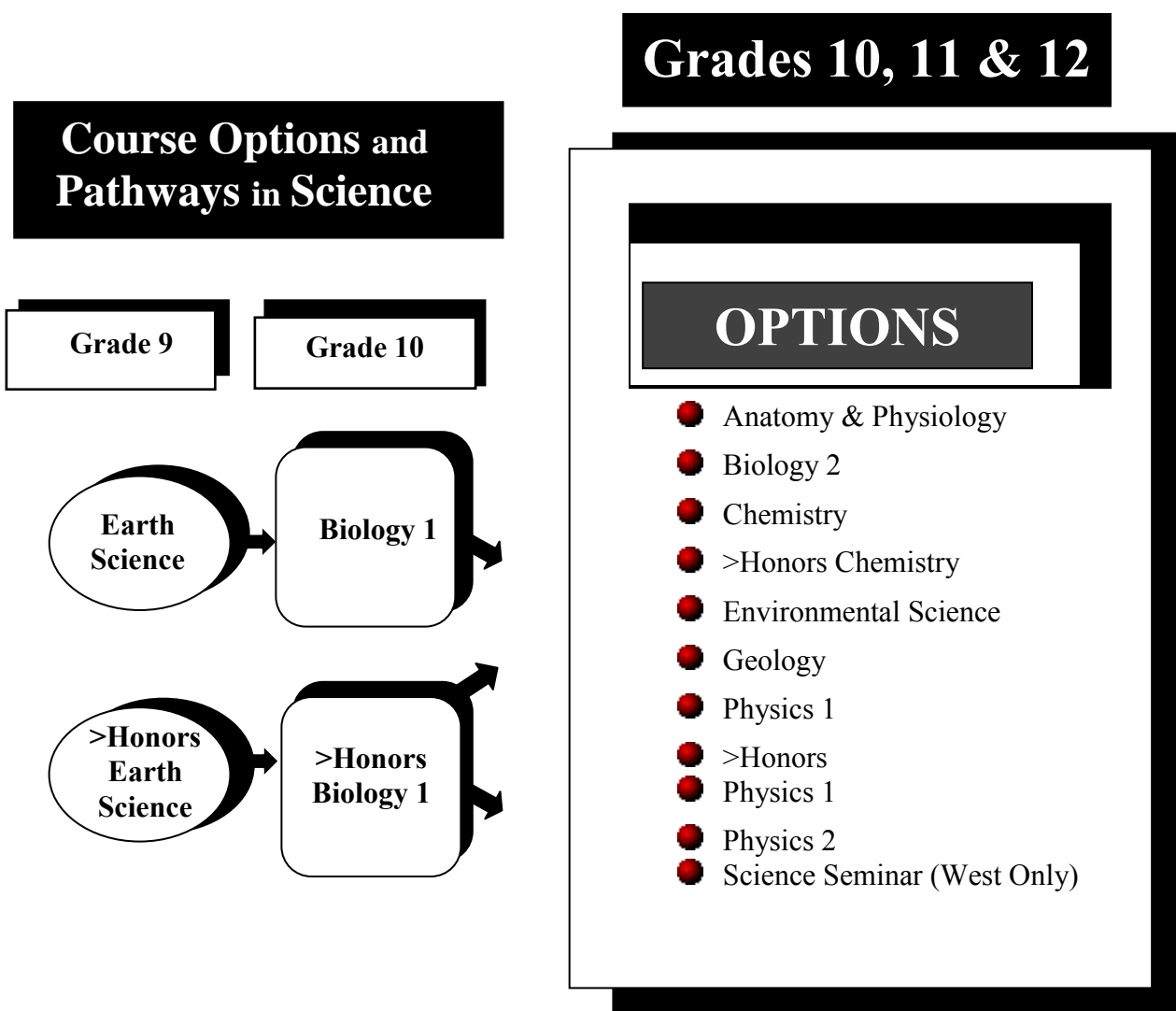


Science

Science courses allow students to gain knowledge and an understanding of the world of nature. Our lives are greatly influenced by those who study and work in science areas.

Course work can vary from the required two credits to four or more credits for those who wish to explore many disciplines of science. Whether students plan to attend college or pursue a technical career, they are encouraged to explore the sciences each year of high school.

Graduation requirements include one credit in biological science and one year in Earth science. Course offerings and suggested pathways in science are shown below.



Earth Science	Credit 1	9
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: Earth Science is a one-year laboratory course in which the students will investigate the areas of Geology, Meteorology, Astronomy and Hydrology. Earth Science will strengthen the students basic investigative skills, enhance their ability to process information, and prepare them to make rational decisions concerning man's place on Earth.

Prerequisite Courses: None

Applies Toward Graduation Requirements of: 2 Science credits

>Honors Earth Science	Credit 1	9
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: Honors Earth Science can expect a more challenging, rigorous, curriculum that focuses on greater depth of topics and concepts, higher level questions, and intrinsic motivation on the part of the student. Students will be expected to do formal laboratory write-ups, reading outside of class, and use math for data analysis.

Prerequisite Courses: Must meet established placement criteria: Must have at least a B average in Physical Science for the first three quarters, Spring Reading RIT of at least 230, Spring Math RIT of at least 244

Applies Toward Graduation Requirements of: 2 Science credits

Biology 1	Credit 1	10, 11, 12
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: This is an introductory survey course into the animal and plant kingdoms. You will study the chemical basis of life and survey the diversity of living things. The course includes dissection for the study of anatomy.

Prerequisite Courses: Earth Science

Applies Toward Graduation Requirements of: 2 Science credits

>Honors Biology 1 **Credit 1** **10**

Course Name **Semesters 1 & 2** **Grade Level**

Course Description: Honors Biology 1 can expect a more challenging, rigorous, curriculum that focuses on greater depth of topics and concepts, higher level questions, and intrinsic motivation on the part of the student. Students will be expected to do formal laboratory write-ups, reading outside of class, and use math for data analysis.

Prerequisite Courses: Earth Science and must meet established placement criteria: Spring Reading RIT of at least 232, Spring Math RIT of at least 248.

Applies Toward Graduation Requirements of: 2 Science credits

Biology 2 **Credit 1** **11, 12**

Course Name **Semesters 1 & 2** **Grade Level**

Course Description: Biology 2 has two major objectives. The first is to provide students with the opportunity to engage in a variety of lab-based activities such as recombinant DNA technology, fruit fly genetics, and river ecology. The second objective is to provide students with an in depth and up to date coverage of major biologic concepts. The motivated student will find Biology 2 to be a great help in making the transition into college level biology courses.

Prerequisite Courses: This course is designed for students who have earned credits in Earth Science and Biology I

Applies Toward Graduation Requirements of: 2 Science credits or 6 ½ Elective credits

Chemistry **Credit 1** **10, 11, 12**

Course Name **Semesters 1 & 2** **Grade Level**

Course Description: The chemistry course presents a modern approach to the principles of chemistry at a level suitable for the majority of high school students. The course has been developed within the framework of certain unifying concepts such as the chemical bond, the structure of matter, the matter-energy relationships, the periodicity of elements, the mole concept, chemical notation, the behavior of matter in terms of acidity, oxidation-reduction, chemical reactions, stoichiometry and chemical equations. The student is encouraged to think independently and exercise original reasoning.

Prerequisite Courses: This course is designed for students who have earned credits in Earth Science and Biology. Students may take this class if they have completed Algebra 1 and Algebra 2 with a “C” grade or better, or have completed Algebra I with a “C” grade or better and are concurrently enrolled in Algebra 2.

Applies Toward Graduation Requirements of: 2 credits in Science or 6 ½ credits in Electives

>Honors Chemistry	Credit 1	10, 11, 12
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: >Honors Chemistry is a first year course with emphasis on mathematical concepts in Chemistry. It covers the same topics as Chemistry and develops problem solving skills. In addition to an in depth study of the core curriculum, students will explore additional topics and labs.

Prerequisite Courses: This course is designed for students who have earned credits in Earth Science and Biology with a “B” grade or better and completed Algebra 2 with a “B” grade or better. Students may take this class if they are concurrently enrolled in Algebra 2 and have completed Algebra 1 with a “B”.

Applies Toward Graduation Requirements of: 2 Science credits or 6 ½ Elective credits

Geology – Skyview & West	Credit 1	11, 12
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: Geology focuses on mineral and rock development and how natural forces cause these materials to develop the many landforms found on earth. Topics of study include rocks and minerals, erosion, sedimentation, glaciers, volcanoes, earthquakes, plate tectonics, map reading, and interpreting earth’s history. Local, state, and national sites of geologic significance and current geologic events will be explored.

Prerequisite Courses: Completed Earth Science and Biology with a “C” or better. Not a replacement course for Earth Science.

Applies Toward Graduation Requirements of: 2 Science credits or 6 ½ Elective credits

Environmental Science	Credit 1	11, 12
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: Environmental Science is designed to enhance the student’s understanding of basic ecological principles and how they relate to the human situation. Students will explore such topics as endangered species, water and air quality, global warming, the greenhouse effect, and population. They will be challenged with field experience, hands-on investigations and research activities. Guest speakers may include professional scientists and local experts. At times the class will meet off campus to do field study.

Prerequisite Courses: This course is designed for students who have earned 2 science credits, one of which must be Biology. Each semester covers different topics. Students may elect to take one or both semesters.

Applies Toward Graduation Requirements of: 2 Science credits or 6 ½ Elective credits

Human Anatomy & Physiology	Credit 1	11, 12
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: This course provides a comprehensive and introductory level approach to the structure and function of the human body. A lecture/laboratory format is used to study the major systems of the body with an attempt to integrate anatomy and physiology in a way that reinforces the inseparable relationship between structure and function. The course is designed for those students considering careers in allied health fields. Students may elect either or both semesters. Students who are enrolled in Medical Careers or Sports Medicine are encouraged to take this course second semester. Otherwise, it is recommended to take this course both semesters. At times the class will meet off campus to do field study.

Prerequisite Courses: Biology1, Chemistry

Applies Toward Graduation Requirements of: 2 Science credits or 6 ½ Elective credits

Physics 1	Credit 1	11, 12
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: Physics 1 is a full year laboratory science elective. This course introduces the application of simple mathematics to the concepts of mechanics, thermodynamics, waves, light, sound, and electromagnetism.

Prerequisite Courses: Completed Algebra 2 or currently enrolled in Algebra 2

Applies Toward Graduation Requirements of: 2 Science credits or 6 ½ Elective credits

>Honors Physics 1	Credit 1	11, 12
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: Topics covered will be much the same as in the regular physics course, but each topic will be covered in more depth and with more emphasis on the use of math skills in problem solving. The laboratory experiments will, in general, be more sophisticated.

Prerequisite Courses: Algebra 2

Applies Toward Graduation Requirements of: 2 Science credits or 6 ½ Elective credits

Physics 2	Credit 1	12
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: Further study of the fields of physics involving, but not limited to the areas of fluids, solids, special relativity, thermodynamics, light, optics, lasers, holography, nuclear reaction and electromagnetism. Students will participate in several projects that require application of topics discussed in class. Opportunities for study of personal interest and career opportunities will be provided.

Prerequisite Courses: Physics 1

Applies Toward Graduation Requirements of: 2 Science credits or 6 ½ Elective credits

Senior Science Seminar Class - West Only	Credit 1	12
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Course Name	Semesters 1 & 2	Grade Level
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Course Description: The Senior Science Seminar Class is designed to provide a forum for students to engage in meaningful dialogue over a wide range of topics that involve the natural, physical, behavioral, and social sciences. Based on Socrates' theory which states that it's more important to enable students to think for themselves than to merely fill their heads with right answers, the instructors' roles will be more to facilitate discussion and learning rather than fill the students' heads with information. Dialogue rather than debate is needed and advanced preparation through reading, written reflection, and thought will be essential for growth in knowledge and learning.

Only offered early morning

Prerequisite Courses: Minimum GPA 3.0 and three years of science

Applies Toward Graduation Requirements of: 2 Science credits or 6 ½ Elective credits