

## AFHS SCIENCE DEPARTMENT COURSE OFFERINGS

<b>Must complete at least 3 credits – 2 credits from 2 different cores and 1 from any category for graduation</b>				
<b>Earth Science Core</b>	<b>Biological Core</b>	<b>Chemistry Core</b>	<b>Physics Core</b>	<b>Computer Science Core</b>
<ul style="list-style-type: none"> <li>● Earth Science</li> <li>● AP Environmental Science</li> </ul>	<ul style="list-style-type: none"> <li>● Biology</li> <li>● AP Biology</li> </ul>	<ul style="list-style-type: none"> <li>● Chemistry</li> <li>● Chemistry 1010</li> <li>● AP Chemistry</li> </ul>	<ul style="list-style-type: none"> <li>● Physics</li> <li>● AP/Honors Physics</li> </ul>	<ul style="list-style-type: none"> <li>● Computer Programming 2A/Computer Programming 2B</li> <li>● Computer Science Principles</li> <li>● AP Computer Science Principles</li> </ul>

<b>AP Science Classes</b>	<b>Concurrent Enrollment (CE) Science classes</b>	<b>Science Electives</b>	<b>Sciences classes that can be counted for CTE <u>or</u> Science credit</b>
<ul style="list-style-type: none"> <li>● AP Environmental Science</li> <li>● AP Biology</li> <li>● AP Chemistry</li> <li>● AP/Honors Physics</li> </ul>	<ul style="list-style-type: none"> <li>● BioTechnology</li> <li>● Chemistry 1010</li> <li>● AP Environmental Science</li> <li>● AP Biology/1610</li> </ul>	<ul style="list-style-type: none"> <li>● Animal Science</li> <li>● Astronomy</li> <li>● BioTechnology</li> <li>● Pre-Engineering</li> <li>● Principles of Engineering</li> <li>● Geology</li> <li>● Medical Anatomy &amp; Physiology</li> <li>● Medical Forensics</li> <li>● Plant Science</li> <li>● Zoology/Botany</li> </ul>	<ul style="list-style-type: none"> <li>● BioTechnology</li> <li>● AP Environmental Science</li> <li>● Engineering Principles</li> <li>● Plant Science</li> <li>● Animal Science</li> <li>● Medical Anatomy &amp; Physiology</li> <li>● Medical Forensics</li> </ul>

- **Advanced Science Projects** - In this class students will do chemistry, biology and physics experiments. Scientific instrumentation and technique will be emphasized. The students will complete their own science experiment and will compete in local (and national) scientific contests.
- **AP Biology (AP and/or CE)** - This is a laboratory, field work, and lecture course. It is a good choice for a student who anticipates a career in science or medicine. Students can register for concurrent enrollment (Bio 1010/1015) through UVU.
- **AP Chemistry** - This course is structured around the six big ideas articulated in the Chemistry AP curriculum framework provided by the College Board; structure of matter, properties of matter, chemical reactions, rates of chemical reactions, thermodynamics, and equilibrium.
- **AP Environmental Science (AP and/or CE)** - This course will emphasize interactions between ecosystems, population dynamics, field studies, identifying and analyzing environmental problems, evaluating risks such problems cause, and examining solutions for resolving or preventing such problems.
- **Astronomy** - Astronomy is the study of the entire universe-from our small solar system out to the farthest-reaching galaxies. In this class we will cover a wide range of topics including: the lunar landings, the Big Bang, and why Pluto is not a planet!
- **Biology** - In this course students learn how to do science by studying the living world. Topics include cell structures and processes, heredity and genetics, plant and animal organ systems, ecology, and evolution. Class time involves discussions, laboratory, demonstrations, student reports, videos, and discussion of current events.
- **Biotechnology (CE)** - Biotechnology is the science of using biological techniques to develop new products and procedures. This extensive lab-based class will expose students to basic chemistry, manipulation of DNA and protein and development of commercial products using this technology.
- **Chemistry (CE option with Mr. Adamson only)** - This course applies scientific methods to understand matter, atomic structure, periodic law, compound formation, and chemical reactions. Discussions, demonstrations, reading, and laboratory experiments are used.
- **Earth Science** - Earth Science is an integrated science course which focuses the topics of Astronomy, Geology, Meteorology, and Hydrology. With each of those we look at how life is affected by these and what effect we have on the earth.
- **Geology** - This course will explore deeper into earth science's introduction of the geosphere. Each term will dig into Earth's origins, identifying rocks and minerals, plate tectonics, natural hazards, geologic mapping, and what shapes our world.

- **Physics** - This is an introductory course in Physics and takes the place of the no-longer offered Physics with Tech/Conceptual Physics class. Physics concepts range from force, work, energy, power, and motion. Physics is a math-based science; therefore, Physics would be a good choice for students who would struggle with higher math concepts of regular Physics. Students should have good Secondary Math 1 skills to be successful.
- **Honors/AP Physics** - This Physics class is a math intensive science that looks at classical motion in the real world. Students will study topics including motion, mechanics, Newton's Laws, forces and energy. This class differs from regular physics in that it is math intensive. This physics course will prepare you for a college level science or physics class. Students taking this course should be comfortable with Algebra, Geometry, and Trigonometry. This class is not Calculus based, but will expose students to its uses. At the end of the year students will have the option of taking the AP Physics 1 Test.
- **Medical Anatomy & Physiology** - The class will examine the normal structure of the human body. The student will develop a working knowledge of homeostasis and pathology. This class is a must for any student going into professions such as nursing, physical therapy, medicine, or dentistry.
- **Medical Forensics** - This course focuses on introductory skills and assessment in order to develop the ability to identify, analyze, and process logically using deductive reasoning and problem solving. Medical Forensics involves many aspects of health science instruction including laboratory skills and safety, microscopy, toxicology, measurements, physical evidence identification, pathology, anthropology, entomology, psychology, blood spatter analysis, and career exploration.
- **Pre-Engineering (now known as Engineering 1&2)** - Engineering scope, content and professional practices are presented through practical applications. Students in engineering teams apply technology, science, and mathematics concepts and skills to solve engineering design problems and innovative designs. Emphasis will be given to each of the major disciplines of engineering: civil, mechanical, chemical, and electrical. Robotic Engineering will also be a big part of the curriculum.
- **Principles of Engineering** - This class is a **basic introduction** to engineering that **any** student can take. For those students truly interested in going on to an engineering field, please consider taking the Engineering 1&2 class instead. Engineering scope, content and professional practices are presented through practical applications.
- **Zoology/Botany** - Zoology/Botany is designed for students who enjoy life science and want to learn more about plants and animals. Students will investigate plant and animal phyla and major classes through class discussions and lectures, hands-on activities, and dissections. Students will also participate in insect and plant collections.