### Anatomy and Physiology, Grades 11-12, [Regular] [Weighted Credit at ATC]
Students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis. If this course is taken at the ATC, they must be enrolled in the Health Science Pathway and must be enrolled in another Health Science course concurrently. Students prepare to earn the Certified Cardio Pulmonary Resuscitation (CPR) certification. Prerequisite: Biology and a lab science (IPC, Physics, or Chemistry) or currently enrolled in a lab science.

### Aquatic Science, Grades 10-12
In this course, students will conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Topics include components of an aquatic ecosystem, relationships among aquatic habitats and ecosystems, roles of cycles within an aquatic environment, adaptations of aquatic organisms, changes within aquatic environments, geological phenomena and fluid dynamics effects, and origin and use of water in a watershed.

### Astronomy, Grades 10-12
In Astronomy, students conduct laboratory and field investigations, use scientific methods, and make informed decisions using critical thinking and scientific problem solving. Students study the following topics: astronomy in civilization, patterns and objects in the sky, our place in space, the moon, and reasons for the seasons, planets, the sun, stars, galaxies, cosmology, and space exploration. Students who successfully complete Astronomy will acquire knowledge within a conceptual framework, conduct observations of the sky, work collaboratively, and develop critical-thinking skills.

### Chemistry, Grades 10-12, [Regular] [Pre-AP]
In this course students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students study a variety of topics that include characteristics of matter, use of the Periodic Table, development of atomic theory and chemical bonding, chemical stoichiometry, gas laws, solution chemistry, thermochemistry, and nuclear chemistry. Students will investigate how chemistry is an integral part of our daily lives.

### Earth and Space Science Grades 10-12
ESS is a capstone course designed to build on students’ prior scientific and academic knowledge and skills to develop an understanding of Earth’s systems in space and time. Students will spend time studying the geosphere (solid Earth) hydrosphere (water), and atmosphere systems. Students will focus on how these systems interact with each other and how they interact with the biosphere (life). In addition, students will investigate how the Earth is part of the much larger solar and stellar systems.

### Environmental Systems, Grades 10-12
In this course students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students study a variety of topics that include: biotic and abiotic factors in habitats, ecosystems and biomes, interrelationships among resources and an environmental system, sources and flow of energy through an environmental system, relationship between carrying capacity and changes in populations and ecosystems, and changes in environments.
Forensic Science, Grades 11-12
This course uses a structured and scientific approach to the investigation of crimes of assault, abuse and neglect, domestic violence, accidental death, homicide, and psychology of criminal behavior. Students will learn terminology and investigative procedures related to crime scene, questioning, interviewing, criminal behavior characteristics, truth detection, and scientific procedures used to solve crimes. Using scientific methods, students will collect and analyze evidence through case studies and simulated crime scenes such as fingerprint analysis, ballistics, and blood splatter analysis. Students will learn the history, legal aspects, and career options for forensic science.

IPC: Integrated Physics and Chemistry, Grades 9-12
In Integrated Physics and Chemistry, students conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical-thinking and scientific problem solving. This course integrates the disciplines of physics and chemistry in the following topics: motion, waves, energy transformations, properties of matter, changes in matter, and solution chemistry.

Physics, Grades 10-12, [Regular]
In Physics, students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students study a variety of topics that include: law of motion; changes within physical systems and conservation of energy and momentum; forces; thermodynamics; characteristics and behavior of waves; and atomic, nuclear and quantum physics. Students will acquire factual knowledge within a conceptual framework, practice experimental design and interpretation, work collaboratively with colleagues, and develop critical thinking skills.

Advanced Placement Science Courses

Biology AP, Grades 10-12, [Advanced Placement]
This is a college-level introductory biology course recommended for all students who are preparing for careers in medicine or the biological sciences. The course will cover three general areas of study: molecules and cells (chemistry, cells, cellular energetics), heredity and evolution (heredity, molecular genetics, evolutionary biology), and organisms and populations (diversity of organisms, structure and function of plants and animals, ecology). It is expected that students who take an Advanced Placement course in biology will seek college credit and/or placement from institutions of higher learning. Prerequisite: Biology and Chemistry. Chemistry may be taken concurrently.

Chemistry AP, Grades 11-12, [Advanced Placement]
This is a college-level course that will cover the fundamental principles of chemistry with an emphasis on the structure of matter, kinetic theory of gases, chemical equilibria, chemical kinetics, and thermodynamics in depth. It is expected that students who take an Advanced Placement course in chemistry will seek college credit and/or placement from institutions of higher learning. Prerequisite: Chemistry.

Environmental Science AP, Grades 11-12, [Advanced Placement]
This is a college-level introductory environmental science course recommended for all students who are preparing for careers in ecology and the environment. It is expected that students who take an Advanced Placement course in environmental science will seek college credit and/or placement from institutions of higher learning. Prerequisite: Algebra I and two years of high school science including one year of a life science and one year of a physical science.

AP Physics 1, Grades 10-12, [Advanced Placement]
This course is the equivalent to a first-semester college course in algebra-based physics. The course covers Newtonian mechanics, work, energy, power, mechanical waves, sound, and electric circuits.

AP Physics 2, Grades 10-12, [Advanced Placement]
This course is the equivalent to a second-semester college course in algebra-based physics. The course covers fluid mechanics, thermodynamics, electricity and magnetism, optics, and atomic and nuclear physics.

Physics C AP, Grades 11-12,[Advanced Placement]
This is a college-level course designed to prepare a student for study in engineering or other physical science disciplines. The class is divided by semester into mechanics and electo-magnetism. Many of the concepts covered will require differential or integral calculus. It is expected that students who take an Advanced Placement course in physics will seek college credit and/or placement from institutions of higher learning. Prerequisite: Physics AP 1 & 2 and completion or concurrent enrollment in Calculus.