Applied Human Biology 11th and 12th Grade

Unit: **Overview of the Human Body**

Content Standard: **Students will identify, evaluate, and analyze all human body systems and critical terminology associated with anatomy and physiology.**

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

Course Content	Student Performance	Resources	Assessments
A. Define anatomy & physiology. B. Explain how anatomy and physiology are related. C. Human body systems. D. Levels of organization. E. Homeostasis. F. Anatomical terminology. G. Body planes and sections.	• Take notes from a variety of instructional presentations • Complete all assigned reading activities • Complete all assigned laboratory investigations • Collection and analysis of data • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations	• Essentials of Human Anatomy & Physiology Seventh Edition (Pearson Benjamin Cummings, 2003) – Chapter 1 • Anatomy & Physiology Coloring Workbook Seventh Edition (Pearson Benjamin Cummings, 2003) – Chapter 1 *Note: Each student needs a copy of this book for personal use* • Teacher-developed notes and handouts • Video tapes / DVDs • Primary and secondary source readings • Library services • Posters / Visual Aids • Models • Websites	• Objective tests • Projects/presentations • Video follow-up activities • Study guide • Lab report evaluation • Quizzes • Homework • Class Work • Lab practical

Applied Human Biology 11th and 12th Grade

Unit: **Skin and Body Membranes**

Content Standard: **Students will identify, evaluate, and analyze factors that determine and influence skin and body membranes.**

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

Course Content	Student Performance	Resources	Assessments
A. Membrane functions and locations. B. Membrane structures. C. Identify (epidermis, dermis, hair, sebaceous gland and sweat gland. D. Layers of the epidermis. E. Skin color and the function of melanin. F. Burns (rule of nines). G. Diseases.	• Take notes from a variety of instructional presentations • Complete all assigned reading activities • Complete all assigned laboratory investigations • Collection and analysis of data • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations	• Essentials of Human Anatomy & Physiology Seventh Edition (Pearson Benjamin Cummings, 2003) – Chapter 4 • Anatomy & Physiology Coloring Workbook Seventh Edition (Pearson Benjamin Cummings, 2003) – Chapter 4 *Note: Each student needs a copy of this book for personal use.* • Teacher-developed notes and handouts • Video tapes / DVDs • Primary and secondary source readings • Library services • Posters / Visual Aids • Models • Websites	• Objective tests • Projects/presentations • Video follow-up activities • Study guide • Lab report evaluation • Quizzes • Homework • Class Work • Lab practical • Dissections

Applied Human Biology 11th and 12th Grade

Unit: **Muscular System**

Content Standard: **Students will identify, evaluate, and analyze factors that determine and influence the human muscular system.**

State Curriculum Standard: **3.3.12A Explain the relationships 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
A. Names of major muscles. B. Types of muscle. C. Actin/ myosin. D. Action potential/ muscular contraction. E. Tetanus/ isotonic/ isometric. F. Aerobic vs. anaerobic. G. Body movements. H. Muscle building (strength training, supplements, etc.). I. Muscle disorders.	• Take notes from a variety of instructional presentations • Complete carefully all assigned reading activities • Complete all assigned laboratory investigations • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations • Complete dissections	• Essentials of Human Anatomy and Physiology, Seventh Addition (Pearson Benjamin Cummings 2003) – Chapter 6 • Revised Anatomy and Physiology Coloring Workbook: A complete Study Guide, Seventh Edition (Pearson Benjamin Cummings 2003) – Chapter 6 *Note: Each student needs a new copy of this book for personal use.* • Textbook supplementary materials • Teacher-developed notes and handouts • Models • Video tapes/DVDs • Primary and secondary source readings • Websites • Library services • Posters/visual aides	• Objective Tests • Projects/Presentations • Video Follow-up Activities • Study Guide • Lab Report Evaluation • Quizzes • Lab practical • Homework • Class work • Lab practical • Dissections

Applied Human Biology 11th and 12th Grade

Unit: **The Skeletal System**

Content Standard: **Students will identify, evaluate, and analyze factors that determine and influence the skeletal system.**

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

Course Content	Student Performance	Resources	Assessments
A. Functions of the system. B. Four kinds of bones. C. Parts of a long bone. D. Formation of bone. E. Calcium effects on bone health. F. Types of fractures. G. Skull and vertebrae. H. Joints. I. Disorders.	• Take notes from a variety of instructional presentations • Complete all assigned reading activities • Complete all assigned laboratory investigations • Collection and analysis of data • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations	• Essentials of Human Anatomy & Physiology Seventh Edition (Pearson Benjamin Cummings, 2003) – Chapter 5 • Anatomy & Physiology Coloring Workbook Seventh Edition (Pearson Benjamin Cummings, 2003) – Chapter 5 *Note: Each student needs a copy of this book for personal use.* • Teacher-developed notes and handouts • Video tapes / DVDs • Primary and secondary source readings • Library services • Posters / Visual Aids • Models • Websites	• Objective tests • Projects/presentations • Video follow-up activities • Study guide • Lab report evaluation • Quizzes • Homework • Class Work • Lab practical • Dissections

Applied Human Biology 11th and 12th Grade

Unit: **Cardiovascular System**

Content Standard: **Students will identify, evaluate, and analyze factors that determine and influence the human cardiovascular system.**

State Curriculum Standard: **3.3.12A Explain the relationships 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
A. Parts/ locations/ functions. B. Blood/ pathway of blood. C. Valves (heart)/ describe a heartbeat. D. Read an EKG. E. Systole/ diastole/ stroke volume/ cardiac cycle. F. Take a BP/ pulse. G. Exercise. H. Cardiovascular disorders.	• Take notes from a variety of instructional presentations • Complete carefully all assigned reading activities • Complete all assigned laboratory investigations • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations • Complete dissections	• Essentials of Human Anatomy and Physiology, Seventh Addition (Pearson Benjamin Cummings 2003) – Chapter 11 • Revised Anatomy and Physiology Coloring Workbook: A complete Study Guide, Seventh Edition (Pearson Benjamin Cummings 2003) – Chapter 11 *Note: Each student needs a new copy of this book for personal use.* • Textbook supplementary materials • Teacher-developed notes and handouts • Models • Video tapes/DVDs • Primary and secondary source readings • Websites • Library services • Posters/visual aides	• Objective Tests • Projects/Presentations • Video Follow-up Activities • Study Guide • Lab Report Evaluation • Quizzes • Lab practical • Homework • Class work • Lab practical • Dissections

Applied Human Biology 11th and 12th Grade

Unit: **Nervous System**

Content Standard: **Students will identify, evaluate, and analyze factors that determine and influence the human nervous system.**

State Curriculum Standard: **3.3.12A Explain the relationships 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
A. Nervous system function. B. Neuron Structure. C. Peripheral nervous system. D. Central nervous system. E. Spinal chord. F. Brain. G. Action Potential. H. Reflexes. I. Nervous system disorders.	• Take notes from a variety of instructional presentations • Complete carefully all assigned reading activities • Complete all assigned laboratory investigations • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations	• Essentials of Human Anatomy and Physiology, Seventh Addition (Pearson Benjamin Cummings 2003) – Chapter 7 • Revised Anatomy and Physiology Coloring Workbook: A complete Study Guide, Seventh Edition (Pearson Benjamin Cummings 2003) – Chapter 7 *Note: Each student needs a new copy of this book for personal use.* • Textbook supplementary materials • Teacher-developed notes and handouts • Models • Video tapes/DVDs • Primary and secondary source readings • Websites • Library services • Posters/visual aides	• Objective Tests • Projects/Presentations • Video Follow-up Activities • Study Guide • Lab Report Evaluation • Quizzes • Lab practical • Homework • Class work

Applied Human Biology 11th and 12th Grade

Unit: **Respiratory System**

Content Standard: **Students will identify, evaluate, and analyze factors that determine and influence the human respiratory system.**

State Curriculum Standard: **3.3.12A Explain the relationships 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
A. Associated organ function. B. Protective mechanisms. C. Gas exchange. D. Gas transport. E. Exercise influences. F. Disorders.	• Take notes from a variety of instructional presentations • Complete carefully all assigned reading activities • Complete all assigned laboratory investigations • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations	• Essentials of Human Anatomy and Physiology, Seventh Addition (Pearson Benjamin Cummings 2003) – Chapter 13 • Revised Anatomy and Physiology Coloring Workbook: A complete Study Guide, Seventh Edition (Pearson Benjamin Cummings 2003) – Chapter 13 *Note: Each student needs a new copy of this book for personal use.* • Textbook supplementary materials • Teacher-developed notes and handouts • Models • Video tapes/DVDs • Primary and secondary source readings • Websites • Library services • Posters/visual aides	• Objective Tests • Projects/Presentations • Video Follow-up Activities • Study Guide • Lab Report Evaluation • Dissections • Quizzes • Lab practical • Homework • Class work

Applied Human Biology 11th and 12th Grade

Unit: **Digestive System**

Content Standard: **Students will identify, evaluate, and analyze factors that determine and influence the human digestive system.**

State Curriculum Standard: **3.3.12A Explain the relationships 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
A. Organ systems. B. System activities. C. Food and nutrient absorption. D. Metabolism/BMR. E. Krebs cycle. F. Diet and nutrition. G. Disorders.	• Take notes from a variety of instructional presentations • Complete carefully all assigned reading activities • Complete all assigned laboratory investigations • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations	• Essentials of Human Anatomy and Physiology, Seventh Addition (Pearson Benjamin Cummings 2003) – Chapter 14 • Revised Anatomy and Physiology Coloring Workbook: A complete Study Guide, Seventh Edition (Pearson Benjamin Cummings 2003) – Chapter 14 *Note: Each student needs a new copy of this book for personal use.* • Textbook supplementary materials • Teacher-developed notes and handouts • Models • Video tapes/DVDs • Primary and secondary source readings • Websites • Library services • Posters/visual aides	• Objective Tests • Projects/Presentations • Video Follow-up Activities • Study Guide • Lab Report Evaluation • Dissections • Quizzes • Lab practical • Homework • Class work

Applied Human Biology 11th and 12th Grade

Unit: **Lymphatic/ Endocrine System**

Content Standard: **Students will identify, evaluate, and analyze factors that determine and influence the human lymphatic and endocrine systems.**

State Curriculum Standard: **3.3.12A Explain the relationships 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
A. Structure of the systems. B. Hormones. C. Negative feedback system. D. Endocrine vs. exocrine. E. Glands. F. Lymphatic system overview.	• Take notes from a variety of instructional presentations • Complete carefully all assigned reading activities • Complete all assigned laboratory investigations • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations • Complete dissections	• Essentials of Human Anatomy and Physiology, Seventh Addition (Pearson Benjamin Cummings 2003) – Chapters 9/ 12 • Revised Anatomy and Physiology Coloring Workbook: A complete Study Guide, Seventh Edition (Pearson Benjamin Cummings 2003) – Chapters 9/ 12 *Note: Each student needs a new copy of this book for personal use.* • Textbook supplementary materials • Teacher-developed notes and handouts • Models • Video tapes/DVDs • Primary and secondary source readings • Websites • Library services • Posters/visual aides	• Objective Tests • Projects/Presentations • Video Follow-up Activities • Study Guide • Lab Report Evaluation • Quizzes • Lab practical • Homework • Class work • Lab practical • Dissections

Applied Human Biology 11th and 12th Grade

Unit: **Urinary/ Reproductive System**

Content Standard: **Students will identify, evaluate, and analyze factors that determine and influence the human urinary and reproductive systems.**

State Curriculum Standard: **3.3.12A Explain the relationships 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
A. Major organs of urinary system. B. Urine formation. C. Disorders of urinary system. D. Major organs of reproduction system. E. Spermatogenesis. F. Disorders of reproductive system.	• Take notes from a variety of instructional presentations • Complete carefully all assigned reading activities • Complete all assigned laboratory investigations • Participate constructively in a variety of group activities • Participate constructively in class and group discussions • Demonstrate evaluative and critical thinking skills in both oral and written format • Thoughtfully view and analyze all video presentations • Complete dissections	• Essentials of Human Anatomy and Physiology, Seventh Addition (Pearson Benjamin Cummings 2003) – Chapters 15/ 16 • Revised Anatomy and Physiology Coloring Workbook: A complete Study Guide, Seventh Edition (Pearson Benjamin Cummings 2003) – Chapters 15/ 16 *Note: Each student needs a new copy of this book for personal use.* • Textbook supplementary materials • Teacher-developed notes and handouts • Models • Video tapes/DVDs • Primary and secondary source readings • Websites • Library services • Posters/visual aides	• Objective Tests • Projects/Presentations • Video Follow-up Activities • Study Guide • Lab Report Evaluation • Quizzes • Lab practical • Homework • Class work • Lab practical • Dissections