Science

ANATOMY & PHYSIOLOGY (FALL)

Offered: Semester Course. An in-depth investigation of human structures and functions is the focus of the course. Students will have the opportunity to explore the integumentary, muscular, skeletal, cardiovascular, respiratory, nervous, excretory, endocrine and reproductive systems. Each system will be studied as an integral component of the human body. Concepts about the system are supported by the integrated laboratory investigations.
CREDIT: 0.5 **TYPE:** Regular **GRADE:** 11-12
PREREQUISITE: One credit in Biology, minimum grade "C" or consent of instructor.
COREQUISITES: None
FEES: $15.00

ANATOMY & PHYSIOLOGY (SPRING)

Offered: Semester Course. An in-depth investigation of human structures and functions is the focus of the course. Students will have the opportunity to explore the integumentary, muscular, skeletal, cardiovascular, respiratory, nervous, excretory, endocrine and reproductive systems. Each system will be studied as an integral component of the human body. Concepts about the system are supported by the integrated laboratory investigations.
CREDIT: 0.5 **TYPE:** Regular **GRADE:** 11-12
PREREQUISITE: One credit in Biology, minimum grade "C" or consent of instructor.
COREQUISITES: None
FEES: $15.00

AP BIOLOGY (FALL)

Offered: Semester Course. The Honors section carries an Honor Point Students are able to further their biological knowledge and skills, as well as prepare themselves to take additional courses of a biological nature in college. Students are introduced to techniques and equipment normally used in general college biology. Selected topics such as anatomy, physiology, population genetics and cell chemistry are covered in more detail than is done in Biology. Individual initiative, study and class discussion are expected. (A "B" average in Biology, Chemistry and Integrated Mathematics

1 is highly recommended for success in this course.) Students are required to take the AP exam.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Chemistry - Honors (SPRING).
COREQUISITES: If you take AP BIOLOGY (FALL), you must also take AP BIOLOGY (SPRING).
FEES: $15.00

AP BIOLOGY (SPRING)

Offered: Semester Course. The Honors section carries an Honor Point Students are able to further their biological knowledge and skills, as well as prepare themselves to take additional courses of a biological nature in college. Students are introduced to techniques and equipment normally used in general college biology. Selected topics such as anatomy, physiology, population genetics and cell chemistry are covered in more detail than is done in Biology. Individual initiative, study and class discussion are expected. (A "B" average in Biology, Chemistry and Integrated Mathematics 1 is highly recommended for success in this course.) Students are required to take the AP exam.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Chemistry - Honors (SPRING).
COREQUISITES: If you take AP BIOLOGY (SPRING), you must also take AP BIOLOGY (FALL).
FEES: $15.00

AP CHEMISTRY (FALL)

Offered: Semester Course. The Honors section carries an Honor Point Students in Advanced Chemistry cover material similar to a general chemistry course on the college level. Students work on chemical calculations, mathematical formulation of principles and extensive laboratory experimentation. Students learn to think clearly and to express their ideas orally and in writing. (A "B" average in Chemistry, Physics, and Advanced Algebra or Integrated Math 3 is highly recommended for success in this course.) Students are required to take the AP exam in May.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Advanced Algebra or Integrated Math 3 and Chemistry, or Special Assignment by Administrative approval.
COREQUISITES: If you take AP CHEMISTRY (FALL), you must also take AP CHEMISTRY (SPRING).
FEES: $15.00

AP CHEMISTRY (SPRING)

Offered: Semester Course. The Honors section carries an Honor Point Students in Advanced Chemistry cover material similar to a general chemistry course on the college level. Students work on chemical calculations, mathematical formulation of principles and extensive laboratory experimentation. Students learn to think clearly and to express their ideas orally and in writing. (A "B" average in Chemistry, Physics, and Advanced Algebra or Integrated Math 3 is highly recommended for success in this course.) Students are required to take the AP exam in May.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Advanced Algebra or Integrated Math 3 and Chemistry, or Special Assignment by Administrative approval.
COREQUISITES: If you take AP CHEMISTRY (SPRING), you must also take AP CHEMISTRY (FALL).
FEES: $15.00

AP ENVIRONMENTAL SCIENCE (FALL)

Offered: Semester Course. The Honors section carries an Honor Point This college-level course provides students with scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Students are required to take the AP exam in May.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Biology, Chemistry, and Integrated Mathematics 1 **or** Teacher Recommendation and Administrative Approval.
COREQUISITES: If you take AP ENVIRONMENTAL SCIENCE (FALL), you must also take AP ENVIRONMENTAL SCIENCE (SPRING).
FEES: $15.00

AP ENVIRONMENTAL SCIENCE (SPRING)

Offered: Semester Course. The Honors section carries an Honor Point This college-level course provides students with scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Students are required to take the AP exam in May.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Biology, Chemistry, and Integrated Mathematics 1 **or** Teacher Recommendation and Administrative Approval.

COREQUISITES: If you take AP ENVIRONMENTAL SCIENCE (SPRING), you must also take AP ENVIRONMENTAL SCIENCE (FALL).
FEES: $15.00

AP PHYSICS 1 (FALL)

Offered: Semester Course. The Honors section carries an Honor Point. AP Physics 1 provides students with an introductory experience in the concepts and methods of physical analysis, focused on classical mechanics and simple electrical circuits. Building the ability to reason qualitatively and quantitatively is a primary focus, with inquiry and investigation, modeling and diagramming, symbolic algebra, unit analysis, communication and argumentation, laboratory techniques, data analysis, and integration and application of concepts as emphasized skills. Students have the primary responsibility for building understanding, with the instructor as a resource and guide. Students will spend instructional time engaging with the textbook, online lecture videos, simulations, online discussions, hands-on labs (constituting 25% of instructional time), problem-solving screencasts, online homework problems, and tests/exams. This course includes a laboratory component designed to meet College Board standards and has been reviewed and approved by the College Board. Students are required to take the AP exam in May.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Biology, Chemistry.
COREQUISITES: If you take AP PHYSICS 1 (FALL), you must also take AP PHYSICS 1 (SPRING).
FEES: $15.00

AP PHYSICS 1 (SPRING)

Offered: Semester Course. The Honors section carries an Honor Point. AP Physics 1 provides students with an introductory experience in the concepts and methods of physical analysis, focused on classical mechanics and simple electrical circuits. Building the ability to reason qualitatively and quantitatively is a primary focus, with inquiry and investigation, modeling and diagramming, symbolic algebra, unit analysis, communication and argumentation, laboratory techniques, data analysis, and integration and application of concepts as emphasized skills. Students have the primary responsibility for building understanding, with the instructor as a resource and guide. Students will spend instructional time engaging with the textbook, online lecture videos, simulations, online discussions, hands-on labs (constituting 25% of instructional time), problem-solving screencasts, online homework problems, and tests/exams. This course includes a laboratory component designed to meet College Board standards and has

been reviewed and approved by the College Board. Students are required to take the AP exam in May.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Biology, Chemistry.
COREQUISITES: If you take AP PHYSICS 1 (SPRING), you must also take AP PHYSICS 1 (FALL).
FEES: $15.00

AP PHYSICS 2 (FALL)

Offered: Semester Course. The Honors section carries an Honor Point. AP Physics 2 is an algebra-based, introductory college-level physics course that explores topics such as fluid statics and dynamics; thermodynamics with kinetic theory; PV diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. Through inquiry-based learning, students will develop scientific critical thinking and reasoning skills. Students have the primary responsibility for building understanding, with the instructor as a resource and guide. Students will spend instructional time engaging with the textbook, online lecture videos, simulations, online discussions, hands-on labs (constituting 25% of instructional time), problem-solving screencasts, online homework problems, and tests/exams. This course includes a laboratory component designed to meet College Board standards and has been reviewed and approved by the College Board. Students are required to take the AP exam in May.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Biology, Chemistry, and AP Physics 1.
COREQUISITES: If you take AP PHYSICS 2 (FALL), you must also take AP PHYSICS 2 (SPRING).
Students should have taken or be concurrently taking Pre-calculus or College Algebra Trig.
FEES: $15.00

AP PHYSICS 2 (SPRING)

Offered: Semester Course. The Honors section carries an Honor Point. AP Physics 2 is an algebra-based, introductory college-level physics course that explores topics such as fluid statics and dynamics; thermodynamics with kinetic theory; PV diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. Through inquiry-based learning, students will develop scientific critical thinking and reasoning skills. Students have the primary responsibility for building understanding, with the instructor as a resource and guide. Students will spend instructional time

engaging with the textbook, online lecture videos, simulations, online discussions, hands-on labs (constituting 25% of instructional time), problem-solving screencasts, online homework problems, and tests/exams. This course includes a laboratory component designed to meet College Board standards and has been reviewed and approved by the College Board. Students are required to take the AP exam in May.
CREDIT: 0.5 **TYPE:** Advanced Placement **GRADE:** 11-12
PREREQUISITE: Biology, Chemistry, and AP Physics 1.
COREQUISITES: If you take AP PHYSICS 2 (SPRING), you must also take AP PHYSICS 2 (FALL).
Students should have taken or be concurrently taking Pre-calculus or College Algebra Trig.
FEES: $15.00

ASTRONOMY (FALL)

Offered: Semester Course. Students will conduct laboratory investigations, experiments, and actual work in current areas in Astrophysics, Planetary Geology, and Cosmology. This course is accepted for college preparation in laboratory science. A scientific calculator is required.
CREDIT: 0.5 **TYPE:** Regular **GRADE:** 11-12
PREREQUISITE: Completion of Integrated Mathematics 1, with at least a "C".
COREQUISITES: None
FEES: $10.00

ASTRONOMY (SPRING)

Offered: Semester Course Required Textbook: Chaisson, E., and McMillan, S. (2008). Astronomy Today, 6th Edition. Addison-Wesley. Students will conduct laboratory investigations, experiments, and actual work in current areas in Astrophysics, Planetary Geology, and Cosmology. This course is accepted for college preparation in laboratory science. A scientific calculator is required.
CREDIT: 0.5 **TYPE:** Regular **GRADE:** 11-12
PREREQUISITE: Completion of Integrated Mathematics 1, with at least a "C".
COREQUISITES: None
FEES: $10.00

BIOLOGY (FALL)

Offered: Semester Course. Students develop an understanding of laws which govern the existence of all life. Student work emphasizes experimentation,

observation and analysis of experimental data. Concepts involving problem solving, cellular biology, biochemistry, ecology, evolution, reproduction, heredity, plant and animal physiology and the pattern of unity among living things are also studied. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Core **GRADE:** 9-12
PREREQUISITE: None
COREQUISITES: If you take BIOLOGY (FALL), you must also take BIOLOGY (SPRING).
FEES: $10.00

BIOLOGY (SPRING)

Offered: Semester Course. Students develop an understanding of laws which govern the existence of all life. Student work emphasizes experimentation, observation and analysis of experimental data. Concepts involving problem solving, cellular biology, biochemistry, ecology, evolution, reproduction, heredity, plant and animal physiology and the pattern of unity among living things are also studied. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Core **GRADE:** 9-12
PREREQUISITE: None
COREQUISITES: If you take BIOLOGY (SPRING), you must also take BIOLOGY (FALL).
FEES: $10.00

BIOLOGY HONORS (FALL)

Offered: Semester Course. The Honors section carries an Honor Point Students in this accelerated course will develop the understanding of molecular biology, cell theory, genetics, evolution and ecology. Work will emphasize critical thinking, writing skills, and mathematical analysis of biological data. Students will be expected to do independent research and more in-depth lab work than in regular biology. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Honors **GRADE:** 9
PREREQUISITE: None
COREQUISITES: If you take BIOLOGY HONORS (FALL), you must also take BIOLOGY HONORS (SPRING).
FEES: $10.00

BIOLOGY HONORS (SPRING)

Offered: Semester Course. The Honors section carries an Honor Point

Students in this accelerated course will develop the understanding of molecular biology, cell theory, genetics, evolution and ecology. Work will emphasize critical thinking, writing skills, and mathematical analysis of biological data. Students will be expected to do independent research and more in-depth lab work than in regular biology. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Honors **GRADE:** 9
PREREQUISITE: None
COREQUISITES: If you take BIOLOGY HONORS (SPRING), you must also take BIOLOGY HONORS (FALL).
FEES: $10.00

CHEMISTRY (CORE) (FALL)

Offered: Semester Course. Students learn the principles underlying chemical changes and their theoretical applications. Laboratory work emphasizes techniques of observation, analysis of data and formation of conclusions based on data. A scientific calculator is essential. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Core **GRADE:** 10-12
PREREQUISITE: Earned grade of a "C" or better in Integrated Mathematics 1 or Teacher recommendation & Administrative approval.
COREQUISITES: If you take CHEMISTRY (CORE) (FALL), you must also take CHEMISTRY (CORE) (SPRING).
FEES: $10.00

CHEMISTRY (CORE) (SPRING)

Offered: Semester Course. Students learn the principles underlying chemical changes and their theoretical applications. Laboratory work emphasizes techniques of observation, analysis of data and formation of conclusions based on data. A scientific calculator is essential. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Core **GRADE:** 10-12
PREREQUISITE: Earned grade of a "C" or better in Integrated Mathematics 1 or Teacher recommendation & Administrative approval.
COREQUISITES: If you take CHEMISTRY (CORE) (SPRING), you must also take CHEMISTRY (CORE) (FALL).
FEES: $10.00

CHEMISTRY HONORS (FALL)

Offered: Semester Course. The Honors section carries an Honor Point This accelerated and in-depth course develops an understanding of the principles

underlying chemical changes and their theoretical applications. Work emphasizes critical thinking skills, writing skills, mathematical analysis and the use of technology. A scientific calculator is essential. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Honors **GRADE:** 10
PREREQUISITE: (1) Earned grade of a "C" or better in both Biology—Honors & Integrated Mathematics 1 & Teacher recommendation **or** (2) Earned grade of a "B" or better in Biology—Core & earned grade of a "C" or better in Integrated Mathematics 1 or Teacher recommendation & Administrative approval.
COREQUISITES: If you take CHEMISTRY HONORS (FALL), you must also take CHEMISTRY HONORS (SPRING).
FEES: $10.00

CHEMISTRY HONORS (SPRING)

Offered: Semester Course. The Honors section carries an Honor Point This accelerated and in-depth course develops an understanding of the principles underlying chemical changes and their theoretical applications. Work emphasizes critical thinking skills, writing skills, mathematical analysis and the use of technology. A scientific calculator is essential. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Honors **GRADE:** 10
PREREQUISITE: (1) Earned grade of a "C" or better in both Biology—Honors & Integrated Mathematics 1 & Teacher recommendation **or** (2) Earned grade of a "B" or better in Biology—Core & earned grade of a "C" or better in Integrated Mathematics 1 or Teacher recommendation & Administrative approval.
COREQUISITES: If you take CHEMISTRY HONORS (SPRING), you must also take CHEMISTRY HONORS (FALL).
FEES: $10.00

EARTH SCIENCE (FALL)

Offered: Semester Course. A study of man's physical environment is the central theme of this course. Student work focuses on the study of minerals, rocks, volcanology, seismology, plate tectonics, hydrology, meteorology, earth history and interpreting earth science data. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Regular **GRADE:** 10-12
PREREQUISITE: Previous enrollment in Biology.
COREQUISITES: If you take EARTH SCIENCE (FALL), you must also take EARTH SCIENCE (SPRING).
FEES: $10.00

EARTH SCIENCE (SPRING)

Offered: Semester Course. A study of man's physical environment is the central theme of this course. Student work focuses on the study of minerals, rocks, volcanology, seismology, plate tectonics, hydrology, meteorology, earth history and interpreting earth science data. This course is accepted for college preparation in laboratory science.
CREDIT: 0.5 **TYPE:** Regular **GRADE:** 10-12
PREREQUISITE: Previous enrollment in Biology.
COREQUISITES: If you take EARTH SCIENCE (SPRING), you must also take EARTH SCIENCE (FALL).
FEES: $10.00

PHYSICS (FALL)

Offered: Semester Course. A general introduction to the fundamentals of time, space, forces, motion, wave, heat motion, energy, electricity, electromagnetism and atomic physics. Physics is essential for college study in engineering, chemistry and the medical fields. A calculator with trigonometric functions is essential. This course is accepted for college preparation in lab science.
CREDIT: 0.5 **TYPE:** Core **GRADE:** 11-12
PREREQUISITE: Earned grade of a "C" or better in Integrated Mathematics 2 or Integrated Mathematics—Honors or Teacher recommendation & Administrative approval.
COREQUISITES: If you take PHYSICS (FALL), you must also take PHYSICS (SPRING).
FEES: $10.00

PHYSICS (SPRING)

Offered: Semester Course. A general introduction to the fundamentals of time, space, forces, motion, wave, heat motion, energy, electricity, electromagnetism and atomic physics. Physics is essential for college study in engineering, chemistry and the medical fields. A calculator with trigonometric functions is essential. This course is accepted for college preparation in lab science.
CREDIT: 0.5 **TYPE:** Core **GRADE:** 11-12
PREREQUISITE: Earned grade of a "C" or better in Integrated Mathematics 2 or Integrated Mathematics 2—Honors or Teacher recommendation & Administrative approval.
COREQUISITES: If you take PHYSICS (SPRING), you must also take PHYSICS (FALL).

FEES: $10.00