All virtual courses include a state mandated virtual synchronous session at least once per marking period. These sessions will be scheduled and facilitated by the course instructor.

AP Exams

Exam fees are to be paid by the student or by the student's home district.
The individual school district **orders the exam** on behalf of the student and **administers the exam**.

SCIENCE

AP ENVIRONMENTAL SCIENCE (1 CREDIT)

GRADES: 11-12

This course provides students with a global view of their world and their role in it. It examines the scientific principles and concepts required to understand the interrelationships between ocean, land, and atmosphere that guide the natural world and allow Earth to be a planet suitable for life.
Required Materials: Students will be responsible for supplying the materials needed for the labs. Calculator, paper, pen/pencil, newspaper or wax paper, water-based maker, spray bottle, digital camera, plastic cups, navy beans, kidney beans, black beans, black-eyed peas, marker.

AP PHYSICS (1 CREDIT)

GRADES: 11-12

AP Physics 1 is an algebra-based, introductory physics course that will guide students through a college-level learning experience. This two- Segment course is designed for students to develop an understanding of physics through rich content, engaging activities, and inquiry-based laboratory. Students will explore concepts such as analyzing motion, force interactions, energy, rotational motion, waves, and periodic motion. Students cultivate their understanding of physics through classroom study, in-class activity, and virtual and hands-on, inquiry-based laboratory work as they explore concepts like systems, fields, force interactions, change, conservation, and waves.

ASTRONOMY (.5 CREDIT)

GRADES: 9-12

Ever wondered how the Earth developed and exists in the vastness of space? How do the scientific laws of motion and gravity play a role in its existence? Discover answers to these questions and explore the origin of the universe, the Milky Way, and other galaxies and stars, including the concepts of modern astronomy and the methods used by astronomers to learn more about the universe.

EARTH-SPACE SCIENCE (1 credit)

Grades: 9-12

Be captivated by the wonders and beauty of the third planet from our Sun, Earth. Be amazed by what awaits your discovery within our solar system and beyond. It is your turn to explore the universe. Earth/Space Science is a laboratory course focusing on the study of space, geologic structures and forces, the waters on our planet, and the atmospheric forces that shape our world. Through experimentation and investigation, students will explore the earth cycles including the geosphere, hydrosphere, cryosphere, atmosphere, and the carbon cycle. Students will learn about scientific inquiry, geologic time, space exploration, the solar system, and the universe. Students will use web 2.0 tools, interactive experiences, higher-order thinking, collaborative projects, and real-world application through labs and a variety of assessments. Upon completion of the course, students will have a clear understanding of the dynamic forces at work in the world around them, becoming better caretakers of our planet, Earth.

Student Provided Lab Materials: one sheet of plain white paper, several sheets of old newspaper, or wax paper if available, one water-based marker (Note: do not use permanent marker), one spray bottle containing water (place on "mist" setting), digital camera, if available, chocolate chip cookie, toothpicks (flat and round), paperclips, graph paper, stopwatch, timer, or clock with second hand, ruler or meter stick, 4.6 meters of adding-machine tape, or strips of paper taped together to form a continuous line (4.6 meters long), colored pencils, crayons, or markers, digital camera to take and submit a photograph of your time scale (optional), 1 Styrofoam ball, Alternately, you may obtain a similar sphere, preferably white, such as a table-tennis ball, and attach this sphere to a short piece of string, 1 dowel rod, pencil, or other long holder for the Styrofoam ball. Optional: empty aluminum soda can, shallow pan (baking, or pie pan, or storage bowl will do), water, stove top burner, two oven mitts or hot pads, plastic bucket or bowl, toothbrush, measuring cup, 1 un-inflated balloon (when inflated, the balloon should have a round shape and be approximately the size of a soccer ball), About 30 cm (12 inches) of string or yarn, pan, raw egg, cracking device such as a teaspoon, paper towels or newspaper.

FORENSICS I: Secrets of the Dead (.5 credit)

Grades: 9-12

Fingerprints. Blood spatter. DNA analysis. The world of law enforcement is increasingly making use of the techniques and knowledge from the sciences to better understand the crimes that are committed and to catch those individuals responsible for the crimes. Forensic science applies scientific knowledge to the criminal justice system. This course focuses on some of the techniques and practices used by forensic scientists during a crime scene investigation (CSI). Starting with how clues and data are recorded and preserved, the student will follow evidence trails until the CSI goes to trial, examining how various elements of the crime scene are analyzed and processed.

FORENSICS II: More Secrets of the Dead (.5 credit)

Grades: 9-12

Although the crime scene represents the first step in solving crimes through forensic science, the crime laboratory plays a critical role in the analysis of evidence. This course focuses on the analysis of evidence and testing that takes place within this setting. We will examine some of the basic scientific principles and knowledge that guides forensic laboratory processes, such as those testing DNA, toxicology, and material analysis. Techniques such as microscopy, chromatography, odontology, entomology, mineralogy, and spectroscopy will be examined.

FORESTRY & NATURAL RESOURCES (.5 credit)

Grades: 9-12

Thriving forests are an essential part of the health of the planet, from our wildlife's ecosystem to providing humans with clean air to lumber and paper products. But forests cannot protect themselves and depend greatly on humans for conservation. Learn more about this meaningful relationship and how environmental policy, land use, water resources, and wildlife management all factor into current forestry issues. Forestry offers diverse professional opportunities, and for those concerned about the environment, it is a great choice.

GENERAL CHEMISTRY - CCC APPROVED

GRADES: 9 -12

This full-year course engages students in the study of the composition, properties, changes, and interactions of matter with an emphasis on the beauty of the Periodic Table of Elements. The course covers the basic concepts of chemistry and includes virtual laboratory experiments that encourage higher-order thinking, and applications. The components of this course include the composition and properties of matter, changes and interactions of matter, stoichiometry, and solutions chemistry. This course meets the program entry requirements for nursing students at Cayuga Community College.

MARINE SCIENCE (1 CREDIT)

GRADES: 9-12

As our amazing planet continues to change over time, it becomes increasingly more apparent how human activity has made environmental impacts. In the marine science course, you will delve deep into Earth's bodies of water and study geologic structures and how they impact the oceans. You will investigate characteristics of various populations, patterns of distribution of life in our aquatic systems and ongoing changes occurring every day in our precious ecosystems. You will be amazed and enlightened at just how much our oceans and lakes affect climate, weather, and seasonal variations. You will have the opportunity to explore the relationships among living organisms and see how they are affected by our oceans currents, tides, and waves. Hold on, it is one amazing journey. Student Provided Lab Materials: camera, access to a body of water, two baby food jars (minimum), food coloring (four colors), index cards, hot/cold water, salt, spoon, shrimp, lobster, or crab (living or dead), pan or bucket to put animal in, ruler, four zip lock bags (large enough for hand), solid shortening (Crisco or other brand), clock with second hand or stopwatch, duct tape (optional), one oyster with shell, one squid (whole), a pan to put the specimen in, a knife, preferably with a smooth, sharp blade, flathead screwdriver (to open the valves), round toothpick (to use as a probe). Please note that dissection of living animals is optional. Students have a "drawing" option for these particular assignments and extra credit activities.

PALEONTOLOGY (.5 CREDIT)

GRADES: 9-12

From Godzilla to Jurassic Park, dinosaurs continue to captivate us. In this course, students will learn about the fascinating creatures both large and small that roamed the earth before modern man. Watch interesting videos from experts at The Royal Tyrrell Museum, a leading paleontology research facility, and discover how the field of paleontology continues to provide amazing insight into early life on earth.

RENEWABLE ENERGY (.5 CREDIT)

GRADES: 9-12

The earth's population is growing rapidly, and we need to find new, innovative ways to ensure that we are able to provide for our global energy needs. Students will look at the reasons why sustainability is important, take a balanced and evidence-based look at climate change, and learn new ways that we can harness renewable resources.

SPACE EXPLORATION (.5 CREDIT)

GRADES: 9-12

In 1961, Yuri Gagarin became the first human to go to space. In 1969, Neil Armstrong became the first human to step on the moon. This comprehensive course will examine the history and future of space travel. Find out how we have put people in space in the past, and what it will take for us to reach new frontiers, including Mars and beyond.