

# SCIENCE

*ONE CREDIT OF PHYSICAL SCIENCE AND ONE OF BIOLOGICAL SCIENCE IS REQUIRED. BIOLOGICAL AND PHYSICAL SCIENCE CREDIT COURSES ARE INDICATED BY A [BS] OR [PS] AT THE END OF EACH COURSE DESCRIPTION. STUDENTS WHO HAVE SUCCESSFULLY COMPLETED INTEGRATED EARTH SYSTEMS IN 9TH GRADE MAY TAKE EITHER BIOLOGICAL OR PHYSICAL SCIENCE COURSE TO MEET THE SCIENCE REQUIREMENT*

## **BIOLOGY (10-12) 1.00**

This course exposes students to a wide range of biological science topics in ecology, heredity, and genetic, molecular biology, diversity of life, and change through time. The science processes of observation, measurement, hypothesizing, data gathering and interpretation, analysis, and application are stressed. Career opportunities in biological science are examined. Learning activities are varied with an emphasis on students laboratory investigation. [BS]

## **HUMAN BIOLOGY (10-12) 1.00**

This is the introductory course for students interested in health care professions. Human anatomy and physiology are the main topics of the course. In addition, human evolution, human genetics and humans' impact on the environment are discussed. [BS]

## **A.P. BIOLOGY (11-12) 1.00**

Prerequisite: Biology (and Chemistry recommended) and Teacher Approval

This course is a college level biology course. Students can earn college credit by successfully completing the A.P. Biology exam and/or by registering at Dixie College. There are 12 required labs conducted at Local High School. Lab fee is required (\$35). [BS]

## **BIOLOGY: AGRICULTURAL (10-12) 1.00**

This course exposes students to the oldest and most important of all applied sciences: Agriculture. Students will study cells, plant anatomy and physiology, animal growth and development, genetics, ecology and many other principles that are related to agriculture. Areas such as the environment, food safety, and the future of agriculture will also be addressed. Career opportunities in agricultural sciences will be emphasized. The course will include field and laboratory application of science concepts taught. [BS]

## **PHYSICS: SCIENCE & ENGINE (11-12) 1.00 (POT)**

Prerequisite: Elementary Algebra (Recommended: Intermediate Algebra completed or enrolled.)

Instructional course in allied science that teaches technical principles, concept, science and math skills through lab experiences. The course includes mechanical, fluid thermal and electrical system. These systems are taught by focusing on the principles related to the work force, work, rate, resistance, energy, momentum, power, force transformers, and energy converters. *SCIENCE OR VOCATIONAL CREDIT.* [PS]

## **CHEMISTRY (10-12) 1.00**

Prerequisite: Elementary Algebra (Recommended: Intermediate Algebra completed or enrolled)

This course includes continuing application of science processes such as measurement, controlled experimentation, use of proper units, and data interpretation. [PS]

## **A.P. CHEMISTRY (11-12) 1.00**

Prerequisite: Chemistry and Teacher Approval

This is a university level Chemistry course designed to prepare students to take the A.P. Chemistry exam in the spring. This course is recommended for premed and pre-engineering students. It is a lab extensive course. The labs will be held at Dixie College. Lab fee is required (approx. \$45). [PS] *Will be taught every other year.*

## **HONORS PHYSICS II (11-12)**

**1.00**

Prerequisite: Geometry & Algebra II (or in the process). This course will use the science process skills to learn the metric system, dimensional analysis, significant digits and scientific notation to investigate the principles of physics. It covers the fields of Heat, Thermodynamics, Vibrations & Waves, Sound, Light & Reflection, Refraction, Interference & Diffraction, Electric Forces & Fields, Electrical Energy & Capacitance, Current & Resistance, Circuits & Circuit Elements, Magnetism, Induction & Alternating Current, Atomic Physics, Modern Electronics, and Subatomic Physics. This course is strongly recommended for the student who is interested in any field of science, engineering, medical or health professions, trade & technical vocations. [PS] **\*\*\*Students who complete Physics I & Honors Physics II will be prepared to take the AP Physics B Test if they desire.\*\*\***

**ASTRONOMY (10-12)****1.00**

Prerequisite: Elementary Algebra

This course will focus on (1) Astronomy: the student will learn about the Earth and its solar system as well as the Universe, its galaxies, and all other celestial objects. (2) Space Exploration: the student will learn will learn about the history and development of America's space program. It will include ancient histories and myths of space exploration, the space race with the Soviet Union, the Space stages for the exploration and landing of man on Mars. *THIS COURSE DOES NOT MEET THE SCIENCE REQUIREMENT FOR GRADUATION—IT IS ELECTIVE SCIENCECREDIT*

**SPANISH I (10-12)****1.00**

This course covers the basic vocabulary and grammar of the target language. It encourages students to become actively involved with the learning and use of the language. This course offers proficiency-based, situational, and communicative activities.

**SPANISH II (10-12)****1.00**

Prerequisite: Spanish I (incoming 10th graders must have Teacher Approval) This intermediate course is designed to expand the vocabulary, grammar, reading, and writing skills in the target language. Besides situational and communicative activities, it will provide practical language application in a proficiency-based format.

**SPANISH III (10-12)****1.00**

Prerequisite: Spanish II and Teacher Approval

This advanced course offers further communicative activities and practical language application. The course introduces the students to a variety of Spanish literature. It encourages the students to express their ideas orally, and to write accurately and fluently.

**A.P. SPANISH (11-12)****1.00**

Prerequisite: Spanish III and Teacher Approval

This course covers advanced Spanish composition, literature, and conversation stressing oral skills, composition, and grammar. It will emphasize the use of Spanish for active communication and prepares the students for the Advanced Placement Test at the conclusion of the course.

**GERMAN I (10-12)****1.00**

This course covers the basic vocabulary and grammar of the German language. It encourages students to become actively involved with the learning and use of the language. The course offers proficiency-based, situational, and communicative activities.

**GERMAN II (10-12)****1.00**

Prerequisite: German I and Teacher Approval

This intermediate course is designed to expand the vocabulary, grammar, reading, and writing skills in the German language. Besides situational and communicative activities, it will provide practical language application in a proficiency-based format.

**FOREIGN LANGUAGE**

*FOREIGN LANGUAGE IS NOT REQUIRED FOR HIGH SCHOOL GRADUATION, BUT IT IS RECOMMENDED FOR STUDENTS WHO WISH TO ATTEND A FOUR YEAR UNIVERSITY.*

**FRENCH I (10-12)****1.00**

This course covers the basic vocabulary and grammar of the French language. It encourages students to become actively involved with the learning and use of the language. The course offers proficiency-based, situational, and communicative activities.

**FRENCH II (10-12)****1.00**

Prerequisite: French I (incoming 10th graders must have Teacher Approval)

This intermediate course is designed to expand the vocabulary, grammar, reading, and writing skills in the French language. Besides situational and communicative activities, it will provide practical language application in a proficiency-based format.

**FRENCH III (10-12)****1.00**

Prerequisite: French I&amp;II (incoming 10th graders must have Teacher Approval)

This advanced course offers further communicative activities and practical language application. The course introduces the students to a variety of French literature. It encourages the students to express their ideas orally, and to write accurately and fluently.