

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: **An Orientation of the Human Body**

Content Standard: **To describe the levels of organization and analyze their interdependency.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.
3.3.12B Analyze the chemical and structural basis of living organisms.**

Course Content	Student Performance	Resources	Assessments
<p>A. Overview of Anatomy & Physiology.</p> <ul style="list-style-type: none"> Define Anatomy & Physiology. Explain Subdivisions. <p>B. Levels of Organization.</p> <ul style="list-style-type: none"> Organ Systems and Components. Identify Structural Organization of the Body. <p>C. Maintenance of Life.</p> <ul style="list-style-type: none"> Identify Functional Characteristics of Life in Humans. Identify Survival Needs of the Body. <p>D. Homeostasis.</p> <ul style="list-style-type: none"> Definition of Homeostasis. Explain Negative and Positive Feedback. Explain Relationship Between Homeostatic Balance and Disease. 	<ul style="list-style-type: none"> Notes Laboratory exercises Clinical connection View videos View prepared slides Teacher-developed activities and worksheets Study Guide sheets Coloring book sheets Read Chapter 1 	<ul style="list-style-type: none"> <u>Human Anatomy & Physiology 6th edition</u>, (Pearson, 2004) <u>Human Anatomy & Physiology: Instructors Resources 6th edition</u>, (Pearson, 2004) <u>Human Anatomy & Physiology: Test Bank 6th edition</u>, (Pearson, 2004) <u>Human Anatomy & Physiology: Study Guide 6th edition</u>, (Pearson, 2004) <u>Human Anatomy & Physiology: Transparency Acetates 6th edition</u>, (Pearson, 2004) <u>Anatomy & Physiology: Coloring Workbook 7th edition</u>, (Pearson, 2003) Maps and charts 	<ul style="list-style-type: none"> Objective tests Projects/presentations Video follow-up activities Study Guide Lab report evaluations Quizzes Homework Class work Essay tests Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: **An Orientation of the Human Body**

Content Standard: **To describe the levels of organization and analyze their interdependency.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.
3.3.12B Analyze the chemical and structural basis of living organisms.**

Course Content	Student Performance	Resources	Assessments
<p>E. Anatomical Terminology.</p> <ul style="list-style-type: none"> Explain Anatomical Position. Use Terminology to Describe Direction, Location, Planes and Sections. List Nine Regions and Four Quadrants of the Abdominopelvic Cavity. Identify the Organs in Each Region. <p>F. Medical Imaging.</p> <ul style="list-style-type: none"> Compare and Contrast Various Diagnostic Tools. 	<ul style="list-style-type: none"> Notes Laboratory exercises Clinical connection View videos View prepared slides Teacher-developed activities and worksheets Study Guide sheets Coloring book sheets Read Chapter 1 	<ul style="list-style-type: none"> <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) Maps and charts 	<ul style="list-style-type: none"> Objective tests Projects/presentations Video follow-up activities Study Guide Lab report evaluations Quizzes Homework Class work Essay tests Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: **Chemistry Comes Alive**

Content Standard: **To understand the chemistry behind physiological reactions in the body.**

State Curriculum Standard: **3.1.12C Assess and apply patterns in science and technology.**

3.1.12B Analyze the chemical and structural basis of living organisms.

3.4.12A Apply concepts about the structure and properties of matter.

Course Content	Student Performance	Resources	Assessments
<p>A. Basic Chemistry.</p> <ul style="list-style-type: none"> Matter and Energy. Atoms and Elements. Molecules and Mixtures. Bonding. Reactions. <p>B. Biochemistry.</p> <ul style="list-style-type: none"> Inorganic Compounds. Organic Compounds. 	<ul style="list-style-type: none"> Notes Laboratory exercises Clinical connection View videos View prepared slides Teacher-developed activities and worksheets Study Guide sheets Coloring book sheets Read Chapter 2 	<ul style="list-style-type: none"> <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) Maps and charts 	<ul style="list-style-type: none"> Objective tests Projects/presentations Video follow-up activities Study Guide Lab report evaluations Quizzes Homework Class work Essay tests Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: **Living Units: Cells**

Content Standard: **To understand processes at the cellular level.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.**

3.3.12B Analyze the chemical and structural basis of living organisms.

3.3.10C Describe how genetic information is inherited and expressed.

Course Content	Student Performance	Resources	Assessments
<p>A. Overview of the Cell.</p> <p>B. The Plasma Membrane.</p> <p>C. The Cytoplasm and Organelles.</p> <p>D. The Nucleus.</p> <p>E. Developmental Aspects of the Cell.</p>	<ul style="list-style-type: none"> • Notes • Laboratory exercises • Clinical connection • View videos • View prepared slides • Teacher-developed activities and worksheets • Study Guide sheets • Coloring book sheets • Read Chapter 3 	<ul style="list-style-type: none"> • <u>Human Anatomy & Physiology 6th edition</u>, (Pearson, 2004) • <u>Human Anatomy & Physiology: Instructors Resources 6th edition</u>, (Pearson, 2004) • <u>Human Anatomy & Physiology: Test Bank 6th edition</u>, (Pearson, 2004) • <u>Human Anatomy & Physiology: Study Guide 6th edition</u>, (Pearson, 2004) • <u>Human Anatomy & Physiology: Transparency Acetates 6th edition</u>, (Pearson, 2004) • <u>Anatomy & Physiology: Coloring Workbook 7th edition</u>, (Pearson, 2003) • Maps and charts 	<ul style="list-style-type: none"> • Objective tests • Projects/presentations • Video follow-up activities • Study Guide • Lab report evaluations • Quizzes • Homework • Class work • Essay tests • Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: **Tissues**

Content Standard: **To understand the location, structure and function of the various types of tissues found in the body.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.**

3.3.12B Analyze the chemical and structural basis of living organisms.

3.7.12B Evaluate appropriate instruments and apparatus to accurately measure materials and processes.

Course Content	Student Performance	Resources	Assessments
<p>A. Epithelial Tissue.</p> <ul style="list-style-type: none"> Characteristics. Name, Classify and Describe different types. State Location and Function. Glands. <p>B. Connective Tissue.</p> <ul style="list-style-type: none"> Characteristics Types. Location and Function. <p>C. Membranes.</p> <ul style="list-style-type: none"> Types. Location and Function. <p>D. Nervous Tissue.</p> <ul style="list-style-type: none"> Characteristics. <p>E. Muscle Tissue.</p> <ul style="list-style-type: none"> Types Characteristics of Each Type. Location of Each Type. 	<ul style="list-style-type: none"> Notes Laboratory exercises Clinical connection View videos View prepared slides Teacher-developed activities and worksheets Study Guide sheets Coloring book sheets Read Chapter 4 	<ul style="list-style-type: none"> <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) Maps and charts 	<ul style="list-style-type: none"> Objective tests Projects/presentations Video follow-up activities Study Guide Lab report evaluations Quizzes Homework Class work Essay tests Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: **Tissues**

Content Standard: **To understand the location, structure and function of the various types of tissues found in the body.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.**

3.3.12B Analyze the chemical and structural basis of living organisms.

3.7.12B Evaluate appropriate instruments and apparatus to accurately measure materials and processes.

Course Content	Student Performance	Resources	Assessments
F. Tissue Repair. <ul style="list-style-type: none"> Process. G. Tissue Embryology. H. Cancer at the Tissue Level.	<ul style="list-style-type: none"> Notes Laboratory exercises Clinical connection View videos View prepared slides Teacher-developed activities and worksheets Study Guide sheets Coloring book sheets Read Chapter 4 	<ul style="list-style-type: none"> <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) Maps and charts 	<ul style="list-style-type: none"> Objective tests Projects/presentations Video follow-up activities Study Guide Lab report evaluations Quizzes Homework Class work Essay tests Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: The Integumentary System

Content Standard: **To understand the structure and function of the skin and its role in homeostasis.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.**

3.3.12B Analyze the chemical and structural basis of living organisms.

Course Content	Student Performance	Resources	Assessments
<p>A. Skin Layers.</p> <ul style="list-style-type: none"> Name Tissues Types of the Skin. Describe the Function of Each Layer. <p>B. Skin Appendages.</p> <ul style="list-style-type: none"> Glands. Hair Nails. <p>C. Functions of the Integumentary System.</p> <ul style="list-style-type: none"> List Five Functions of Skin. <p>D. Homeostatic Imbalances of Skin.</p> <ul style="list-style-type: none"> Describe 3 Skin Cancers. Differentiate Between the Different Burns. <p>E. Developmental Aspects of the Skin.</p> <ul style="list-style-type: none"> Describe Changes in Skin From Birth to "Old Age". <p>F. Clinical Case Studies.</p>	<ul style="list-style-type: none"> Notes Laboratory exercises Clinical connection View videos View prepared slides Teacher-developed activities and worksheets Study Guide sheets Coloring book sheets Read Chapter 5 	<ul style="list-style-type: none"> <u>Human Anatomy & Physiology 6th edition</u>, (Pearson, 2004) <u>Human Anatomy & Physiology: Instructors Resources 6th edition</u>, (Pearson, 2004) <u>Human Anatomy & Physiology: Test Bank 6th edition</u>, (Pearson, 2004) <u>Human Anatomy & Physiology: Study Guide 6th edition</u>, (Pearson, 2004) <u>Human Anatomy & Physiology: Transparency Acetates 6th edition</u>, (Pearson, 2004) <u>Anatomy & Physiology: Coloring Workbook 7th edition</u>, (Pearson, 2003) Maps and charts 	<ul style="list-style-type: none"> Objective tests Projects/presentations Video follow-up activities Study Guide Lab report evaluations Quizzes Homework Class work Essay tests Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: **Skeletal System**

Content Standard: **To describe the structures of the skeleton, their location and various functions.**

State Curriculum Standard: **3.2.12A Synthesize and evaluate the interactions and constraints of science and technology on society.**

3.2.12C Apply the elements of scientific inquiry to solve multi-step problems.

3.3.12A Explain the relationship between structure and function at all levels of organization.

3.3.12B Analyze the chemical and structural basis of living organisms.

Course Content	Student Performance	Resources	Assessments
<p>A. Skeletal Cartilage.</p> <ul style="list-style-type: none"> • Structure. • Types. • Location. • Growth. <p>B. Functions of Bones.</p> <p>C. Bone Classification.</p> <p>D. Anatomy of a Bone.</p> <p>E. Bone Formation, Remodeling and Repair.</p> <p>F. Bone Imbalances.</p> <ul style="list-style-type: none"> • Osteomalacia. • Osteoporosis. • Pagets Disease. • Rickets. <p>G. Axial Skeleton.</p> <ul style="list-style-type: none"> • Skull Bones. • Vertebral Column. 	<ul style="list-style-type: none"> • Notes • Laboratory exercises • Clinical connection • View videos • View prepared slides • Teacher developed activities and worksheets • Study Guide sheets • Coloring book sheets • Read Chapter 6-8 	<ul style="list-style-type: none"> • <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) • <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) • Maps and charts 	<ul style="list-style-type: none"> • Objective tests • Projects/presentations • Video follow-up activities • Study Guide • Lab report evaluations • Quizzes • Homework • Class work • Essay tests • Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: **Skeletal System**

Content Standard: **To describe the structures of the skeleton, their location and various functions.**

State Curriculum Standard: **3.2.12A Synthesize and evaluate the interactions and constraints of science and technology on society.**

3.2.12C Apply the elements of scientific inquiry to solve multi-step problems.

3.3.12A Explain the relationship between structure and function at all levels of organization.

3.3.12B Analyze the chemical and structural basis of living organisms.

Course Content	Student Performance	Resources	Assessments
<p>H. Appendicular Skeleton.</p> <ul style="list-style-type: none"> • Pectoral Girdle. • Upper Limbs. • Pelvic Girdle • Lower Limbs. <p>I. Clinical Advances in Bone Repair.</p> <p>J. Joints.</p> <ul style="list-style-type: none"> • Classification and Types. • Cartilaginous Joints. • Synovial Joints. • Common Joints. 	<ul style="list-style-type: none"> • Notes • Laboratory exercises • Clinical connection • View videos • View prepared slides • Teacher-developed activities and worksheets • Study Guide sheets • Coloring book sheets • Read Chapter 6-8 	<ul style="list-style-type: none"> • <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) • <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) • Maps and charts 	<ul style="list-style-type: none"> • Objective tests • Projects/presentations • Video follow-up activities • Study Guide • Lab report evaluations • Quizzes • Homework • Class work • Essay tests • Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: Muscular System

Content Standard: **To develop an understanding of the various types of muscle in the body and the type of movement each allows.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.**

3.3.12B Analyze the chemical and structural basis of living organisms.

3.4.12C Apply the principles of motion and force.

3.8.12A Synthesize and evaluate interactions and constraints of science and technology on society.

Course Content	Student Performance	Resources	Assessments
A. Muscle Tissues. B. Skeletal Muscle. <ul style="list-style-type: none"> Gross Anatomy. Micro Anatomy. Model of Contraction. Physiology. C. Contraction. D. Smooth Muscle. E. Naming the Skeletal Muscles. F. Muscle Terminology. <ul style="list-style-type: none"> Origin. Insertion. G. Developmental Aspects of Muscles. H. Muscles of the Head and Neck.	<ul style="list-style-type: none"> Notes Laboratory exercises Clinical connection View videos View prepared slides Teacher-developed activities and worksheets Study Guide sheets Coloring book sheets Read Chapter 9-10 	<ul style="list-style-type: none"> <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) Maps and charts Guest speaker 	<ul style="list-style-type: none"> Objective tests Projects/presentations Video follow-up activities Study Guide Lab report valuations Quizzes Homework Class work Essay tests Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: Muscular System

Content Standard: **To develop an understanding of the various types of muscle in the body and the type of movement each allows.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.**

3.3.12B Analyze the chemical and structural basis of living organisms.

3.4.12C Apply the principles of motion and force.

3.8.12A Synthesize and evaluate interactions and constraints of science and technology on society.

Course Content	Student Performance	Resources	Assessments
I. Muscles of the Trunk. J. Muscles of the Thorax. K. Muscles of the Pelvic Floor. L. Muscles of the Limb. M. Aging Muscles.	<ul style="list-style-type: none"> Notes Laboratory exercises Clinical connection View videos View prepared slides Teacher-developed activities and worksheets Study Guide sheets Coloring book sheets Read Chapter 9-10 	<ul style="list-style-type: none"> <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) Maps and charts Guest speaker 	<ul style="list-style-type: none"> Objective tests Projects/presentations Video follow-up activities Study Guide Lab report evaluations Quizzes Homework Class work Essay tests Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: The Digestive System

Content Standard: **To understand the organs of the digestive system and how they contribute to chemical digestion and absorption.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.**
3.3.12B Analyze the chemical and structural basis of living organisms.

Course Content	Student Performance	Resources	Assessments
<p>A. Digestive Processes.</p> <ul style="list-style-type: none"> • Ingestion. • Propulsion. • Mechanical. • Chemical. • Absorption. • Defecation. <p>B. Digestive System Functional Anatomy.</p> <p>C. Physiology of Digestion and Absorption.</p> <p>D. Developmental Aspects of the Digestive System.</p>	<ul style="list-style-type: none"> • Notes • Laboratory exercises • Clinical connection • View videos • View prepared slides • Teacher-developed activities and worksheets • Study Guide sheets • Coloring book sheets • Read Chapter 23 	<ul style="list-style-type: none"> • <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) • <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) • <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) • Maps and charts • Guest speaker 	<ul style="list-style-type: none"> • Objective tests • Projects/presentations • Video follow-up activities • Study Guide • Lab report evaluations • Quizzes • Homework • Class work • Essay tests • Projects

Science Planned Course - College Prep Anatomy and Physiology : Grades 11 & 12

Unit: The Urinary System and Fluid Balance

Content Standard: **To identify the structures of the body that regulate nitrogenous waste removal and how electrolytes balance is maintained.**

State Curriculum Standard: **3.3.12A Explain the relationship between structure and function at all levels of organization.**

3.3.12B Analyze the chemical and structural basis of living organisms.

3.8.12A Apply the use of ingenuity and technological resources to solve specific societal needs.

Course Content	Student Performance	Resources	Assessments
A. Anatomy of the Kidney. B. Physiology of the Kidney. C. Urine. <ul style="list-style-type: none"> Characteristics. Composition. D. Ureters. E. Urinary Bladder. F. Urethra. G. Micturition. H. Clinical Studies. I. Body Fluids. J. Water Balance and Osmolality. K. Electrolyte Balance. L. Acid-Base Balance. M. Developmental Aspects.	<ul style="list-style-type: none"> Notes Laboratory exercises Clinical connection View videos View prepared slides Teacher-developed activities and worksheets Study Guide sheets Coloring book sheets Read Chapter 25-26 	<ul style="list-style-type: none"> <u>Human Anatomy & Physiology</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Instructors Resources</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Test Bank</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Study Guide</u> 6th edition, (Pearson, 2004) <u>Human Anatomy & Physiology: Transparency Acetates</u> 6th edition, (Pearson, 2004) <u>Anatomy & Physiology: Coloring Workbook</u> 7th edition, (Pearson, 2003) Maps and charts Guest speaker 	<ul style="list-style-type: none"> Objective tests Projects/presentations Video follow-up activities Study Guide Lab report evaluations Quizzes Homework Class work Essay tests Projects