenous		
- Diseases & Disorders of the Cardiovascular System
- Associated Medical Elements

pyle-splen-	phleb-	thromb-	lien-	arter-
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- Review Activities

MODULE 8 – THE LYMPHATIC SYSTEM

- Basic Function & Structure of the Lymphatic System

- Major Parts of the Lymphatic System

vessels	nodes	tonsils
thymus	spleen	cervic
axillary	inguinal	spleen
thymus	tonsils	

- Diseases & Disorders of the Lymphatic System

- Associated Medical Elements

lymph-	myel-	leuk-	cyt-	erythr-
edema				

- Review Activities

MODULE 9 – THE RESPIRATORY SYSTEM

- Basic Function & Structure of the Respiratory System

- The Process of Breathing

- External respiration
- Internal respiration
- Cellular respiration

- Major Parts of the Respiratory System

lungs	nose	mouth
pharynx	larynx	trachea
bronchi	bronchioles	

- Diseases & Disorders of the Respiratory System

- Associated Medical Elements

rhin-	pneum-	thorac-	spir-	pect-
sinus-	sept-	alveol-	peri-	phonia-

- Review Activities

MODULE 10 – THE NERVOUS SYSTEM

- Basic Function & Structure of the Nervous System
 - Central nervous system
 - Peripheral nervous system
 - Neurons
 - Sympathetic & parasympathetic nervous system
- Major Parts of the Nervous System
 - Central Nervous System
 - cerebellum
 - hypothalamus
 - medulla
 - white matter
 - cerebrum
 - midbrain
 - brain stem
 - gray matter
 - thalamus
 - pons
 - spinal cord
 - central canal
 - Peripheral Nervous System
 - nerve plexuses
 - sympathetic nerves
 - somatic nervous system
 - afferent nerves
 - parasympathetic nerves
 - efferent nerves
 - sciatic nerve
- Diseases & Disorders of the Nervous System
- Associated Medical Elements
 - encephal-
 - ependym-
 - thalam-
 - gangli-
 - plexus-
 - rachi-
 - dendr-
 - neuro-
 - dura-
 - plegia-
- Review Activities

MODULE 11 – THE SENSORY ORGANS (SPECIAL SENSES)

- Basic Function & Structure of the Eye
 - Outer layer
 - Middle layer
 - Inner layer
 - Lens, aqueous & vitreous humor and conjunctiva
- Major Parts of the Eyeball

optic nerve	sclera	choroid
retina	posterior cavity	lens
suspensory ligament	ciliary body	conjunctiva
pupil	iris	anterior cavity
cornea	aqueous humor	vitreous humor
- Basic Function & Structure of the Ear
 - External (Outer) Ear
 - Middle Ear
 - Inner Ear
- Major Parts of the Ear

external (outer) ear	middle ear (tympanic cavity)	internal (inner) ear
pinna	auditory canal	tympanic membrane
vestibule	cochlea	semi-circular canals
- Diseases & Disorders of the Sensory Organs
- Associated Medical Elements

lacrim-	audi-	aur-	myring-	ot-
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- Review Activities

MODULE 12 – THE ENDOCRINE SYSTEM

- Basic Function & Structure of the Endocrine System
 - Pituitary gland
 - Thyroid gland
 - Adrenal gland
 - Insulin & glucagon
- Glands of the Endocrine System

hypothalamus	pituitary	pineal
thyroid	parathyroids	adrenals
ovaries	testes	pancreas
- Diseases & Disorders of the Endocrine System
- Associated Medical Elements

aden-	hormone-	thyro-	adreno-
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- Review Activities

MODULE 13 – THE DIGESTIVE SYSTEM

- Basic Function & Structure of the Digestive System
- Major Parts of the Small & Large Intestine

alimentary canal	accessory organs	esophagus
gastr-	enter-	small intestine
large intestine	duodenum	jejunum
cecum	colon	sigmoid
rectum	anus	pancreas
hepat-	cholecyst	
- Diseases & Disorders of the Digestive System
- Associated Medical Elements

stoma-	bucco-	ptyal-	glycol-	or-
bili-	oment-	peps-	cheil-	
- Review Activities

- Diseases & Disorders of the Reproductive System
- Associated Medical Elements

orchi-	lact-	colp-	oophor-	part
gravid-	gyn-	mamm-	metr-	thel-
salpingo-	umbilic-	ovario-	utero-	

- Review Activities

MODULE 16 – MEDICAL TERMINOLOGY

- Universal Elements

steno-	cheil-	benign-	melan-	onco-
viscero-	sphenic-	anti-	myco-	plasia-
rug-	iso-	malign-	adnexa-	lapar-
ment-	somato-	tracho-	hypno-	scler-
sept-	scirr-	antr-	plak-	alveol-
sedat-	furca-	radic-	radi-	metabol-
pariet-	gemin-	grad-	calc-	labi-
micr-	phob-	en-	pro-	mechano-
dynam-	traumat-	ameb-	strict-	turbin-
neo-	therm-	sym-	ramus-	pan-
ab-	ante-	ex-	puer-	proli-
macro-	lal-	cryo-	mal-	glom-
somni-	pharmac-	vert-	eu-	ambi-
amphi-	clas-	duct-	fiss-	ger-
heter-	hom-	sta-	volv-	splanchn-
med-	xer-	per-	blast-	duc-
phren-	ptyal-	colla-	osmo-	lumbo-
olfact-	helio-	histo-	phage-	tarso-

- Review Activities
- Supplemental Reading Assignment: Medical Terminology Used in the Description of Diseases
- Supplemental Reading Assignment: Medical Terminology Used in Operative Procedures
- Supplemental Reading Assignment: Familiar Medical Elements
- Supplemental Reading Assignment: Common Medical Abbreviations

CONCLUSION

- Conclusion to the *Dean Vaughn Total Retention System® – Foundations of Health Science* course
- Final Test