

Purpose of This Guide

This course guide provides:

- A course description
- Ways to get help
- An explanation of the AES course framework
- Estimated curriculum hours for each part of every module in the course template

Anatomy and Physiology

The **Anatomy and Physiology** course template provides students with a comprehensive course for students planning a career in healthcare. This curriculum prepares students for entry-level healthcare employment and further training in healthcare occupations. The curriculum accommodates a unique range of classroom scenarios and is adaptable to the needs of each school.

Getting Help

An important aspect of your success is getting the proper support when you need it. There are several options for you to get the support you desire. Many teachers like you have found these helpful.

- **AES Learning Center** – The AES Learning Center is a library of resources to help you save time in your classroom and use AES in the way that best suits you and your students. The library is easy to search and is frequently updated.
- **AES Support** – Use our live chat, email, or telephone support if you have questions.
- **AES Educator Community on Facebook** – The AES Educator Community is a place for AES users to ask questions, discuss teaching strategies, share resources, and support each other. If you want to collaborate with other AES teachers, this is the place for you!
- **Email Newsletter** – You will receive a newsletter to help keep you informed about updates.

Course Framework

The AES course framework is organized into a specific learning plan that we refer to as “the four phases.” The four-phase learning plan is designed to maximize student understanding while also saving you time with planning. The curriculum is taught with a combination of lectures, hands-on activities, and computer-based learning.

The four phases of the AES curriculum are listed below.

Explore (teacher-led activities)

- Hook students’ interests
- Prime students for learning new concepts and skills

Learn & Practice (student-directed activities)

- Self-paced, interactive eLearning lessons
- Where most standards are covered, and the bulk of the learning takes place
- Students examine the content and complete online assessments
- Teacher resources, including lesson plans; teacher PowerPoints; and downloadable paper assessment and answer keys

Reflect (teacher-led activities)

- Review and discuss new ideas from the eLearning lessons
- Help students connect what they learned with existing knowledge and experience
- Short essay prompts a mix of academic skills related to language arts and writing

Reinforce (teacher-led/student-directed activities)

- Activities and projects that use and extend knowledge gained from the eLearning lessons
- May take one or several class hours (suggested hours listed in the Curriculum Hours table)
- May include rubrics for assessing projects

Detailed descriptions of Explore, Learn & Practice Units, Reflect, and Reinforce are in the Lesson Plans available in the Teacher Resource areas for each module.

Core and Extended Units

The Skeletal, Muscular, and Cardiovascular body systems modules contain more curriculum than the other body systems. To accommodate teachers who cannot cover all the available curriculum in these modules, there are Core and Extended units within each module. The core units provide a foundation for the body system, and the extended units provide more detailed lessons on specific topics related to the system.

Glossary

A downloadable and printable version of the glossary for each module is provided. Students can fold the document to view the words on one side and the definitions on the other. Students can view the document as a PDF on their device. It contains the same glossary words the students can access in the eLearning lessons.

Curriculum Hours

The following table is provided for you to easily identify the number of estimated curriculum hours for the four phases of each module.

NOTE:

- A “curriculum hour” is equal to approximately 45-50 minutes.
- Your times may vary depending on the age and experience of the learner.
- The times listed are for non-customized modules.

Module Description	Explore hours	Learn & Practice hours	Reflect hours	Reinforce hours
<p>A&P – Introduction</p> <p>This module provides a brief overview of anatomy and physiology. Students learn why anatomy and physiology are essential concepts to understand for healthcare professionals. Students are introduced to the six levels of structural organization, cells, and the chemical processes that support life, including the importance of homeostasis. Anatomical terminology used throughout other modules in the Anatomy and Physiology template is introduced. Finally, students receive an overview of how organs and body systems work together to support a healthy human body.</p>	2.0	11.5 – eLearning 1.0 – Module Test	1.0	1.0 – Career Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P – Integumentary Systems</p> <p>This module provides an overview of the structure and function of the integumentary system. Students learn about layers of the skin, glands, skin pigmentation, and integumentary accessories, including hair and nails. Students are also introduced to diseases and disorders related to the integumentary system.</p>	1.0	1.5 – eLearning 0.5 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P – Skeletal Systems</p> <p>This module presents an in-depth look at the human skeletal system. It includes both core and extended units.</p> <p>The core units introduce students to the structure and function of the skeletal system, its relationship with other body systems, and how factors impact skeletal system health. Students discover the role of calcium homeostasis, identify classifications of bones and articulations, and review directional terms from the Introduction to Anatomy and Physiology module. Students also learn about diseases and disorders of the skeletal system.</p> <p>The extended units include a deeper exploration of bone anatomy and specific regions of the skeleton. Extended units have comprehensive information on articulations, bone markings, and bone growth and remodeling.</p>	1.0	15.5 – eLearning 4.5 – Core 11.0 – Extended 1.0 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project

<p>A&P – Muscular Systems</p> <p>This module presents an in-depth look at the human muscular system. It includes both core and extended units.</p> <p>The core units introduce students to the structure and function of the muscular system, focusing on the three types of muscle: skeletal, cardiac, and smooth muscle. Students explore anatomical movements and related terminology as well as diseases and disorders of the muscular system.</p> <p>The extended units include lessons on ATP and the energy required for muscle contractions and muscle movement at a cellular level. Lessons also include naming skeletal muscles and a comprehensive look at specific muscle groups, including the major muscles in the face, trunk, arms, and legs. The final extended unit introduces students to resistance training and exercise.</p>	1.0	10.0 – eLearning 5.0 – Core 5.0 – Extended 1.0 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P – Nervous Systems</p> <p>This module provides an overview of the structure and function of the nervous system. Specifically, students will learn about neurons, the central nervous system, and the peripheral nervous system. Students also learn about diseases and disorders of the nervous system.</p>	1.0	2.5 – eLearning 0.5 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P – Sensory Systems</p> <p>This module provides an overview of the structure and function of the sensory system. Students learn about the general function of the sensory system, types of sensory receptors, and the difference between general and special senses. They delve deeper into several general senses, including touch, pain, proprioception, and special senses, including vision, hearing, smell, and taste. Students also learn about diseases and disorders related to the sensory system, including symptoms, causes, and treatments.</p>	1.0	2.5 – eLearning 0.5 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P – Cardiovascular Systems</p> <p>This module presents an in-depth look at the human cardiovascular system, it includes both core and extended units.</p> <p>The core units introduce students to the functions and roles of the cardiovascular system and its relationships with other body systems. Students learn about maintaining heart health, blood and its components, and diseases and disorders of the cardiovascular system.</p> <p>The extended units include comprehensive lessons on blood vessels, the cardiac cycle, blood cells, and blood types. There is also an extended unit on the development of the heart from the fetal stage through adulthood.</p>	1.0	8.0 – eLearning 4.0 – Core 4.0 – Extended 1.0 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project

<p>A&P – Lymphatic Systems</p> <p>This module provides an overview of the structure and function of the lymphatic system, including how the system supports fluid homeostasis and the immune system. Additionally, students learn about diseases and disorders of the lymphatic system.</p>	1.0	2.0 – eLearning 0.5 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P – Respiratory Systems</p> <p>This module provides an overview of the structure and function of the respiratory system, including the differences between ventilation, respiration, and oxygenation. The students also learn about diseases and disorders of the respiratory system.</p>	1.0	3.0 – eLearning 0.5 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P – Digestive Systems</p> <p>This module provides an overview of the structure and function of the digestive system, including how the system supports the body in processing food and converting it to energy. Additionally, students learn about diseases and disorders of the digestive system.</p>	1.0	2.5 – eLearning 0.5 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P – Urinary Systems</p> <p>This module provides an overview of the structure and function of the urinary system, including how the system supports the body in cleaning waste from the blood and eliminating it from the body. Additionally, students learn about diseases and disorders of the urinary system.</p>	1.0	2.5 – eLearning 0.5 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P – Endocrine Systems</p> <p>This module provides an overview of the structure and function of the endocrine system, including how the system regulates the body using hormones secreted by endocrine glands. Additionally, students learn about diseases and disorders of the endocrine system, including symptoms, causes, and treatments.</p>	1.0	2.5 – eLearning 0.5 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project
<p>A&P - Reproductive Systems</p> <p>This module provides an overview of the structure and function of the male and female reproductive systems, including the similarities and differences between systems. The students also learn about diseases and disorders of the reproductive system, including symptoms, causes, and treatments.</p>	1.0	2.5 – eLearning 0.5 – Module Test	1.0	1.0 – Careers Research 3.0 – Diseases and Disorders Research 1.0 – Crossword Puzzle 3.0 – Advanced Treatment Research Project