



PRESENTS

Exploring Creation with Advanced Biology

The Human Body

2nd Edition

Video Instruction DVD

Modules 1 - 4



Legend






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Introduction to DVD



Introduction and Use of This Product  



Safety Message  



Module 1



Introduction  



Organizational Levels Of The Human Body  



Homeostasis  



Control Of Homeostasis: Feedback Systems  



A Review Of Cell Structure And Organelle Function  

A Review Of Protein Synthesis  





















A Review Of Cellular Mitosis  

The Plasma Membrane  



























Functions Of The Plasma Membrane  

Membrane Transport Processes  















Module 2

- Introduction  
 - Epithelial Tissue  
 - Stratified Epithelial Tissue  
 - Glandular Epithelium  
 - Connective Tissue  
 - Connective Tissue Proper  
 - Cartilage  
 - Bone And Blood  
 - Membranes  
 - Tissue Repair  
-

Module 3

- Introduction  
 - The Basic Structure Of Skin  
 - A Closer Look At The Epidermis  
 - Hair And Nails  
 - Skin Glands  
 - The Skeletal System  
 - Gross Anatomy Of Bone  
 - An Overview Of The Skeletal System  
 - Details Of The Appendicular Skeleton: The Limbs  
 - Details Of The Appendicular Skeleton: The Hands And Feet  
 - Details Of The Axial Skeleton: The Skull  
 - Details Of The Axial Skeleton: The Vertebral Column  
 - Details Of The Axial Skeleton: The Thoracic Cage  
-

Module 4

- Introduction  
- Cancellous And Compact Bone Histology  
- Bone Growth And Bone Remodeling  
- Bone Homeostasis  
- Nutrition For Bone Health  
- The Three Major Types Of Joints In The Skeleton  
- Motion And Terms Of Movement  



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Modules 5 - 8



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Module 5

- Introduction  
- Skeletal Muscle Structure  
- How A Muscle Fiber Contracts  
- The Neuromuscular Junction In A Skeletal Muscle  
- How A Muscle Fiber Relaxes  
- Motor Units  
- Multiple Motor Unit Summation  
- Muscle Tone  
- Energy In Skeletal Muscle Fibers  
- Warm-Up And Cool-Down  



Module 6



- Introduction  
- An Overview Of The Skeletal Muscle System  
- Major Muscles Of The Head And Face  



Major Muscles Of The Anterior Chest And Abdominal Wall  



The Major Muscles Of The Shoulder, Back, And Arm  

Major Muscles Of The Forearm  



Muscles Of The Hand  



Major Muscles Of The Thigh  

Major Muscles Of The Leg and Foot  



Summing Up  

Module 7



Introduction  



The Nervous System At The Cellular Level  



Neuroglia  



Nerve Structure  

Action Potentials I: The Resting Potential  



Action Potentials II: Stimulus And Response  

Action Potentials III: Stimulus And Conduction  



Synaptic Transmission  



Neuron Arrangements  

Module 8



Introduction  



The Brain  

Brain Anatomy  



The Cerebrum In More Detail  

Other Important Structures In The Brain  

Protection Of The Brain  

The Spinal Cord  

The Reflex Arc  

Ascending And Descending Pathways In The Spinal Cord  



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Modules 9 - 12



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Module 9



- Introduction  
- Divisions Of The Autonomic Nervous System  
- Control Of The Autonomic Nervous System  
- The Afferent Division Of The Peripheral Nervous System  
- The General Senses  
- The Sense of Smell  
- The Sense Of Taste  
- The Sense Of Balance  
- The Sense Of Hearing  
- The Sense Of Vision: Eye Anatomy  
- The Sense Of Vision: Physiology Of The Eye  


Module 10



- Introduction  
- The Endocrine System As A Whole  



Endocrine Glands And Hormones  

Hormone Chemistry  



Hormone Secretion Control  



Patterns Of Hormone Secretion  



Hormone Receptors In The Body  



Prostaglandins  



Module 11



Introduction  



The Composition Of Blood  



The Formed Elements In Blood  



Blood As A Connective Tissue  

Blood Types  

An Overview Of Blood Circulation  


Heart Anatomy  


The Flow of Blood Through the Heart  


Cardiac Muscle And The Cardiac Cycle  


Blood Vessels And The Entire Circulatory System  



Module 12



Introduction  

Lymph And Lymph Vessels  

Functions Of The Lymphatic System  



Mucosa - Associated Lymphoid Tissue (MALT)  



Lymph Nodes  



The Spleen And The Thymus Gland  



Immunity  

The First Line Of Innate (Nonspecific) Immunity  

The Second Line Of Innate Defense  

Acquired Immunity, Part 1: Humoral Immunity  

Acquired Immunity, Part 2: Cell-Mediated Immunity  

Types Of Acquired Immunity And Autoimmunity  



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Video Instruction DVD

Modules 13 -16



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Module 13





















- Introduction  
- Overview Of The Digestive System  
- The Mouth, Pharynx, And Esophagus  
- The Stomach  
- The Small Intestine  
- The Large Intestine  
- Accessory Organs: The Liver, Pancreas, And Gallbladder  
- Nutrition  
- Micronutrients  

Module 14














- Introduction  
- Anatomy And Functions Of The Respiratory System  
- Voice  
- The Muscles And Mechanics Of Ventilation  

- Factors That Aid Ventilation  
 - External Respiration  
 - Gas Exchange During External And Internal Respiration  
 - Respiratory Control  
 - Cellular Respiration  
 - Stage 1 Of Cellular Respiration: Glycolysis  
 - Stage 2 Of Cellular Respiration: Oxidation Of Pyruvate  
 - Stage 3 Of Cellular Respiration: Citric Acid (Krebs) Cycle  
 - Stage 4 Of Cellular Respiration: Electron Transport Chain  
 - Review Of Cellular Respiration  
-

Module 15

- Introduction  
 - Anatomy Of The Urinary System  
 - Urine Formation: The Overall Scheme  
 - Urine Formation, Step 1: Glomerular Filtration  
 - Urine Formation, Step 2: Reabsorption  
 - Urine Formation, Step 3: Secretion  
 - Urine Formation, Step 4: Reabsorption Of Water  
 - Storage And Release Of Urine  
 - Blood Pressure Control By The Kidneys  
 - Acid-Base Balance In The Body  
-

Module 16

- Introduction  
- Anatomy Of The Male Reproductive System  
- Meiosis  
- Spermatogenesis: Development Of Sperm  
- Hormonal Control Of Male Reproduction  
- Anatomy Of The Female Reproductive System  
- Oogenesis: Development Of The Ovum  
- The Menstrual Cycle  
- Fertilization, Development, And Parturition  

Apologia Advanced Biology Video Instruction Experiment Locations

Module	File	Experiment	Experiment Name	Video Segment	Begins (time)
2	02004	2.1	Epithelial Tissues	Glandular Epithelium	:39-13:50
2	02004	2.2	Salivary Gland	Glandular Epithelium	17:19
3	03003	3.1	Skin	A Closer Look At The Epidermis	5:39
3	03004	3.2	Follicles	Hair And Nails	7:53
4	04001	4.1	Calcium Salts	Introduction	5:03
4	04002	4.2	Bone Histology	Cancellous And Compact Bone Histology	2:11
5	05002	5.1	Skeletal Muscle Histology	Skeletal Muscle Structure	4:50
7	07003	7.1	Neurons and Neuroglia	Neuroglia	2:28-4:55
9	09005	9.1	Two-point Discrimination	The General Senses	2:33-6:18
9	09010	9.2	Cow's Eye Dissection	The Sense of Vision: Eye Anatomy	11:49
11	11003	11.1	Blood Smear	The Formed Elements in Blood	13:25
11	11007	11.2	Cow's Heart Dissection	Heart Anatomy	4:56
12	12004	12.1	Tonsil	Mucosa-Associated Lymphoid Tissue (MALT)	1:44-6:43
13	13004	13.1	Stomach	The Stomach	12:00
13	13007	13.2	Liver	Accessory Organs: The Liver, Pancreas, And Gallbladder	13:17
14	14006	14.1	Lung	External Respiration	9:29
15	15010	15.1	Bicarbonate Buffer	Acid-Base Balance In The Body	4:36-15:22
16	16004	16.1	Spermatogenesis	Spermatogenesis: Development of Sperm	5:09
16	16009		Final Project-Fetal Pig Dissection	Fertilization, Development, and Parturition	9:10

Nutrition for Bone Health	0:57
The Three Major Types of Joints in the Skeleton	8:55
Motion and Terms of Movement	4:46
Module 5	
Introduction	5:50
Skeletal Muscle Structure; <i>Experiment 5.1 (4:50)</i>	7:43
How a Muscle Fiber Contracts	9:47
The Neuromuscular Junction in a Skeletal Muscle	7:33
How a Muscle Fiber Relaxes	3:28
Motor Units	2:13
Multiple Motor Unit Summation	6:07
Muscle Tone	1:19
Energy in Skeletal Muscle Fibers	7:06
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Major Muscles of the Head and Face	3:53
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Action Potentials I: The Resting Potential	6:19
Action Potentials II: Stimulus and Response	7:59
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Synaptic Transmission	11:50
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Introduction	0:55
The Brain	4:13
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Other Important Structures in the Brain	4:45
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The General Senses; Experiment 9.1 (2:33)	7:44
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The Sense of Vision: Eye Anatomy; Experiment 9.2 (11:49)	27:59
The Sense of Vision: Physiology of the Eye	12:18
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Endocrine Glands and Hormones	15:10
Hormone Chemistry	2:27
Hormone Secretion Control	9:23
Patterns of Hormone Secretion	2:34
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The Formed Elements in Blood; Experiment 11.1 (13:25)	17:08
Blood as a Connective Tissue	14:10
Blood Types	10:03
An Overview of Blood Circulation	4:59
Heart Anatomy; Experiment 11.2 (4:56)	19:14
The Flow of Blood Through the Heart	2:50
Cardiac Muscle and the Cardiac Cycle	6:08
Blood Vessels and the Entire Circulatory System	6:13
Module 12	
Introduction	2:04
Lymph and Lymph Vessels	2:54
Functions of the Lymphatic System	4:20
Mucosa – Associated Lymphoid Tissue (MALT); Experiment 12.1 (1:44)	8:04
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The First Line of Innate (Nonspecific) Immunity	4:25
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Acquired Immunity, Part 2: Cell-Mediated Immunity	2:28
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Module 13	
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The Stomach; Experiment 13.1 (12:00)	15:49
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Nutrition	8:02
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Module 14	
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Review of Cellular Respiration	5:05
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Anatomy of the Urinary System	7:33
Urine Formation: The Overall Scheme	5:41
Urine Formation, Step 1: Glomerular Filtration	8:00
Urine Formation, Step 2: Reabsorption	6:54
Urine Formation, Step 3: Secretion	1:35
Urine Formation, Step 4: Reabsorption of Water	8:53
Storage and Release of Urine	2:00
Blood Pressure Control by the Kidneys	3:27
Acid-Base Balance in the Body; Experiment 15.1 (4:36)	24:54
Module 16	
Introduction	1:52
Anatomy of the Male Reproductive System	8:42
Meiosis	3:28
Spermatogenesis: Development of Sperm; Experiment 16.1 (5:09)	11:06
Hormonal Control of Male Reproduction	4:11
Anatomy of the Female Reproductive System	3:30
Oogenesis: Development of the Ovum	6:26
The Menstrual Cycle	7:46
Fertilization, Development and Parturition; Optional Experiment – Fetal Pig (9:10)	22:23

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