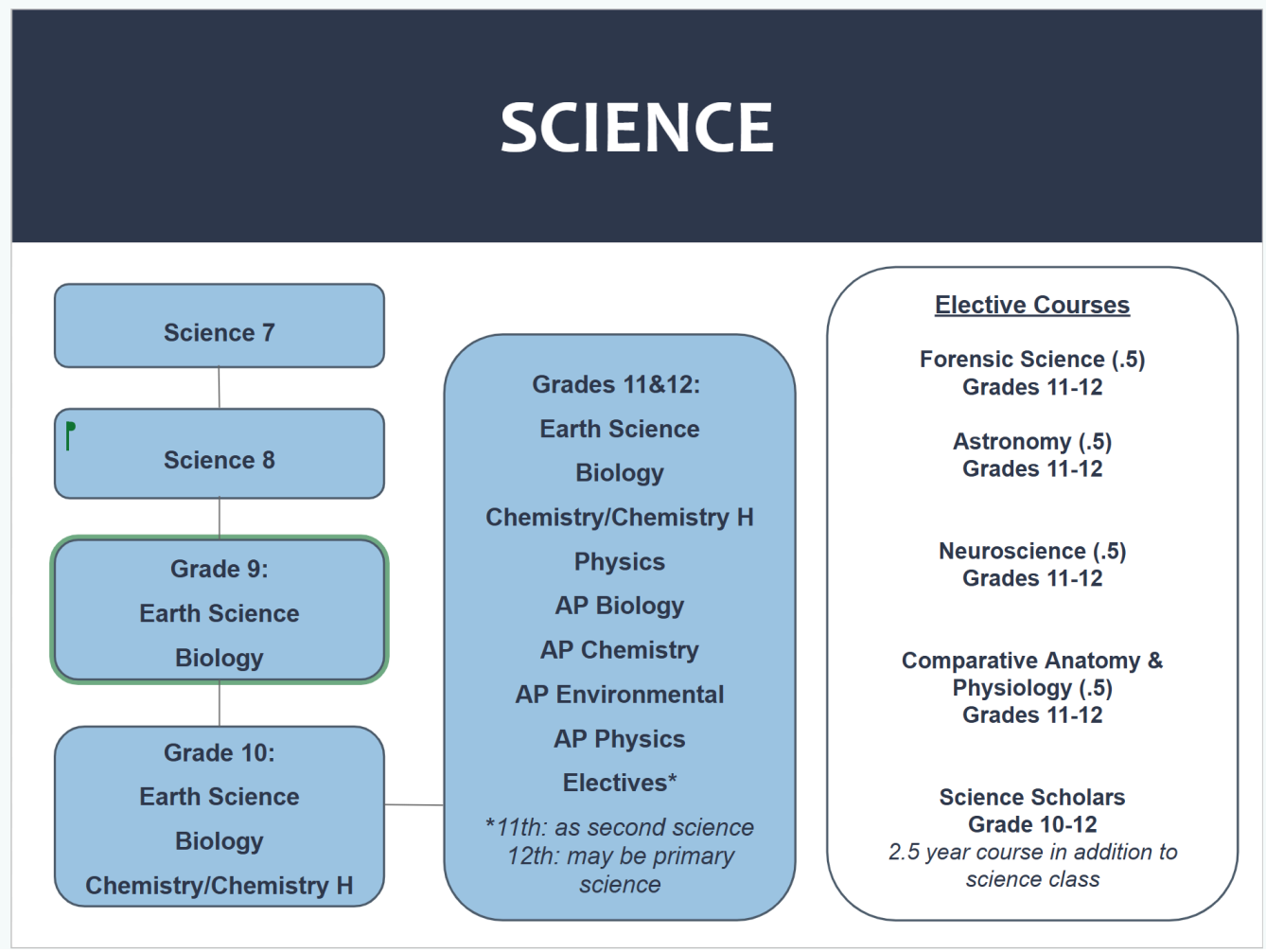

SCIENCE 7-#4731
Grade: 7
Description: The curriculum of this course integrates life, environmental and physical sciences. Different learning styles are accommodated through activities that invite students to explore, explain and evaluate. Learning strategies are incorporated to strengthen writing and problem-solving skills and develop higher-order thinking skills.
Text: **Biology for NGSS**, 3rd Edition, Biozone
Course Requirements: Quizzes, unit tests, reports, projects and labs.

SCIENCE 8-#4831
Grade: 8
Prerequisite:Science 7
Description: Science 8 is an introduction to physical science which includes a study of both chemistry and physics. It is laboratory-based and uses math skills to evaluate data. It includes a study of mass and volume, characteristic properties of solids, liquids and gases, atoms and the periodic table, solubility, separation techniques for mixtures, laws of motion, forces, magnetism, study of waves and applications of these concepts to the real world.
Text(s): **Physical Science, Science Explorer**, Frank, Jones, et al.
Course Requirements: Lab work, reports, tests and quizzes.

PHYSICAL SETTING: EARTH AND SPACE SCIENCES-#4131
Grade: 9 - 12
Type of Examination: Regents
Units of Credit: 1
Description: Earth Science is a Regents course which explores the principles of astronomy, meteorology, and geology. Problem solving skills are emphasized and graphing analyses of geo-physical concepts are incorporated

into the curriculum. This course relates the curriculum to the environmental issues of today. At least thirty lab exercises and demonstrations in weekly lab periods are included in addition to daily classes.
Text(s): **Earth Science: The Physical Setting** by Thomas McGuire; Perfection Learning, 2nd Edition.
Earth Science Reference Tables - N.Y.S. Regents
Course Requirements: Lab activities are performed weekly. *To qualify to take a Regents examination, a student must complete* ***1,200 minutes of laboratory experiences with satisfactory documented laboratory reports***. There are unit tests and quizzes.

LIFE SCIENCE: BIOLOGY-#4231
Grade: 9 - 12
Type of Examination: Regents
Units of Credit: 1
Description: Biology is a Regents course. Topics covered include: biochemistry and cellular processes, reproduction, genetics, evolution, human physiology, and ecology. At least thirty laboratory exercises and demonstrations in weekly lab periods are included in addition to daily classes.
Text(s): **Biology: New York State** - Miller and Levine
Course Requirements: Lab activities are performed weekly and require written reports. *To qualify to take a Regents examination, a student must complete* ***1,200 minutes of laboratory experiences with satisfactory documented laboratory reports***. There are unit tests and quizzes.

CHEMISTRY-#4331
Grade: 10 - 12
Type of Examination: Final Exam
Prerequisite: Biology
Units of Credit: 1
Description: Chemistry covers matter and energy, stoichiometry, atomic structure, periodicity, bonding, kinetics and equilibrium, acid-base theories, oxidation-reduction, and organic chemistry.
Text(s):**-Chemistry Reference Tables**-N.Y.S. Regents
Course Requirements: Lab activities are performed weekly and require written reports. There are unit tests and quizzes.

HONORS CHEMISTRY-#4321
Grade: 10 - 12
Type of Examination: Final Exam
Prerequisite: Biology with an average grade of 95 for the first two quarters and teacher recommendation
Units of Credit: 1
Description: The honors section provides an in-depth study of the topics presented in Chemistry. This course focuses on more independent and analytical problem solving.
Text(s): **Chemistry**—Wilbraham, Staley, Matta & Waterman
Course Requirements: Lab activities are performed weekly and require written reports. There are unit tests and quizzes.

PHYSICS-#4431
Grade: 11 - 12
Type of Examination: Final Exam
Units of Credit: 1
Description: Physics is a course aimed at gaining insight into the physical laws of science that govern everyday phenomena. It includes the basic units of mechanics, electricity and magnetism, light, sound, and modern physics.
Text(s): **Physics Principles and Problems**, Zitzewitz, et al., **Physics Reference Tables** - N.Y.S. Regents
Course Requirements: Lab activities are performed weekly and require written reports. There are unit tests and quizzes.

ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE-#4410
Grade: 11-12
Type of Examination: AP Examination
Prerequisite: Two years of science with a minimum course grade of "B" in both.
Units of Credit: 1
Description: AP Environmental Science is designed to be the equivalent of a first-year college-level course. It provides the student with the opportunity to explore and investigate the interrelationships of the natural world, identify and analyze environmental problems, both natural and human-made, evaluate the relative risks associated with these problems and examine alternative solutions for resolving and/or preventing them. Students

will participate in hands-on, laboratory and field investigations to apply scientific principles, concepts and methodologies in order to better understand our natural systems and to think critically about environmental issues and potential solutions.
Text: **Environmental Science for AP** 4th Edition, Friedland & Relyea
Course Requirements: AP Exam in Environmental Science
PLEASE NOTE: This college-level course is rigorous and students should expect to devote a significant amount of time and effort to master its content.

ADVANCED PLACEMENT BIOLOGY-#4411
Grade: 11 - 12
Type of Examination: AP Examination
Prerequisite: Biology with a minimum course grade of "B+"and Chemistry (grade dependent on course taken)
- Chemistry #4331 minimum grade of "A"
- Chemistry #4321 (Honors) minimum grade of "B+"

Units of Credit: 1
Description: AP Biology is designed to be the equivalent of a two-semester college introductory class. The course focuses on enduring, conceptual understandings and the content that supports them. The four key concepts are evolution, energy utilization, information integration, and interactions. Primary emphasis is on inquiry-based learning and the development of reasoning skills.
Text(s): **Campbell Biology 12th Edition, AP® Edition © 2021**
Course Requirements: AP Exam in Biology
PLEASE NOTE: This college-level course is rigorous and students should expect to devote a significant amount of time and effort to master its content.

ADVANCED **PLACEMENT CHEMISTRY-**#4413
Grade: 11 - 12
Type of Examination: AP Examination
Prerequisite: Two years of science with a minimum course grade of "B+" in both
- One year of science must be Chemistry (grade dependent on course taken)
  - Chemistry #4331 minimum grade of "A"
  - Chemistry #4321 (Honors) minimum grade of "B+"

Units of Credit: 1
Description: AP Chemistry is designed to be the equivalent of the general chemistry course usually taken during the first year of college. Topics such as the structure of matter, kinetic theory of gases, chemical equilibria, chemical kinetics, and the basic concepts of thermodynamics are presented in considerable depth. The course aims to provide students with the ability to solve problems and express their ideas with clarity and logic. Students should attain a depth of understanding of the fundamentals of chemistry and a reasonable competence in dealing with chemical problems.
Text(s): **Chemistry-The Central Science** (13th Ed.) -Brown, LeMay, Burstein
Course Requirements: AP exam in Chemistry
PLEASE NOTE: This college-level course is rigorous and students should expect to devote a significant amount of time and effort to master its content.

ADVANCED PLACEMENT PHYSICS C -#4415
Grade: 11 - 12
Type of Examination: AP Examination
Prerequisite: Two years of science with a minimum course grade of "B+" in both
- One year of science must be Chemistry (grade dependent on course taken)
  - Chemistry #4331 minimum grade of "A"
  - Chemistry #4321 (Honors) minimum grade of "B+"

Units of Credit: 1
Description: AP Physics is designed to be the equivalent of a first-year college-level **calculus-based** course. The course goal is to foster a strong conceptual understanding of foundational physics principles. Through primarily inquiry based learning, students will develop scientific critical thinking and reasoning skills. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; mechanical waves and sound. It will also introduce electric circuits. Knowledge of algebra and basic trigonometry is required.
Text(s): **Physics** (9th Edition) - Cutnell & Johnson, **Fundamentals of Physics** (12th Edition) -Walker, Halliday & Resnick
Course Requirements: AP Exam in Physics C: Mechanics

PLEASE NOTE: This college-level course is rigorous and students should expect to devote a significant amount of time and effort to master its content.

SCIENCE SCHOLARS-#4421
Grade: 10 - 12
Units of Credit: Up to 2.5 credits
Description: Science Scholars is a two and a half year course starting for students in the 10th grade. The course enables students to conduct authentic and original scientific research in an independent manner, in a field of their choice. Students are required to find and to work in conjunction with adult mentor scientists and/or professionals within their field of research. Students must start the program in tenth grade, which includes a required summer reading assignment prior to tenth grade. Students must read 10-20 academic, peer reviewed papers as part of their classwork. 100 hours of lab/ research work is required each summer after 10th grade. Students will create a research paper, presentation poster and slides. Student work is presented to the community through area science fairs and at an annual symposium. Honors credit is given during junior and senior year.
Course Requirements: Coursework, quarterly presentations, summer reading and hands-on research, participation in science competitions, participation in Science Scholars Symposium.

FORENSIC SCIENCE -#4438 ***Offered in 2026-2027***
Grade: 11 - 12
Type of Examination: None
Prerequisite: Three years of science, unless taken in 11th grade simultaneously with another science class.
Unit of Credit: 0.5
Description: Forensic science is the application of scientific knowledge to the law. The course will build on information gained from courses taken previously (earth science, biology, chemistry and physics) and will apply this background information in an effort to master the lab techniques used in solving crimes. The findings will be processed via extensive lab reports and chapter quizzes. Once all of the techniques have been mastered, students will complete a final project to create and then solve their own "crime" independently. Techniques will include the legal system, fingerprinting, hair and fiber analysis, toxicology, serology, collection of physical evidence and crime scene analysis. Lab reports on various experiments will be submitted throughout the course.
Text(s): **Forensic Science**, 3rd Edition, Barbara Ball

ASTRONOMY-#4435 ***Offered in 2026-2027***
Grade: 11 - 12
Type of Examination: Final exam
Prerequisite: Three years of science, unless taken in 11th grade simultaneously with another science class.
Units of Credit: 0.5
Description: The course involves the study of ancient and modern astronomy and the use of astronomical techniques to acquire knowledge about the space surrounding the Earth. Topics include the geocentric view of the cosmos, constellations, the Apollo program, solar system exploration, stars, light, telescopes and structure and evolution of the Universe.
Text(s): **Project Star: The Universe in Your Hands**, Harvard Observatory

NEUROSCIENCE-#4458 ***Offered in 2026-2027***
Grade: 11-12
Type of Examination: None
Prerequisite: Three years of science, unless taken in 11th grade simultaneously with another science class.
Units of Credit: 0.5
Description: Students will gain an understanding of the brain and its relationship with behavior. Students will learn the anatomy of the central and peripheral nervous system, the function of individual nerve cells and neurochemicals, and will learn how brain systems are integrated. Students will apply this knowledge to current issues of neuroscience including brain mapping, functional imaging, and disease states and will approach the question of the origin and purpose of consciousness. With this knowledge students will research and present a topic in neuroscience of their choosing.
Text(s): **Neuroscience**, Bear, Connors & Paradiso; **Neuroanatomy**, Lippincott, Williams & Wilkins

COMPARATIVE ANATOMY AND PHYSIOLOGY#4433
Grade: 11-12
Type of Examination: None
Prerequisite: Three years of science, unless taken in 11th grade simultaneously with another science class.
Units of Credit: 0.5
Description: Students will dissect and observe organisms in a progression from single-celled amoebas and paramecium, to hydra and daphnia, earthworms, grasshoppers, frogs, fetal pigs, and individual organs of larger mammals. Through visual and physical examination of a variety of different organisms, along with independent research, students will learn the similarities and differences among them. They will compare the adaptations of each group of organisms for respiration, circulation, excretion, digestion and nervous regulation. By examining the body systems of these organisms, students will see how mammals evolved into more complex organisms and how all organisms on Earth are related. The course is for students who would like to do dissections, are project-oriented and who like to work independently in a hands-on environment.

CONTEMPORARY ISSUES IN SCIENCE-#4451
Grade: 9-12
Type of Examination: Final Presentation/Project
Prerequisite:Upon faculty recommendation
*Unit of Credi*t: 1
Description: The goal of this course is to engage students in scientific discovery and to develop scientific literacy skills. Students will explore contemporary issues in science, understand the relevance of science in their lives, and interact with text and current scientific topics. Students will utilize technology to gather and present information, conduct a journal review and evaluate varying positions on scientific issues. Considerable focus will be placed on readings from selected scientific journals as well as major media and scientific publications.