



## SCIENCE DEPARTMENT

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### EARTH/SPACE SCIENCE 1340/20013100

(Level 1+2 FCAT Reading – 8th Grade)

Credit 1 9  
Earth/Space Science will provide opportunities for students to develop concepts basic to Earth, its materials, processes, history and environment in space. Topics will include but not be limited to: origins of the universe and solar system, Earth-moon system, minerals and rocks, divisions of the earth and land forms, hydrological cycle, and weather. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus and safety are an integral part of this course.

**Special Note:** NCAA.

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### EARTH/SPACE SCIENCE HONORS 1343/20013200

(Level 3+4 FCAT Reading – 8th Grade)

Credit 1 9  
Earth/Space Science Honors will provide students with opportunities to develop concepts basic to Earth, its materials, processes, history, and environment in space. Topics will include but not be limited to: theories on the origin of the universe and solar system, tools of astronomical observation, the solar system, nature of matter and atomic structure, land forms, mineral and rocks, hydrologic cycle, oceanography, the atmosphere and weather. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.  
SPECIAL NOTE: NCAA.

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### INTEGRATED SCIENCE I 1283/20024000

Credit 1 10  
The purpose of this first course in the 3-course integrated science sequence is to develop comprehensive concepts and to provide students with the opportunity to do investigative studies of concepts basic to earth, it's materials, processes, and history, environment in space. Students will be able to explore the theories and laws associated with the natural physical and chemical properties of matter and to become familiar with human growth and development within the context of our society. Laboratory investigations that include the use of scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.  
PREREQUISITE: Earth Space Science

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### BIOLOGY I 1314/20003100

Credit 1 10-12  
Biology I will provide opportunities to students for general exploratory experiences and activities in the fundamental

concepts of life. Topics will include but not be limited to: the scientific method, measurements, laboratory apparatus usage and safety, cell biology and cell reproduction, principles of genetics, biological change through time, classification, microbiology, structure and function of plants and animals, structure and function of the human body, and ecology. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Earth/Space or Integrated Science I or Science Department approval.

**Special Note:** NCAA.

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### BIOLOGY I HONORS 1309/20003200

**BIOLOGY I GIFTED**  
(375+ FCAT Reading – 8th Grade (for 9<sup>th</sup> grade only))

Credit 1 9-12  
Biology I Honors will provide opportunities to students for general exploratory experiences and activities in the fundamental concepts of life. Topics will include but not be limited to: the scientific method, laboratory apparatus usage and safety, biochemistry, cell biology, genetics, botany, zoology, human anatomy and physiology, and ecological relationships. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Earth/Space or Integrated Science I and/or Science Department approval.

**Special Note:** NCAA. Gifted curriculum is enhanced

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### BIOLOGY II HONORS 1315/20003300

Credit 1 10-12  
Biology II Honors will provide opportunities to students to continue to expand the biological concepts introduced in prerequisite courses. Topics will include but not be limited to: properties of life, research into current scientific problems and techniques, population dynamics, species continuity and molecular genetics, comparative plant, animal morphology and physiology, cellular respiration, and careers in biological science. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Integrated Science I and II, Biology, or Biology Honors and Science Department approval.

**Special Note:** NCAA.

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### ADV. PLACEMENT BIOLOGY 1321/20003400

Credit 1 11-12  
Advanced Placement Biology will provide students with a college level course in biology and will prepare the student to seek credit and/or appropriate placement in college biology courses. Topics will include but not be limited to: molecular and cellular biology, organismal biology, and population biology. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Integrated Science I and II, Biology I, or Biology Honors, and Chemistry 1, plus Science Department approval.

**Special Note:** NCAA.

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### CHEMISTRY I 1316/20033400

Credit 1 10-12  
Chemistry I will provide opportunities for students to study the composition, properties, and changes associated with matter. Topics will include but not be limited to: classification and structure of matter, atomic theory, the periodic table, bonding, chemical formulas, chemical reactions, balanced equations, behavior of gases, physical changes, acids, bases, and salts. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Successful completion of Algebra 1

**Special Note:** NCAA.

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**CHEMISTRY I HONORS** 1383/20033500  
**CHEMISTRY I GIFTED**

Credit 1 10-12  
Chemistry I Honors will provide students with an opportunity to study the composition, properties and changes associated with matter. Topics will include but not be limited to: heat, changes of matter, atomic structure, bonding, the periodic tables, formulas, equations, mole concept, gas laws, reactions, solutions, equilibrium systems, and oxidation reduction reactions. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course

PREREQUISITE: Successful completion of Algebra 1 and Science Dept. approval.

**Special Note:** NCAA. Gifted curriculum is enhanced.

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**ADVANCED PLACEMENT CHEMISTRY** 1325/20033700

Credit 1 11-12  
Advanced Placement Chemistry will provide students with a college level course in chemistry and will prepare the student to seek credit and/or appropriate placement in college chemistry courses. Topics will include but not be limited to: structure of matter, states of matter, chemical reactions, and descriptive chemistry. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Integrated Science I and II, or Chemistry I, plus Algebra I, and Science Department approval.

**Special Note:** NCAA.

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**PHYSICS I** 1318/20033800

Credit 1 11-12  
Physics I will provide opportunities to student for an introductory study of the theories and laws governing the interaction of matter, energy, and the forces of nature. Topics will include but not be limited to: kinematics, dynamics, energy, work and power, heat, thermodynamics, wave characteristics, light, electricity, magnetism, and nuclear physics. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Successful completion of Algebra I

**Special Note:** NCAA.

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**PHYSICS I HONORS** 1307/20033900

Credit 1 11-12  
Physics I Honors will provide students with an in depth study of the theories and laws governing the interaction of matter, energy, and the forces of nature. Topics will include but not be

limited to: kinematics, dynamics, energy, work, power, heat and thermodynamics, wave characteristics, light, electricity, magnetism, and nuclear physics. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Concurrent enrollment in Algebra II and Science Dept. approval.

**Special Note:** NCAA

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**ADVANCED PLACEMENT PHYSICS C** 1209/20034300

Credit 1 11-12  
Advanced Placement Physics (C) will provide students with a college level course in physics and will prepare students to seek credit and/or appropriate placement in college physics courses. Topics will include but not be limited to: electricity and magnetism, electrostatics, electric current and circuits, capacitance, magnetostatics, and electromagnetism. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Integrated Science I, II and III, or Physics. Calculus and Science Department approval are co-requisites.

**Special Note:** NCAA

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**ANATOMY AND PHYSIOLOGY** 1371/20003500

Credit 1 10-12  
Anatomy and Physiology will provide students with general exploratory and advanced activities in structures and functions of the components of the human body. Topics will include but not be limited to: anatomical terminology, cells and tissues, systems of the body, disease and inheritance. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Integrated Science I and II, or Biology I or Biology I Honors.

**Special Note:** NCAA

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**ANATOMY AND PHYSIOLOGY HONORS**

1370/20003600 Credit 1 10-12  
Anatomy and Physiology Honors will provide students with advanced exploratory activities in the structure and function of the components of the human body. Topics will include, but not be limited to: anatomical terminology, cells and tissues, systems of the body, disease and inheritance. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus and safety are an integral part of this course.

PREREQUISITE: Integrated Science I and II, or Biology 1 or Biology I Honors and Science Department approval.

**Special Note:** NCAA

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**GENETICS** 1269/20004400

Credit 1 10-12  
Genetics is designed to bring insight into the world of DNA, Gene- mapping, genetic technology and other applications and use of genetic material. Students will study current trends in scientific research while developing a full understanding of the biological processes that duplicate and transmit genetic material. Laboratory activities that include the use of scientific method, measurement, laboratory apparatus, and safety are

an integral part of this course.

PREREQUISITE: Biology I or Biology I Honors.

**Special Note:** NCAA

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### GENETICS HONORS

1392/17003500

Credit 1

11-12

Genetics is designed to bring insight into the world of DNA, Gene mapping, genetic technology and other applications and use of genetic material. Students will study current trends in scientific research while developing a full understanding of the biological processes that duplicate and transmit genetic material. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Honors/Gifted Biology I and Science Department approval.

**Special Note:** This course will appear as Research VI. NCAA

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### FORENSIC SCIENCE I

5536/20024800

Credit 1

10-12

#### Will meet graduation requirement for Science

The purpose of this course is to provide opportunities to develop knowledge of biology and physical sciences through forensic science, and enable students to associate this knowledge with real-life applications. The content should include, but not be limited to, the following: implementation of scientific knowledge, methodology, and historical context to solve problems, use of laboratory technologies, chemical basis of heredity and biotechnology, connections between the sciences and technology, society, and the environment, matter, energy, and the processes of life, medical technologies and careers, forces and motion and the nature of matter.

Laboratory investigations of selected topics in the content, which also include use of the scientific method, measurement, laboratory apparatus, and safety procedures, are an integral part of this course. Inquiry into current technology and applications of scientific principles and their relationship to society and the environment is encouraged.

Prerequisites: Biology I

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### PHYSICAL SCIENCE

1348/20033100

Credit 1

10-12

Physical Science will provide opportunities for students to investigate the introductory concepts of physics and chemistry. Topics will include but not be limited to: dynamics, classification, interaction of matter, the periodic table, forms of energy, electricity and magnetism, chemical interactions, nuclear reactions, and career opportunities.

Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: *Integrated Science I, or an Earth/Space Science, or a Biological Science.*

**SPECIAL NOTE: NCAA**

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### ZOOLOGY

1366/20004100

Credit 1

10-12

Zoology is designed to provide students with an in-depth study of the animal kingdom. Topics will include, but not be limited to: animal cell structure and function, animal genetics, animal classification and use of the taxonomic key, comparative invertebrate anatomy and physiology, comparative vertebrate

and physiology, animal behavior, life cycles, and animal interrelationships with man. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course. Student projects requiring the use of technology are an integral part of this course.

PREREQUISITE: Integrated Science I and II, or Biology or Biology I Honors.

**Special Note:** NCAA

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### ENVIRONMENTAL SCIENCE

1362/20013400

Credit 1

10-12

The purpose of this course is to provide an opportunity for students to study the concepts, theories and laws governing the interaction of matter, energy, and forces, and their application to the environment. Topics will include, but not be limited to: Earth/space, pollution, conservation of natural resources, environmental management, and society's impact on the environment. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

**Special Note:** NCAA

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### ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE

1291/20013800

Credit 1

10-12

Advanced Placement Environmental Science will provide students with a college level course in environmental science and will prepare students to seek credit and/or appropriate placement in college environmental science courses. Topics will include but not be limited to: ecosystem dynamics, biodiversity, dimensions and causes of population growth, natural cycles, pollution, and resources. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Integrated Science I and II, or Biology I or Biology I Honors, plus Science Department approval.

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### MARINE SCIENCE I

1401/20025000

Credit 1

10-12

The purpose of this course is to provide an overview of the unique characteristics of the marine environment by exploring the physical and biological characteristics of seawater. Topics will include the ocean's present and potential resources, marine biology interactions with technology and society, and interrelationships between man and the ocean environment. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Integrated Science I and II, or a Biological Science.

**Special Note:** NCAA

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### MARINE SCIENCE I HONORS

1403/20025100

Credit 1

10-12

The purpose of this course is to provide an advanced overview

of the unique characteristics of the marine environment by exploring the physical and biological characteristics of seawater. Topics will include the ocean's present and potential resources, marine biology interactions with technology and society, and interrelationships between man and the ocean environment. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Integrated Science I and II, or a Biological Science plus the Science Department Approval.

**Special Note:** NCAA

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**MARINE SCIENCE II** 1402/20025200

Credit 1 11-12

The purpose of this course is to continue in in-depth study of the marine environment. Topics will include marine geological features, ecological chains, webs and cycles, chemical and physical properties of ocean water, and the relationship between oceans and climate. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Marine Science I

**Special Note:** NCAA

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**MARINE SCIENCE II HONORS** 1404/20025300

Credit 1 11-12

The purpose of this course is to continue an in-depth advanced study of the marine environment. Topics will include marine geological features, ecological chains, webs and cycles, chemical and physical properties of ocean waters, and the relationship between oceans and climate. Laboratory activities that include the use of the scientific method, measurement, laboratory apparatus, and safety are an integral part of this course.

PREREQUISITE: Successful completion of Marine Science I plus Science Department Approval.

**Special Note:** NCAA