

•SCIENCE DEPARTMENT•

The prerequisite listed for science courses are suggested prerequisites only. However, it has been the experience of the members of the Science Department that having fulfilled these prerequisites will help assure the student of a fuller understanding of the course content and will increase the student's chance of success in the course. Remember, in selecting science classes, the state requirement of "two years of a science" must be fulfilled in at least one semester in a different discipline of science. For example, Biology I and Biology II would require one more semester of another type of science.

BIOLOGY I AB

Full Year, 1 Credit/Sem.

Course Nos. 301-302

Grade Level: 9,10,11,12

Prerequisite: None

Description: An introduction to the fundamental principles and functions common in plants, animals, and micro-organisms. The structure of the living cell is related to its function. The student is introduced to genetics and ecology. Attention is given to laboratory work.

EARTH SCIENCE & SPACE SCIENCE

One Semester each, 1 Credit each

Course No. 311-312

Grade Level: 10, 11, 12

Prerequisite: Biology I AB

Description: This course will deal with the processes that are actively changing the earth such as volcanoes, earthquakes, weather, climates, and atmospheric conditions. Also included will be the study and identification of rocks, minerals, and fossils with special emphasis on natural resources and their use. In an introduction into space science, the course explores such topics as the sun, the solar system, the moon, the planets, the earth's motions, the seasons, meteorites, comets and space exploration.

INTEGRATED CHEMISTRY-PHYSICS AB

Full Year

1 Credit/Sem.

Course Nos. 321-322

Grade Level: 10, 11, 12

Prerequisite: Biology I AB, Algebra IAB (can be co-requisite)

Description: Integrated Chemistry-Physics introduces the fundamental concepts of scientific inquiry, the structure of matter, chemical reactions, forces, motion, and the interactions between energy and matter. This course will serve students as a laboratory-based introduction to possible future course work in chemistry or physics while ensuring a mastery of the basics of each discipline. The ultimate goal of the course is to produce scientifically literate citizens capable of using their knowledge of physical science to solve real-world problems and to make personal, social, and ethical decisions that have consequences beyond the classroom walls. This is a core-40 course with competencies defined.

BIOLOGY II AB

Full Year, 1 Credit/Sem.

Course Nos. 331-332

Grade Level: 10, 11, 12

Prerequisite: Biology I AB, minimum C average

Description: Biology II is a continuation of the study of Biology I. Included will be population studies, photosynthesis, cellular respiration, microevolution, and animal behavior and interactions. A significant portion of the course will be devoted to student driven research. Animals will play a significant role in the class.

ADVANCED ENVIRONMENTAL SCIENCE AB

Full Year 1 Credit/Sem.

Course No. 341-342

Grade Level: 11, 12

Prerequisite: Biology I AB, two other science credits, B or better in all; Biology II AB recommended

Description: Advanced Environmental Science is an interdisciplinary course that integrates biology, earth science, chemistry, and other disciplines. Students enrolled in this course conduct in-depth scientific studies of ecosystems, population dynamics, resource management, and environmental consequences of natural and anthropogenic processes. Students formulate, design, and carry out laboratory and field investigations as an essential course component. Students completing this course acquire the essential tools for understanding the complexities of national and global environmental systems.

CHEMISTRY I AB

Full Year, 1 Credit/Sem.

Course Nos. 351-352

Grade Level: 11, 12

Prerequisite: Biology I AB, Algebra I AB, minimum B average in both, Geometry required as at least a co-requisite

Description: A study of the composition of various substances and the way in which they interact. One or two days of lab will be scheduled per week, and approximately three days will be used in lecturing and discussions.

HEALTH CAREERS

One Semester/1 credit

Course No. 0382

Grade Level: 11, 12

Prerequisite: None

Description: Health Careers includes a core of entry level skills common to one specific health career such as patient nursing care, dental care, animal care, medical laboratory, and public health. Course content includes an introduction to health care systems, anatomy, physiology, and medical terminology. In addition, this course includes work ethics and job seeking skills such as job applications, resumes, and interviews.

ANATOMY & PHYSIOLOGY AB / ADVANCED SCIENCE SPECIAL TOPICS

Full Year, 1 Credit/ Sem.

Course No.355-356

Grade Level: 11, 12

Prerequisite: Biology I AB and Biology II AB, minimum C average, Chemistry I AB recommended

Description: A study of the make-up and function of the living human body, this course will include one to two days of lab per week. The course covers the various systems of the human organism in some detail as well as biochemistry.

PHYSICS AB

Full Year, 1 Credit Per Semester

Course Nos. 361-362

Grade Level: 12

Prerequisite: Algebra II AB, Chemistry I AB, and pre- or co-requisite of Trig/Pre-Calculus AB, C average in all.

Description: Force and motion study is introduced first with emphasis on vector quantities. Forces and machines are the next topic with emphasis on properties of matter. Sound, light, and electricity comprise the major part of study for the second semester.

ADVANCED LIFE SCIENCE: ANIMALS AB

Full Year 1 Credit/Sem.

Course No. 1221-1222

Grade Level: 10, 11, 12

Prerequisite: Biology I AB

Description: Students will investigate concepts that enable them to understand animal life and animal science as it pertains to agriculture. Through instruction, including laboratory and fieldwork, they recognize concepts associated with animal taxonomy, life at the cellular level, organ systems, genetics, evolution, ecology, and historical and current issues in animal agriculture.