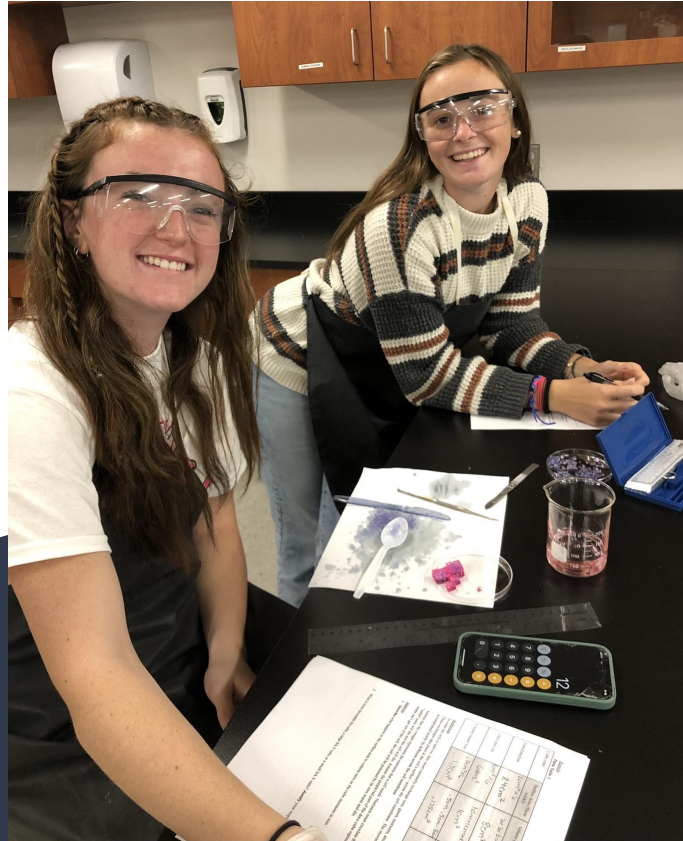


# ConVal Science Course Electives



# Chemistry

## Course Topics include:

- Atomic Structure
- Chemical Bonding
- Names and Formulas of Chemical Compounds
- Writing and Balancing Chemical Equations
- Chemical Reaction Types
- Calculations involving Chemical Quantities

Students deepen their understanding of atomic structure and apply it to predict the outcomes of chemical reactions.

## Prerequisites:

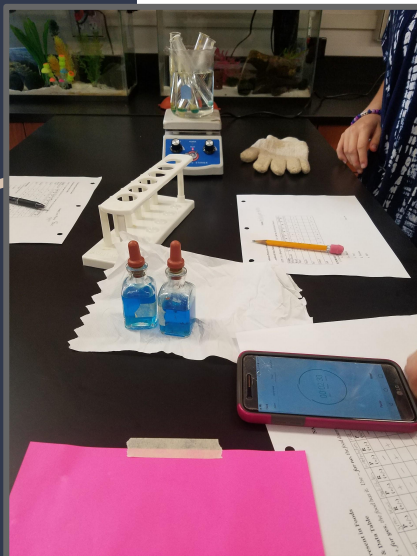
- Physical Science
- Algebra I

## Course Emphasis:

- Problem Solving Skills
- Experimental Chemistry Techniques

## Skills Required:

- Time Management
- Algebraic Thinking - Major emphasis is placed on using math to understand Chemistry concepts



# AP Chemistry

(Advanced Placement)

Equivalent to college level General Chemistry I & II

AP Chemistry Exam preparation

Year long course  
2 credits



Students extend their knowledge of chemistry through laboratory exercises and mathematical calculations to prepare for college science courses.

## Prerequisites:

- Honors Chemistry or Chemistry with Teacher Recommendation
- Algebra II
- Honors Biology (*recommended*)

## This is a Lab Based Course

Laboratory work and demonstrations supplement the lecture portion of the class.

# Anatomy & Physiology I

Demanding course ideal for students interested in a career in a health-related field.



Students explore systems of the human body through individual and group projects

**Prerequisites:**

- Biology
- Teacher Recommendation

**Study** and **Time Management Skills** are necessary.

**Course Topics Include:**

- Organization of the Body
- Medical Terminology
- Histology (*Body Tissues*)
- Body Systems (*Integumentary, Skeletal, Muscular, Nervous*)
- Disorders and Diseases
- Brain, Eye, and Cat Dissections

# Anatomy & Physiology II

Demanding course ideal for students interested in a career in a health-related field.



Students explore systems of the human body through individual and group projects.

## Prerequisites:

- Biology
- Teacher Recommendation

**Study** and **Time Management Skills** are necessary.

Can be taken before or after A&P I

## Course Topics Include:

- Body Systems (*Endocrine, Blood and Lymph, Cardiovascular, Respiratory, Digestive, Urinary, Reproductive*)
- Disorders and Diseases
- Health Occupations
- History of Medicine
- Heart, Kidney, and Cat Dissections



# Physics

## Course Topics include:

- Velocity and Acceleration
- One Dimensional Motion
- Two Dimensional Motion
- Force, Gravity, and Friction
- Momentum
- Energy
- Work
- Sound



Student explore topics through numerous hands-on investigations and mathematical problems.

## Prerequisites:

- Physical Science
- Algebra II
- Geometry

## Skills Required:

- Rearranging Algebraic Expressions
- Identifying Congruent Triangles
- Time Management

# AP Biology

*(Advanced Placement)*

**Equivalent to college level General Biology I & II**

**AP Biology Exam preparation**

**Year long course, 2 credits**



## **Prerequisites:**

- Honors Biology or Biology with Teacher Recommendation
- Chemistry or Honors Chemistry → may be taken concurrently with Teacher Permission

A minimum of 25% of the course is laboratory investigations

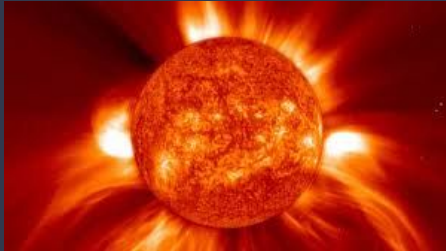
## **Course includes:**

- Laboratory Investigations ( $\geq 25\%$  of the course)
- Lecture Notes
- Group Projects
- Reading & Problem Solving Assignments

# Earth & Space Science

## Course Topics include the Fundamentals of:

- Formation of the Universe
- Big Bang Theory
- Formation of stars and solar systems
- Earth Systems and Interactions
- Climate Science
- Sustainability



## Prerequisites:

- Physical Science
- Biology recommended but not required

## Skills Reinforced:

- Time management
- Collaborative Team Member
- Effective Communicator

**Student explore topics through numerous research investigations and projects.**





# Environmental Science

Ideal for students curious about humans' connection to the environment and those interested in a career in a related field.

## Course Topics include:

- Tragedy of the Commons
- Atmospheric Science
- Ecology
- Risk, Exposure, and Health
- Environmental Policy

Students learn about humans' positive and negative impacts on the environment through projects and laboratory exercises.

## Prerequisites:

- Biology

**Time Management** is a necessary skill.

There is an outdoor component of this course; some classes will be outside, even in cold weather.

**Dual credit through Running Start option for Juniors and Seniors**



# Oceanography

Ideal for students curious about the ocean and those interested in a career in a related field.

## Course Topics include:

- The Physical, Chemical, Geological, and Biological Aspects of Oceans
- Ocean dynamics
- Pollution
- Climate Change
- Ocean and Human Interactions

Students learn about ocean ecosystems and how humans and the ocean influence each other through projects and laboratory exercises.

### Prerequisites:

- Biology

Expect to do many projects and to maintain a blog.

Students should expect to communicate and collaborate frequently, conduct research, problem solve, and perform specimen dissections.



# CVHS SCIENCE

We hope you explore more science topics with us and sign up for some amazing electives!



## Elective Offerings:

- Chemistry
- Honors Chemistry
- AP Chemistry (full year)
- Anatomy & Physiology I & II
- Physics
- AP Biology (full year)
- Earth & Space Science
- Environmental Science
- Oceanography