

**Hawthorne Valley Waldorf School
High School Main Lesson Blocks
2017-18**

Grade 9 - *History through Art*

The History through Art block is an overview of the primary visual arts, mostly painting and sculpture, from pre-historic times to the Renaissance. Slide images are included in the presentations. The block book consists of drawings, text, and diagrams, with value is put on efforts made by the students towards aesthetic appearance, graphic design, and written content. This course serves as an introduction to art appreciation, while following cultural development through active observation of masterpieces and recognition of the critical transitions between historical periods. The block ends with a review test.

Instructor: Patrick Stolfo
Course Dates: October 2-27
Cost: \$720

Grade 9 – *Thermodynamics (Physics)*

The 9th grade explores the fundamentals of thermodynamics beginning with an investigation into the nature of heat and how it may be measured and quantified. Heat transfer, its effects on materials (expansion and contraction), the principle of bimetal and liquid-in-glass thermometers.

Instructor: John Cronin
Course Dates: October 30 – November 21
Cost: \$640

Grade 9 - *Tragedy & Comedy*

The block begins with a look at the two fundamental human emotions of laughing and crying and how they relate to tragedy and comedy. After studying the origins of Drama, the class reads Oedipus Rex by Sophocles. Next, the class shifts its focus toward drama in ancient Rome, then studying the four temperaments and how they influenced drama, especially comedy. William Shakespeare's Romeo and Juliet end the block.

Instructor: Eric Mueller
Course Dates: November 27 – December 22
Cost: \$800

Grade 9 - *American Literature*

Course description coming soon.

Instructor: James Thompson
Course Dates: January 8 – 26
Cost: \$560

Grade 9 - Organic Chemistry

In our study of chemistry, we explore the activity and relationships of substances. Throughout this exploration, we try to keep in mind: Where does this occur in Nature? Where does this occur in the human being? Where does this occur in technology? Our focus is Organic Chemistry– the substances and nutrients created by living systems and including carbon. We study the chemistry of plant development and photosynthesis, sugars and other carbohydrates, as well as lipids, proteins, alcohols, and esters. Through demonstrations and experiments we make observations and arrive at some basic conclusions.

The content of ninth grade chemistry is an introduction to organic chemistry and an experience of performing and designing experiments. We began with photosynthesis and studied the carbohydrates including sugars, alcohols, acids, aldehydes, ketones and esters. Students perform experiments in small lab groups and then begin to design experiments based on the techniques they have learned.

Instructor: Candace Christiansen
Course Dates: January 29-February 15
Cost: \$560

Grade 9 – Anatomy & Physiology

In this block, we consider the natural context of the human body and begin to explore the interaction between function (physiology) and form (anatomy). We study comparative anatomy of representative animals to deepen our understanding of human biology, and use drawing and modeling of structures and organs to artistically and physically experience nuances of form. In addition to reviewing the bones, we study muscles, the brain and nervous system, and other organ systems.

Instructor: Simon Frishkoff
Course Dates: February 26-March 16
Cost: \$600

Grade 9 – Geology

In this block, we look at the processes of physical geology that shape and mold the earth. During the course of our study, we examine the changing picture of how and why the earth was formed, from antiquity to the present theory of Plate Tectonics. We study the biography of geologists and learn how their observations and insights evolved into our current understanding of the earth. We do some local fieldwork during our main lesson and examine some geological processes and phenomena in the vicinity of Hawthorne Valley. The students do independent research on various topics related to geology and present their research to the class. The class culminates with a week-long geology field camp where the students do fieldwork, lab work, and geologic mapping.

Instructor: John Cronin
Course Dates: March 19 – April 20
Cost: \$720

Grade 9 – *Modern History*

This block explores 20th century history from an American point of view, with a focus on Europe. Topics include industrialization and the worker, immigration, the end of European aristocracy, WWI, the Depression, WWII, the Holocaust, and the Cold War, which we study through readings, photographs, film, and biography. Assignments include expository and creative writing, maps, and artistic work.

Instructor: Jennifer Kenyon
Course Dates: April 23 – May 11
Cost: \$600

Grade 9 – *Probability & Statistics*

Students in this course are instructed in the fundamental concepts of probability. We begin with a study of the fundamental counting principle, which leads to permutations, combinations, and, finally, probability. Throughout the block, students are informed about different games of chance and the means for discovering the mathematical methods that determine outcomes. The class also makes a brief study of statistics and methods of graphing.

Instructor: Brett LaFave
Course Dates: May 21 – June 8
Cost: \$560

Grade 10 – *Geometry of Conics*

The block begins with the golden mean and the curve formed by its whirling squares. The conic section curves are first discovered as loci of fixed distances and drawn as curves of addition and subtraction. Then, these same curves are discovered within cuts of the cone. The introduction of the parabola is followed by a discussion of Rene Descartes and his methods. The students are then introduced to the Cartesian coordinate plane including the equations for lines, parabolas, circles and ellipses.

Instructor: Brett LaFave
Course Dates: October 30 – November 21
Cost: \$640

Grade 10 – *Ancient History*

Humanity's relationship to the land is emphasized as the class explores the early river valley civilizations of Mesopotamia, Egypt, and China, covering the time period of 10,000 BCE – 200 CE. Developments in technology, culture, religion, and government are studied through shifts in human consciousness, beginning with the hunter-gatherer and moving on to the birth of agriculture, settlement of first communities, the Sumerian city-state, and technological

innovation in Egypt and China. Students examine primary source materials, including myths, laws, maps, treaties, art, and artifacts.

Instructor: Jennifer Kenyon

Course Dates: November 27 – December 22

Cost: \$800

Grade 10 – *Inorganic Chemistry*

The 10th grade chemistry block focuses on the nature and relationships of salts, acids and bases. The block starts with a look into the character of substances in crystalline form. Properties of solutions and the processes of dissolving and crystallizing salts in water are explored. The phenomenon of osmosis is explored. A variety of salts are observed and tasted. This is followed by a deeper investigation into the nature of salts by the thermal decomposition of copper sulfate, calcium nitrate and other salts into their formative acid and base components. Acidic and alkaline characteristics are qualitatively explored along with an introduction to the pH scale. The class finishes with observations of some reactions between acids, bases and salts in solution and some of the phenomena associated with electrolysis.

Instructor: Candace Christianson

Course Dates: January 8 – 26

Cost: \$560

Grade 10 – *Mechanics (Physics)*

Grade 10 physics is the study of mechanics. Students work with forces, resultants, equilibrants, resolution of forces, and moment. The class spends a significant amount of time with the topics of balance and equilibrium. Our work continues with motion, speed, acceleration, and Newton's three laws. Students spend time on various mathematical models, including distance, time, velocity and work, power, and energy. The block concludes with independent investigations of simple machines.

Instructor: Abe Madey

Course Dates: January 29-February 15

Cost: \$560

Grade 10 – *Poetry*

Against the background question of "What is poetry?" and the ongoing attempt to characterize its nature, we traverse the changing consciousness of humankind through the centuries by studying poetry. Along with this literary and historical study, the students are taught the technical aspects of meter and rhythm and are required to write poems in the styles of many of the periods covered. Special attention is given throughout to developing metaphoric imagery. This block is both a survey and an opportunity for exercising the poetic ear and voice.

Instructor: Peter Elliston

Course Dates: March 26- April 20

Cost: \$520

Grade 10 – Ecology

Course description coming soon.

Instructor: Simon Frishkoff
Course Dates: April 23 – May 11
Cost: \$600

Grade 10 – Government

This civics block explored the foundations and processes of United States government. Students followed the evolution of democracy from its beginnings in Ancient Greece, through The Roman Republic and The Enlightenment to the founding of the United States. Our study culminated with an in-depth look at U.S. government today. Topics included: The Constitution, The Bill of Rights, the Executive Office, the Legislative Branch, the Judicial Branch and the election process.

Instructor: Jennifer Kenyon
Course Dates: May 21- June 8
Cost: \$560

Grade 11 – History Through Music

In studying history through music, the class goes as far back as possible to the so-called “primal” beginnings, after which the group slowly moves through the respective eras until reaching the 20th century. Students see how music is a fascinating reflection of the development of human consciousness. The course includes listening, playing and singing a great variety of music.

Instructor: Eric Mueller
Course Dates: October 2-27
Cost: \$720

Grade 11 – Embryology (Biology)

In this course, the first week is spent reviewing the embryology studied in tenth grade, discussing heredity, and learning about the science of genetics, beginning with Gregor Mendel’s mathematical models of plant trait inheritance. Students delve deeper into genetics the second week, learning about Watson and Crick’s discovery of the molecular structure of DNA and the genetic code.

Instructor: Simon Frishkoff
Course Dates: October 30 – November 21
Cost: \$640

Grade 11 – *Electricity and Magnetism (Physics)*

The block begins with a review of magnetism in the context of permanent magnets and the development of the concept of fields. Electromagnetism and its applications are discussed along with the general principles of the electric motor and generator. Throughout the block the students observe and participate in demonstrations which are followed by discussions as the general concepts in electricity and magnetism are developed in class.

Instructor: Abe Madey

Course Dates: November 27 – December 22

Cost: \$800

Grade 11 - *Parzival*

Wolfram von Eschenbach's epic *Parzival* is a literary masterpiece dating back to the Middle Ages. The encounters and adventures of Parzival all relate to particular stages of development that are universally human. During the course, the class connects the stages of his journey to the modern human being, determining whether there are indeed valid correlations.

Instructor: Eric Mueller

Course Dates: January 8 – 26

Cost: \$560

Grade 11 – *Projective Geometry*

The study of projective geometry is the culmination of the high school geometry curriculum. It begins by reviewing the fundamental elements of point, line and plane and their interdependent relationships. Geometric shapes are considered when one or more of the points of a given form are moved to infinity. The principle of duality and various examples are discussed and drawn. These include classic constructions such as Pascal's Line, Brianchon's Point and the Theorem of Pappus and its dual. The work continues with numerous constructions which illustrate various aspects of Desargues' Two Triangle Theorem. The culmination of the block is work with perspectivity and projectivity including the generation of both point and line based conics.

Instructor: Brett LeFave

Course Dates: January 29 – February 15

Cost: \$560

Grade 11 – *Astronomy*

The goal of this astronomy class is to offer the opportunity for the students to develop a deep appreciation of the beauty, mystery, and immensity of the universe we live in. In order to accomplish this, an observational approach is taken. The students learned the rhythms of the sky from day to day and from season to season. They also learned the constellations and other important landmarks of the sky. We also looked for the many connections between the cosmos and life on Earth. This is accomplished through both classroom instruction and nighttime observation.

Instructor: John Cronin
Course Dates: February 26 – March 16
Cost: \$600

Grade 11 – *Medieval History*

This course explores the social, economic, and political factors leading to the inward impulse of medieval consciousness. Beginning with the fall of the Roman Empire, our study includes the great migrations, monasticism, the Carolingian Renaissance, the rise of Islam, the Crusades, Feudalism, the Magna Carta, the Black Plague, and the rebirth of classical knowledge through trade routes.

Instructor: Jennifer Kenyon
Course Dates: March 19-April 20
Cost: \$720

Grade 11 – *Romantics*

This course examines the impulse behind the Romantic revolution in literature and poetry, looking at the preceding Age of Reason against which the Romantics rebelled. Students also enjoy the opportunity to create their own poetry, inspired by the style and themes of the poets we study.

Instructor: Peter Elliston
Course Dates: April 23- May 11
Cost: \$600

Grade 11 – *Shakespeare*

In this block, the 11th grade studies a work by Shakespeare and often performs scenes. In class students take parts and participate in reading speeches and scenes. Written assignments may include: writing Shakespeare's biography; paraphrasing some soliloquies; creating a diary entry or letter from a character in the play; writing short papers on character analyses or motivations written in class; and writing an analytical paper.

Instructor: James Thompson
Course Dates: May 21- June 8
Cost: \$560

Grade 12 – *Transcendentalism*

Students study the writings of R.W. Emerson, Henry David Thoreau, Walt Whitman and Emily Dickinson among others, in the context of the nineteenth century Transcendentalist movement in New England, writing reflections and poems inspired by the works of these writers.

Instructor: Jennifer Kenyon
Course Dates: October 2-27
Cost: \$720

Grade 12 – Economics

The Senior Economics block explores the foundations and main features of economics, the production, distribution and consumption of goods and services. In addition to traditional economic theories and systems, this includes an investigation into new and creative economic ideas and models that could promote a healthier, more balanced society. As a framework for understandings, the class develops a picture of the three spheres of society – economy, government, and culture, and explored the possibilities for healthy boundaries and relationships between these spheres. The class focuses on aspects of the modern economy including land, labor, and capital; forms of ownership; globalization; and more. Students also take a historical and contemporary look at money and finance. The block is supplemented by readings and small group discussions, video clips, field trips, independent research, and guest speakers.

Instructor: Martin Ping

Course Dates: October 30 – November 21

Cost: \$640

Grade 12 – Optics

The interaction of light and our sense of sight provide us with important input to help us navigate the world we live in. In this main lesson we investigated how these two fascinating aspects of our environment work together. We studied the anatomy of the eye, the sense of perception, and how these two aspects of sight work together to illuminate our world. We then studied the laws of refraction and reflection and how light travels. The students were responsible for keeping a graphic journal. This document included the class notes, descriptions and illustrations of class demonstrations and exercises, and the students' reflections on each class.

Instructor: John Cronin

Course Dates: November 27 – December 22

Cost: \$800

Grade 12 – World History

This block examines 20th century World History with an emphasis on American political and social involvement in a changing global world. Students explore the World Wars, the Reform Movements, the Cold War, the Vietnam War, the media, and contemporary issues around Israel, Palestine, and Africa. The class utilizes primary source material, biography, and classroom discussions.

This block explores historical phenomenon occurring in a post WWII world with a focus on human rights. The study is thematic and *topics* included: the Cold War, Korea, Vietnam, civil rights, genocide, terrorism, and globalization. Participation in class activities and discussions is crucial. In addition, students are responsible for three major written assignments of their choice, including a student-conducted interview with an individual able to share significant memories of a historical event or era.

Instructor: Jennifer Kenyon

Course Dates: January 8 – 26

Cost: \$560

Grade 12 – *Faust*

Goethe's *Faust* deals with the themes of evil and knowledge. This block offers an introduction not only to this monumental tragedy, but also to the life and work of one of the most prolific thinkers of the post Renaissance era. A thorough understanding of *Faust* gives students the tools to understand current events with greater awareness. In studying *Faust*, the class concentrates on Goethe's unique treatment of the theme of evil, which runs throughout the play. A large part of the lessons is devoted to relating the contents of *Faust* with contemporary issues.

Instructor: Eric Mueller

Course Dates: January 29 – February 15

Cost: \$560

Grade 12 – *Biochemistry*

Twelfth grade chemistry begins with a macro view of matter in observing Brownian motion. The focus then shifts to the atomic level and the class explored various aspects of the structure of the atom. The nature of electrons and their configuration around the nucleus is discussed in the context of the periodic table. The topic of nuclear chemistry is explored at the conclusion of the block including radioactive decay, the half-life concept and nuclear fission. The basic design of a nuclear power plant is also covered.

Instructor: Candace Christiansen

Course Dates: February 26 – March 16

Cost: \$600

Grade 12 – *History Through Architecture*

This course is an overview of the development of architecture from pre-historic building methods to modern trends. Each student is responsible for putting together a cohesive main lesson book that briefly characterizes this evolution verbally and pictorially.

Instructor: Patrick Stolfo

Course Dates: March 19 – May 4

Cost: \$680