

**Rudolf Steiner School of Ann Arbor
High School Scope and Sequence**

2022-23

The High School Program

Overview

On the Pontiac Trail campus, the Rudolf Steiner High School of Ann Arbor program offers ninth through twelfth grade. Specialist teachers in life science, chemistry, physics, mathematics, history, literature, art, vocal music, instrumental music, movement, Spanish, German, eurythmy and drama provide both main lessons and subject lessons through the year. The curriculum each year is supplemented with a variety of activities and clubs (from drama productions to yearbook to hiking club), and annual class trips. Students are also formally supported in their preparation for college through both classroom lessons and individual counseling sessions.

The purpose of the High School is to prepare students to meet the challenges of the rapidly changing world of the 21st century. It is not enough to teach today's skills and today's knowledge; rather, we must awaken in students the capacities they will need to learn new skills and gain new understanding throughout their lives: capacities for sound judgment, critical thinking and an abiding interest in the world and in learning. Moreover, we must help them to gain an awareness of themselves and others, out of which can arise sound moral judgment and the ideals that give our lives meaning and purpose.

There are three basic types of High School courses. Main lesson blocks are the heart of the curriculum, where subjects are taught in three- to four-week long blocks of two-hour classes daily. Year-long classes are those taught from September to June on a regular schedule during the week. Math and language, music, chorus, movement and art classes all fit into this format. The final group of classes taught at the High School is subject classes. These are classes taught as secondary blocks, from eight to twelve weeks in length, of three periods a week. Periods are 45 minutes in length. Each student at the High School receives the following classes each week:

- Year-long mathematics class, four single periods a week (M-Th)
- Year-long world language class, four single periods a week (M-Th)
- Main lesson, five days a week, two periods a day (M-F)
- Instrumental music, a single period two days a week (M,W)
- Choral music, a single period two days a week (T,F)
- Art classes, two double periods a week
- Movement class, one period a week
- Healthy Living Classes – Life skills, one period a week
- Subject Class one, three single periods a week
- Subject Class two, three single periods a week

In the sciences, which are taught primarily in the laboratory and in the field, observation and experimentation with the phenomena are the basis for the development of the laws and theories that

modern scientists use to make sense of their observations. In the humanities and social sciences, students are taught using primary source materials: the original versions of the great works of literature, and original historical documents. Writing is an important part of the curriculum in all subject areas as students keep notes, laboratory records and journals of their observations and use them to write reports, essays and poetry, creating in each case a document summarizing not only the content of the course but also their own understanding of it. Work in the arts supports the academic curriculum by developing the capacity to solve problems creatively.

Through the creative arts we aim to help students cultivate imaginative thinking, perseverance, and attention to detail. Practicing the performing arts develops self-discipline, focus, and the ability to work effectively in a group. Through these means we strive to attain the goal set forth by Rudolf Steiner in 1919 at the founding of the first Waldorf school: "Our highest endeavor must be to develop free human beings, who are able of themselves to impart purpose and direction to their lives."

Grade Nine

Ninth grade is a time of transition as students adjust to the academic challenge of a high school curriculum and a new class is formed, as students from the Lower School join together with students who are new to the Rudolf Steiner School of Ann Arbor. Intellectually, ninth graders are ready to meet a rich academic and arts curriculum, while emotionally they are buffeted by the turbulence and challenge of mid adolescence. They are intensely aware of the dramatic changes in their bodies and in their ability to think in new ways, and these inner changes can lead to struggle and even rebellion. The curriculum responds to this new state of being by providing structure and order amid the tension of opposites. In physics, students experience the opposition of heat and cold; in chemistry, the transformations of the carbon cycle; in history, the conflicts and revolutions of countries in different geographic regions; in geography, plate-tectonics; in English, comedy and tragedy. Each ninth grade year ends with a physically challenging farm block during which the students work on a local biodynamic farm, participating in the harvest, the preparation of food for market, maintenance of buildings and equipment, and camping together on the farm.

Grade Ten

Tenth grade students have generally settled into a new level of maturity. They are ready to look beneath the outer event to examine the deeper processes revealing how things happen. After a year of polar opposites, they are looking for lawfulness. Now they are interested in their origins and how the world came to be the way it is. The curriculum meets this with subjects that compare and contrast phenomena: in chemistry, the study of acids and bases; in physics, the principles of mechanics; in mathematics, trigonometry and conic sections; in embryology, aspects of the masculine and feminine. In the humanities, the study of ancient civilizations addresses questions of how cultural similarities and differences have affected the world. By looking beyond differences to find relationships, the students develop powers of comparison that can serve them all of their lives. This seeking for balance and

completeness is reflected during the spring trip when tenth graders travel to northern Michigan to learn to survey. Using trigonometry and mathematics, they create an accurate map of the environment in which they are living.

Grade Eleven

In eleventh grade, students look even deeper into the life processes to ask why things occur as they do. They are now ready to weave together the different threads of their experiences. With their individualities coming to the forefront, they begin with growing independence to seek deeper answers to their questions and to express their own identities. The study of Rome, the Middle Ages, and the Renaissance in Europe and Asia reflects the students' own inner exploration and development. Experiencing the literature of Shakespeare and Dante, and the epic quest for the Holy Grail, they ponder the most profound levels of human motivation and destiny. In the sciences, the search for explanation of the unseen, for comprehension of that which lies beyond the senses, is met in the study of the atom in chemistry, in the invisible phenomena of electricity in physics, and in projective geometry and mathematics. Eleventh graders discover that, through the power of their own thinking, they can grasp what is beyond the visible, sense-oriented world; through their own independent analysis and abstract theorizing they can traverse invisible landscapes. Students also take on more responsibility for their learning through research assignments and projects that reflect their own areas of interest. Rather than take a class trip together, the eleventh graders all spend two weeks each spring completing individual workplace internships, exploring an area of particular interest, or a potential career.

In the eleventh grade year, elective courses are introduced for the first time during a single four-week afternoon block. Although topics vary from class to class depending on student interests and faculty availability, they are always offered a mix of three to four choices. In past years these choices have included gardening, philosophy, music theory, and literature selections.

Grade Twelve

Maturing twelfth graders are preparing to enter the realms of higher education and work, and they now have a vital, blossoming understanding of who they are in the world. The curriculum presents them with ideas from many different perspectives. This enables them to move through analysis to synthesis. The study of world history, architecture, global issues, economics, the Transcendentalists, Faust, and Russian writers brings divergent viewpoints to activate individual, independent thinking. In optics, in biochemistry, and in the studies of zoology and evolution, the human being is central, not from a glorified perspective but as the link between the inner world of ideas and the outer practical world. Through the curriculum, students come to know themselves in the context of the world in which they live. They can then freely develop their individual perspectives. The culmination of their High School education is the ability to think for themselves with the confidence that they can make a positive contribution in life. This expansion into the world around them is continued through the two

class trips of the senior year. In the fall, the twelfth graders travel to Maine to join seniors from approximately ten other Waldorf high schools in the study of tide pool zoology. Finally, in the spring of their senior year the students travel to Italy to study the art, architecture and history of Rome, Florence and Venice.

Supplementary Opportunities

Throughout their High School years, students are encouraged to participate in a variety of opportunities through school clubs, athletics and foreign exchange.

High School clubs are supported by individual faculty members who take up the task of organizing the club with the involvement of the High School students. Current clubs at the High School include community service, drama, hiking, Model United Nations, gardening club, and yearbook.

The High School offers a strong competitive sports program open to all students. All sports are non-cut, meaning that students who wish to join the team and participate are warmly welcomed. Current sports offerings include:

Boys: Soccer, cross-country, and basketball

Girls: Volleyball, cross-country, basketball, and soccer

Each sport has an individual coach who is committed to providing a positive and supportive program designed to be competitive in our small independent school league. In addition there are sport co-ops (which vary from year to year depending on student interest) which allow RSSAA students to play on the teams of other schools.

Students have the opportunity during their tenth and eleventh grade years to participate in the High School foreign exchange program. Exchanges with German, Austrian and Argentinian Waldorf schools are common.

Disciplines of Study – Ninth to Twelve

English and Language Arts

In the High School, English and language arts work is taught in specific language arts blocks and integrated into other main lesson blocks as the students create main lesson books, write papers and essays, and prepare public presentations. Different writing styles are taught in the appropriate courses (scientific lab reports in the chemistry classes for instance).

Grade Nine

In the ninth grade, students take two main lesson blocks in language arts and three afternoon courses. The main lesson blocks are The Novel and The History of Drama. The afternoon classes are Grammar and 20th Century Non-fiction. In addition, there is one afternoon block that is connected to the Novel main lesson block to allow the students to manage the amount of reading.

The Novel main lesson block is spent reading Charles Dickens' *Tale of Two Cities*. Students draw maps of the settings, write letters from the perspectives of characters, write short summaries of every chapter, and compose a final essay addressing the French Revolution in relation to characters, events and themes from the book. In the afternoon class related to this main lesson block, the students read *Shane* and *The Adventures of Tom Sawyer* and have creative writing assignments based on these works.

The History of Drama main lesson block examines the development of the human being through the drama that different western cultures have created. Western theater was born out of the mystery schools of Greece. In the block students discuss three of these schools – Eleusis, Delphi and Athens – and imagine what each may have contributed to the beginning of the new art form of drama. The students are introduced to the works of Aeschylus, Sophocles, and Euripides, the Greek comedies of Aristophanes and Menander, the Roman comedies of Plautus and Terence, the beginning of Liturgical drama, Commedia Dell'arte, Elizabethan drama, early Spanish and French theater, Restoration drama through the modern era. Students read *Oedipus*, the Chester Pageant of the *Deluge*, *Everyman*, and parts of *Romeo and Juliet*.

The afternoon course in grammar comprehensively reviews parts of speech, grammar rules, spelling rules, punctuation, vocabulary, sentence building, and short essay writing.

The afternoon course 20th Century Non-Fiction introduces students to modern non-fiction writing. Students read two biographical works, examples from past years include *Life is So Good, I am Malala*, and *Black Elk Speaks*. Students also read at least one diary – recent examples include *Black Like Me*, *Anne Frank* or *Under Swastika and French Flag*. Each of these works is built around themes of insiders

and outsiders, institutionalized discrimination, and living positively in spite of very difficult circumstances.

Grade Ten

In the tenth grade students take two main lesson blocks in language arts – Epic Poetry and Lyric Poetry. They also take four afternoon classes -- one on writing a research paper, a second on the Hebrew Bible a third on ancient mythology, and a fourth on etymology.

The Epic Poetry block focuses on religious and epic poetry of ancient times. Students hear the story of the *Mahabharata* and read sections of the *Bhagavad-Gita*. Students then read the story of *Gilgamesh* from Sumeria, and the *Saga of the Volsungs*. They hear parts of the *Kalevala* and some stories from Norse Mythology. Students finish the block by reading parts of *The Illiad*

The Lyric Poetry block examines English history and poetry. Through the Norman Conquest, Old English collided with French, and through the influence of Persian poetry, the poems of the French troubadours became personal, expressing the emotions of an individual rather than grand stories of a people. The new poetry moved through England via Italy, flowing in the Renaissance poets. The class examines the influence that the Age of Reason and scientific thinking had on European culture and considers the Romantic revolution against this type of thinking when it was applied to nature and art. Through the poems of past and modern poets, the students study the mechanics of poetry and write in a variety of forms – sonnet, terza rima, haiku, wakka, and free form.

In the afternoon course on research paper writing, students research, organize, draft, edit and finalize a research paper on a topic of their choice. Students study the APA and MLA styles and use them to format their footnotes and bibliographies. Students also present their papers in five-minute presentations to their classmates.

Two afternoon classes on the Hebrew Bible and Ancient Mythologies familiarizes students with this classic literature of the Hebrew Bible and the *Ramayana* and the *Upanishads*. In addition they read Greek myths from Edith Hamilton's anthology, Chaim Potok's *The Chosen*, Herman Hesse's *Siddhartha*, and study historical information to put the stories into context.

The etymology afternoon course examines the origins of several dozen English words, and the evolution of the English language. Students are asked to develop an interest in English as an evolving language, and to consider the history of words as they use them.

The tenth graders also take on the production and performance of a traditional Greek play, usually a tragedy.

Grade Eleven

In the eleventh grade students take two main lesson literature courses, *Parzival* and Dante, and three afternoon classes, including the study of Shakespeare, and the New Testament as literature, and *The Canterbury Tales*. In addition a English./Literature Elective is often offered.

Wolfram Von Eschenbach's *Parzival*, telling the story of the search for the Grail, inspires many interesting discussions about education, religion, love and living an active life dedicated to self-development and service to others. In addition to the hefty reading assignments, students are asked to prepare an oral and written chapter summary with a corresponding artistic representation of their particular chapter, as well as create a final project inspired by the text.

A second main lesson block is offered to the eleventh graders on all three canticles of Dante's *Commedia*. Students are given questions on each canticle to discuss in small groups, present for class discussion, and refer to on the test following each canticle's study. They also make a public presentation of their final class project.

The Shakespeare subject lesson block and two week main lesson builds on students' understanding of Shakespeare and his times. Students watch and discuss *Hamlet*, and several other plays, that vary year to year. Throughout the readings students study and discuss the themes of nature, secondary qualities (all that is not physical/measurable/ rational) and women, as they evolved in the plays chronologically.

The New Testament afternoon course leads students through the four gospels, Luke's Acts and the Letters of Paul, James and John. Discussions and lectures delve into the meaning of the parables and events, examine the differences in each of the gospels, and explore possible reasons or explanations for those differences. Other literature on the themes of love, evil and freedom may also be studied in this afternoon course.

The third afternoon class on the *Canterbury Tales* runs for three weeks and explores the use of Middle-English in Chaucer's writing.

Grade Twelve

The twelfth grade literature curriculum includes two main lesson blocks, the Transcendentalists and Faust, one afternoon course, the offering of language arts electives, and the senior play.

One main lesson block of the senior year focuses on the Transcendentalists. During this block students explore the biographies and writings of Ralph Waldo Emerson, Henry David Thoreau, Walt Whitman, Frederick Douglass, Toni Morrison, Ta-Nehisi Coates, Nathaniel Hawthorne, Herman Melville, Bronson Alcott, and Margaret Fuller. Students keep a journal and participate in discussions inspired by these Transcendentalists and their philosophy of life, including the relevance of their ideas in today's world.

The twelfth grade students study Goethe's *Faust, part one and part two*. There are daily seminar style discussions, individual writing assignments, and classroom presentations.

All seniors participate in the spring senior play, a presentation of one of Shakespeare's plays. Preparation starts in an afternoon class and, as the school year ends, becomes the focus of each school day. With the support of the drama teacher, students take responsibility for learning their parts, staging, blocking, costumes, props, music and managing the production.

During the twelfth grade year the students are offered elective courses. Depending on the interests of the students in a particular class, sometimes these electives include language arts courses. In the past, electives on Russian Literature and the literature of Detroit have been offered.

Mathematics

Mathematics in the High School is taught in both daily track classes and main lesson blocks. Students take mathematics for one period a day, four days a week throughout their four years in the High School. Ninth grade students are placed by examination into Pre-Algebra, Algebra I or Accelerated Algebra, depending on their mathematical knowledge and experience. For most students the classes progress from Algebra I to Geometry to Algebra II to Pre-calculus/Probability and Statistics. Students who require a slower pace progress from Pre-Algebra to Algebra I to our two-part Algebra II course. Students who take Algebra II in ninth grade then take Geometry in tenth, Pre-Calculus in eleventh and a full year of Calculus in Twelfth or a semester of Calculus and a semester of Probability and Statistics.

Daily Math Classes

Fundamentals of Algebra I

This course is designed to prepare the student for the study of Algebra and is individually tailored each year to focus on the areas where the individual students enrolled (usually only one or two) have challenges. Topics covered include basic arithmetic, decimals, percentages, fractions, negative numbers, the use of formulas, and an introduction to Algebra.

Introduction to Algebra and Geometry

This class is a continuation of Fundamentals of Algebra I. Topics include many of those studied in the full year Algebra I course but also includes an introduction to many of the basic definitions, concepts, and relationships studied in Geometry.

Algebra I

Topics include: use of variables, translating sentences into equations, use of number lines, opposites, absolute value rules for real number operations, solving equations, working with polynomials, factoring polynomials, algebraic fractions, use of two variables, functions, solving linear equations, inequalities in one and two variables, radical expressions, roots and radicals.

Geometry

This is a standard course in Euclidean geometry. The course material emphasizes notions such as congruence, similarity, and measure, for figures in two and three dimensions. This course provides an introduction to methods of mathematical proof.

Algebra II

This course is designed to build on and further develop algebraic skills. It develops advanced algebraic skills such as polynomial multiplications and factoring, two variable linear equalities, working with

exponential expressions, solving polynomial equations, imaginary and complex numbers, quadratics, and the introduction of functions, including logarithmic functions.

Fundamentals of Algebra II A and B

This sequence of courses presents the full content of the Algebra II course over either one and a half years or two years of study. If students complete the course in 1.5 years, they transfer into Probability and Statistics for Twelfth graders.

Pre-Calculus

The study of functions – linear, quadratic, polynomial, exponential, logarithmic and trigonometric – is the main substance of this course.

Pre-Calculus/Probability and Statistics (for Twelfth Graders)

Semester I - Topics in Precalculus: Review and increased understanding of functions and their graphs including linear, quadratic, exponential and logarithmic functions; applications of exponential functions; solving logarithmic equations; possibly some advanced trigonometry

Semester II - Probability and Statistics: The primary focus of this class will be helping students understand the power of Statistics as a tool for extracting information from data. As with any tool, successful use of statistical tools requires understanding, care, thought and practice. Topics include historical examples, uses and misuses of statistics in recent news, uncertainty, random events, probability, design of experiments, sampling distributions and an introduction to inference from both a Frequentist and Bayesian perspective.

Calculus

This course is an introduction to the fundamentals of calculus and will serve as a foundation for future college mathematics work.

Grade Nine

Ninth grade students take one mathematics main lesson block: Permutations, Combinations and Probability. Additionally, students take an afternoon Geometry course that focuses primarily on developing students' construction and visualization skills.

Combinations, Permutations, and Probability is an introduction to the field of mathematics called Combinatorics which has been described as the "fine art of counting". Completing problems during this block requires precision in understanding of concepts, flexibility to apply those concepts in varying examples, and orderly thought. The mathematics required is basic. The difficulty lies in ascertaining the distinguishing features of a problem that make it a certain type. The successful student will understand the concepts well enough to make that discovery.

Prior to beginning this work the students are introduced to the ancient Egyptian and Babylonian number systems. The concepts of numbers and numerals are differentiated. Base systems other than our own (base-10) were introduced and practiced. Students follow the historic development of the relatively new field of probability theory (which was motivated by questions arising from gambling) by learning how to solve specific problems faced by Gerolamo Cardano, Galileo Galilei, Blaise Pascal and others.

The afternoon Geometry class begins with a thorough review of basic Geometric constructions and Geometric definitions, concepts, and relationships. This is accomplished by studying one or more of the following topics in depths: triangles and their centers, the conic section curves, descriptive geometry, or transformation geometry.

Grade Ten

The tenth graders complete one mathematics main lesson block – Trigonometry – and participate in a spring class trip with a focus on land surveying. Additionally, students take an afternoon Statistics class.

The Trigonometry block introduces the concepts, terminology and practical application of trigonometry. Students start with similar triangles and the Pythagorean Theorem and learn how to calculate sine, cosine, tangent and their inverses. Using these principles, the students apply them practically, using shadows and mirrors as tools, in order to be able to calculate heights and distances for which direct measure isn't possible. Later in the class, students learn to use the unit circle definition of cosine, sine and tangent and how to calculate the trigonometric functions of angles greater than 90° . If time permits, the class concludes with an examination of the Law of Sines and the Law of Cosines. This block is supplemented by the Grade Ten class trip to Camp Lookout where students use theodolites and trigonometry to create a detailed and accurate map of the camp grounds.

The Statistics class focuses primarily on the summary and presentation of data as well as the interpretation of tables and graphs. Students begin to develop critical thinking skills needed to understand true and false statistical arguments.

Grade Eleven

There is a single eleventh grade mathematics main lesson block, Projective Geometry. During this block the students make many drawings illustrating some of the principals of projective geometry, including the Thirteen Configuration, the Theorems of Pappos and Desargues, and the concept of polar point and polar line. The numerical relationship of harmonic sets that arises through geometric construction is investigated. Where possible, the relationship of these principals to each other is demonstrated. We ponder the idea of infinity and what occurs with points, lines, and planes there. The duality of point and line is a theme that runs through the course. The concept of projectivity is introduced through its historical counterpart in art, perspective drawing.

Grade Twelve

There are no twelfth grade main lesson or afternoon blocks in mathematics. As electives mathematical chemistry and mathematical physics are usually offered. These courses are discussed under the sciences below.

Social Sciences: History, Economics, Civics and Geography

History – Grade Nine

There are three ninth grade history classes: revolutions and the history of art are taught as main lesson blocks; 20th century history is an afternoon class.

Revolutions is a course that traces the roots and outcomes of revolutions in human history. Examples of revolutions are drawn from the French, Russian, American, Chinese, Indian, Cuban and Arab Spring revolutions as political examples, and the Scientific and Industrial Revolutions as cultural examples. The movement from revolutionary idea to concrete political form is illustrated by the workings of the U.S. Constitution and Congress.

The history of art ninth grade course is a survey course that starts by outlining the development of western art from the Lascaux Caves to Cubism. Each work is admired for its own particular beauty as well as a manifestation of changing human consciousness. The second half of the class takes a closer look at later 20th century artists, including Picasso, Chagall, Kandinsky, Beuys, Richter, and Keninde Wiley, and art forms including cubism and performance art. The class ends with an examination of non-western art including African masks, Japanese kimonos, Emperor Qin's terracotta warriors, and Asian works in lacquer, silk and porcelain, art of Australia, South America and the Islamic World.

20th century history, taught as an afternoon class, is an examination of the social, political and military history of the 20th century with a focus on the United States. Through this course, students will understand how the major events of the 20th century have shaped our world today. Topics include the rapid development of technology, both World Wars, the Cold War, the Vietnam Conflict and social landmarks such as women's suffrage and the roaring 20's. Case Histories are used as one teaching approach with recent focuses on Detroit and Berlin.

History – Grade Ten

There are two tenth grade main lesson history blocks, ancient cultures and Greek history, and an American history course taught as an afternoon class.

In the ancient cultures class, tenth grade students study the dynamics and impacts of early human societies, particularly in India, Mesopotamia and China. Special attention is paid to the development of civilization and the important roles played by agriculture, writing, and religion. Topics include the development of farming and writing in Mesopotamia, as well as Hinduism, Confucianism, Taoism, and Buddhism. Theories of human development and changing consciousness are also introduced and discussed.

The Greek history block introduces ancient Greek culture as the foundation of "western" history. Students examine the struggle and triumphs of the foundations of democracy in Athens. Specific topics

include the rivalry between Athens and Sparta, the Persian Wars, as well as Socrates, Plato, Aristotle and Alexander the Great.

The tenth grade American history afternoon class focuses on the time frame beginning with the first humans arriving on the North American continent up until the start of the American Revolution. Topics include the culture of the Native American peoples, European arrival and exploration of the continent, life in colonial America and the events leading up to the revolution.

History – Grade Eleven

The eleventh graders have three history main lesson blocks -- Rome to the Renaissance, Asian and African History, and the history of music -- an afternoon American history class, and the first of two civics classes.

In the “Rome to Renaissance” block, students study the major events of European history from the Roman Empire through the Renaissance and Protestant Reformation. Topics include the foundations of the Roman Empire, the “Pax Romana”, the fall and decline of the Roman Empire, the spread of Christianity and Islam, feudalism, the Crusades, the foundations and principles of the Renaissance, the Protestant Reformation, and the Scientific Revolution.

Asian and African History focuses on these nations: Laos, Iran, Turkey, Israel, Zimbabwe, South Africa and Cameroon.

The history of music is a broad survey class examining the history of Western music from Hildegard of Bingen to Bernstein and Jimi Hendrix. Students learn to read a score and take simple music dictation. Beethoven’s life and work is highlighted.

The afternoon American history class begins at the American Revolution and ends at the year 1900. Students will study the Revolution, early America and the Constitution, Slavery and the buildup to the Civil War, the Civil War itself, Reconstruction, the Spanish-American War, and World War I. This course also incorporates a research paper writing assignment. Students are responsible for researching, drafting, editing and supporting a sixteen to twenty page research paper on a topic relevant to the course of their choice.

History – Grade Twelve

There are two twelfth grade history main lesson blocks -- the history of architecture, and World History -- a Study Trip to Italy and two afternoon history classes, civics and economics.

In the history of architecture block students explore the development of human consciousness as it is represented in Egyptian, Classical Greek, Roman, Gothic, Baroque, Neo-Classical, and Modern architecture. Eastern influences from Islam, India and East Asia are also included. The students apply what they have learned in the classroom by observation of the local community in two field trips. The

class ends with a collaborative design project in which students create a plan for a site given by the instructor.

The World History block is designed to integrate the history blocks taught over the previous three years – creating a comprehensive understanding of world history. Throughout the course students consider issues surrounding global economics of the past and present. In small groups, students also take up the study of the opportunities and challenges facing a variety of countries, which in the past have included Turkey, Pakistan, Brazil, Nigeria, Paraguay, and Indonesia.

The senior class travels to Italy each spring. The trip has a curriculum focus that includes regional history, art history and architecture. Specific preparation for the Italy trip includes the study of topics designed to heighten awareness of the relationship between artists, scientists, the papacy and merchants during the Renaissance. The journey to Rome, Orvieto, Florence and Venice gives the students rich opportunities to savor beautiful art, consider the history of science and religion, and reflect on the dynamics of trade and currency.

Civics, Politics and Law

The first civics class (offered in the eleventh grade year) focuses on the American system of government as well as the rights and responsibilities of U.S. citizens. Topics include federalism, the role of the three branches of government, and political checks and balances. The U.S. Constitution and Bill of Rights is discussed in detail.

The afternoon civics classes in the twelfth grade complete the civics curriculum with a focus on the American political process and the American legal process. Topics examined include state and local government, the political process, elections, taxation policies, the constitution, criminal law, tort law, consumer law and some constitutional law. Each year the class also takes up subjects currently important such as national elections, state controversies and related topics in the news.

Economics

Beginning from the premise that the whole of humanity is knit together in a global economy, the students investigate the economic activities of production, exchange, and consumption and the concomitant rise of capital. Capital's importance in allowing the expression of human capacities is central to discussions. In addition to a practical understanding of accounting, taxes and credit, a history of economic thought is presented. With an emphasis on ethical social responsibility, students are led to recognize and question the societal forces and values that currently regulate human relations within the economic sphere.

Science

Life Sciences

Grade Nine

The ninth graders study human anatomy in their life science main lesson block. Comparative anatomy between the skeletons of a variety of mammals provides the entry point for the students to better understand human anatomy. By assembling mammal skeletons and comparing the various regions of the skeletons (skull, trunk, limbs) to the human skeleton, a deeper understanding of the human skeleton is gained. Other topics in the block may vary from year to year but typically include: the structure of bones, joints and cartilage; muscle types and organization; and the structure of the central nervous system and peripheral nervous system (human senses such as sight and hearing). The students work through a study guide to help with learning vocabulary. The block incorporates many labs and activities including student participation in a sleep study.

Grade Ten

During the tenth grade year, students study physiology and embryology. In the physiology block, students study the circulatory, respiratory, digestive, excretory, nervous, endocrine, and immune/lymphatic systems of the body. Throughout this block, students work with a lab partner performing various hands on experiments to deepen their connection to these systems.

In the embryology block, students study the endocrine glands that regulate reproduction, the menstrual cycle, female and male reproductive systems, and the development of a human being from conception through birth.

Grade Eleven

During the eleventh grade year students examine botany and cell biology as part of the life science curriculum. During the botany block, students explore the entire plant kingdom (algae through the angiosperms) by observing and drawing the life cycle of living specimens. Plant morphology, anatomy and physiology are also studied through lab activities. In cell biology, students examine the organelles of cell and their functions. The students observe and study mitosis. Over the course of this block, students become proficient using microscopes as they observe numerous types of cells.

Invertebrate zoology is studied the last two weeks in eleventh grade directly after botany. We discuss the major Phyla of invertebrates and focus on local land and river invertebrates. We perform numerous insect, worm, arachnid, and mollusk observations on campus and in the forest. Students complete an independent research project and give a presentation.

Grade Twelve

In twelfth grade, students participate in the Hermit Island Marine Zoology Field Course on the coast of Maine. Students visit tide pools daily, and they study the major marine invertebrate phyla. In addition, they complete the following labs: beach and dune ecology, microscopes (looking at invertebrates), mud flat ecology, poetry, and sea painting. Students also learn about environmental issues related to ocean ecology and marine invertebrates.

Building on themes from invertebrate zoology, the five major vertebrate groups are examined: fish, amphibians, reptiles, birds, and mammals. Field and laboratory observation of the different groups is utilized whenever possible. Students are often assigned to do a research project on a vertebrate animal which is presented to the class.

Depending on practicalities of the main lesson block schedule, the Evolution block may be taught in conjunction with or separate from the Vertebrate Zoology block. The entry point for evolution often begins with drawing comparisons between the five vertebrate animal groups. This comparison process shows how certain characteristics and life activities, such as breathing, blood circulation, and reproduction, vary from group to group and show an overall trend to become more independent of the environment, a process sometimes referred to as biological emancipation. Additionally, the students are led to see that this biological emancipation is related to the time when these different groups appear in the fossil record. This leads into the topic of evolution, always with a focus of how the human being is related to other groups of vertebrate animals, including the primates. Observations of human and mammal skulls and a set of skull casts of hominins and other primates is used to observe metamorphosis and the evolution of the human form. Students are also led to understand some of the major evolutionary ideas and philosophical challenges with this topic and to gain clarity on the difference between factual evidence and scientific theory and conjecture.

The ecology block topics include discussion of the main principles of ecology, abiotic factors and their cycles, biotic factors, ecosystems, biomes, communities and populations. Ecological field techniques for measuring and observing environments are also taught and practiced. Individual topics such as rainforest deforestation, climate change, and the effects of invasive species on natural populations are also studied. During this block, there are numerous field trips.

The river ecology course is an intensive field course. The class participates in a multi-year study of Traver Creek. The students learn sampling techniques and data analysis. The students explore the macro invertebrate populations in the Huron river, Traver Creek, and Flemming Creek. We visit numerous floodplain forests within the watershed.

Earth Sciences

Grade Nine

The ninth grade earth science curriculum consists of a geology main lesson block and a ten-day farming experience block in the spring.

In the ninth grade geology class, topics are studied to create both a global and a local view of geography. Topics include earthquakes, volcanoes, plate tectonics, igneous, sedimentary and metamorphic rock formation and characteristics, and oil and gas exploration.

The ten-day farm trip takes place at the end of the school year and all ninth grade students spend time living and working on a local biodynamic farm. Nature study, construction, planting, harvesting, weeding, animal tending, and other regular farm chores are completed.

Grade Ten

The tenth grade earth science main lesson focus is meteorology. The interactions of air, water, the earth and the sun's heating to create the weather are studied, with emphasis on the concepts of low and high pressure and the interactions of cold and warm air masses.

Grade Eleven

There is no earth science main lesson block in grade eleven.

Grade Twelve

Astronomy is the focus of the twelfth grade earth science main lesson block. Students study the observable movements of the sun, moon, stars and planets first from the point of view of an earth observer. From this, the students are then asked to live in to the thinking of great astronomers who helped devise the modern cosmological understanding, such as Copernicus, Brahe, Kepler, Galileo, and Newton. Other topics taken up may vary depending on the interest of the students, but could include characteristics of the planets, stellar evolution, galaxies, and the Big Bang theory.

Chemistry

Grade Nine

The ninth grade chemistry curriculum focuses on experiment-based work that demonstrates the carbon cycle. Students begin with carbon (coal and diamonds) and work through the transformation of a simple substance into progressively more complex organic molecules including sugars, complex carbohydrates, hydrocarbon fuels, ethers, esters, carboxylic acids, and plastics. Climate change and the greenhouse effect are discussed. There is an emphasis on careful observation of the timing, conditions and appearance of phenomena as the basis for drawing conclusions.

Grade Ten

Tenth grade chemistry involves the study of solutions of salts, acids, and bases. Experiments with crystallization lead to the definition of terms relating to solutions: solubility, saturated solution, and so forth. This knowledge leads to labs for growing crystals and determining the solubility curve for a salt solution. Thermal decomposition of salts leads to understanding the properties of acids and bases. Indicators, both natural and synthetic, are used to measure the pH value of different solutions. The common chemical procedure of titration must be mastered by students to determine the concentration of an unknown acid or base solution. In this course, students are introduced to chemical nomenclature and to the idea of writing chemical equations. Extensive lab work accompanies this chemistry block and students spend at least 15 hours on student labs during the block.

Grade Eleven

The focus of eleventh grade chemistry is to study the qualities associated with chemical elements and how they react together to form compounds. In the course, patterns and similarities among the chemical elements are found. The development of the periodic table of the elements is studied, and experiments demonstrating the chemical tendencies of the rows and columns of the periodic table completed. Some of the other main topics covered are: mass ratios in chemistry, leading to an understanding of the concept of molar masses; using the periodic table and nomenclature rules to name chemical compounds and write chemical formulas; writing and balancing chemical equations; formation of precipitates from cation and anion reactions; atomic configurations; oxidation-reduction reactions; and the electromotive series. Extensive lab work accompanies this chemistry block and students spend at least 15 hours on student labs during the block.

Grade Twelve

The focus of the twelfth grade chemistry class is the study of biochemistry. All that has been previously developed in the High School chemistry curriculum is now applied to biochemistry. The role of molecular structure in regulating biochemical reactions is explored through experiments. A large emphasis of this block is proteins and DNA. Students begin to appreciate the interaction of the organism's biochemistry in relationship with the environment.

Grade Twelve Chemistry Elective

This elective block builds on topics introduced in the Chemistry blocks. The course covers topics that would typically be introduced in the first semester of college inorganic chemistry. The main topics included: problem solving through unit cancellation; writing systematic names and chemical formulas for compounds; balancing chemical equations; the mole; calculating molar masses and problems involving molar masses; calculating mass percentages of elements in different compounds; and molarity and concentration of solutions.

Physics

Grade Nine

The principles of sound and thermodynamics are investigated in the ninth grade physics curriculum. The study of modern communications and engines is central to the block.

Grade Ten

During the tenth grade, the physics curriculum takes up force, both in statics and dynamics. The laws of force in equilibrium are studied through bridges, both theoretically and through the construction of bridges in the classroom. Newton's laws of motion are taken up, with many examples. The beginnings of modern science are studied through Galileo's work.

Grade Eleven

The eleventh grade physics block focuses on the development of human understanding of electrical and magnetic phenomena as well as a modern conception of the atom. Topics include: triboelectric phenomena; magnetic fields; Oersted and Faraday's discoveries about the relationship of electricity and magnetism; the difference between voltage and current; chemical batteries; the difference between AC and DC; transformers; series and parallel circuits and basic circuit components; the bridge rectifier; the Crooke's tube; and the Thomson tube. Thomson's discovery of the first known sub-atomic particle, the electron, in 1895 is a focal point for understanding the development of a modern human concept of the atom. Developing an understanding of the atom lays the groundwork for understanding such important phenomena such as radioactivity, nuclear weapons and power, the television, and modern electronics. This block also lays the foundation for understanding the structure of the periodic table of the elements.

Grade Twelve

The twelfth grade students study the lawfulness of optics and color through careful observation of phenomena in the twelfth grade physics block. Goethe's and Newton's theories of color and applications are studied and compared.

Grade Twelve Physics Elective

In the twelfth grade year, an elective class in mathematical physics is offered. This class examines the mathematical aspects of previously explored physical phenomena. Students learn how to solve mathematical physics problems, with an emphasis on the area of mechanics.

World Languages

Spanish and German are taught at the Rudolf Steiner School of Ann Arbor with two goals – to develop a positive interest and attitude towards other cultures, and to develop a command of the individual language. Through learning another language a student learns to see the world from another viewpoint, and gains access to another perspective on the world.

In the High School, students select a language to study in ninth grade and work over the four high school years to develop and master the language. Students are evaluated upon entry to the High School and placed into the appropriate language class. An international exchange program is administered through the High School, and a number of students every year take advantage of this excellent opportunity to reach fluency in his or her language of choice. Exchanges are currently taking place with Steiner schools in Argentina, Austria, Switzerland, Italy and Germany.

German Introduction A

This course introduces students to German and the German-speaking world. Through different activities, the student gains knowledge of the sound and the basic structures of the language. The student's confidence to express him or herself in the new language is gradually developed. Basic grammar includes: main clause structure of verb in the second position, subject-verb agreement, the alphabet, basic verbs in the present tense, noun genders and pronoun agreement, nominative case nouns and pronouns, accusative case (direct object) and dative case (indirect object), plurals of nouns, possessive adjectives, and cardinal numbers. To develop communication competency, vocabulary includes greetings, familiar and formal registers, family relationships, clothing, body parts, tastes and preferences, discussion of weather, day and time, simple statements of fact, asking for things and using the following segments: "doch, man, es gibt," also in negation: "kein" and "nicht."

German Introduction B

This course builds on the basic skills acquired in German I and helps the student develop a more detailed grasp of the German structures. Two-part verbs focus on perfect tense, separable verbs, modal verbs, *würden* plus infinitive, and reflexive verbs.

Class work includes the simple past of "haben" and "sein." Continued and more complex study of the cases expands to pronouns and prepositions requiring dative or accusative cases, and two-way prepositions. The study of coordinating conjunctions is taken up in the class. Communicative competencies -- including telling time (24-hour clock), relationships, commands, and the narration of past events -- are developed throughout the year.

German in Conversation, Grammar, Reading and Composition

During this course, the full introduction of major verb tenses and common grammatical forms is completed and more nuanced sense of expression cultivated. Grammar features include passive voice, subordinating conjunctions and relative pronouns, genitive case, infinitives with “zu”, ordinal numbers and dates, comparison of adjectives and adverbs, “da-“ and “wo-“ compounds, future tense, directional prefixes “hin” and “her”, time-manner-place adverb order, and simple past tense. Longer and more literary texts are studied, which provide opportunities for the practice of the following communicative competencies: articulating reasons, causes, conditions and limitations; describing plans and purposes; and emphasizing and deemphasizing actors and actions.

German in Literature and the Arts

This course is designed to review, practice and polish acquired language skills. Newly introduced is the subjunctive mood with general (Konjunktiv II) and special (Konjunktiv I) subjunctive, and the subjunctive use of modal verbs. Also introduced is the use of “lassen,” attribute adjectives like “der-“ words, adjectival nouns, verbs with prepositional complements, and present participle.

Special German Topics

This course is a continued development of the grammatical forms brought in German III and IV. There is a greater emphasis on literature and increasing requirements for independent essay writing.

Spanish

Spanish Fundamentals, Year One

Students who do not have any knowledge of Spanish, have been exposed to the language in a passive way, or have studied it a long time ago or to a limited extent enter the program at Fundamentals of Spanish, Year One. A student may have previously studied the language, but has not successfully grasped the basic structures of the language, and has difficulty recalling vocabulary. Topics include the alphabet, greetings and farewells, numbers, colors, seasons, telling time, describing People (physical and personality traits), vocabulary of the house (rooms and furniture), vocabulary of the family, vocabulary of the school (classes, supplies, schedule), culture, weather, the calendar, clothing, food and beverages, pastimes, body Parts, and health. Grammar studied includes regular ar, er/ir verbs conjugations in the present indicative; introduction to stem changing verbs; IR + A- future tense; introduction to present progressive tense; introduction to SER and ESTAR; singular and plural indefinite and definite articles; subject pronouns and indirect object pronouns; interrogatives; prepositions of location; adjectives (descriptive and possessive); agreement of gender and number of nouns and adjectives; the verb Gustar; accent use; punctuation; contractions, and IF clauses in the present indicative.

Spanish Fundamentals, Year Two

Many students coming from the lower school may enter high school at Fundamentals of Spanish - Year II. At this level, the student understands simple sentences, instructions and descriptions used in everyday life, but only uses isolated words and expressions. S/he responds with school language with simple turns of phrase. His/her spoken and written language knowledge is sufficient, and operational, consisting primarily of short sentences in the present. This course builds on the basic skills acquired in Fundamentals of Spanish – Year I. Students continue the study of the cultures of Spanish-speaking countries while expanding vocabulary, grammar and oral skills. Topics covered include professions, fitness, daily routines, phone conversations, city life, directions, dining out, shopping, sports, transportation and travel, history and current events. Grammatical areas studied include reflexive verbs; the conditional tense with “gustar” and “deber”; personal A; indirect and direct object pronouns; comparisons; negation; diminutives; affirmative informal commands; expressions with “tener”, and demonstrative adjectives.

Intermediate Spanish

Students will further their study of cultural components of Spanish speaking countries, while learning more complex structures of the language. Topics studied include ecology and the environment, media and technology, careers, literature, music and the arts. Grammatical study includes preterit of regular verbs (spell changers, stem changers, irregular verbs), imperfect tense (regular and irregular verbs), conditional (with clauses), adverbs, stressed possessive, superlatives, informal negative commands, and an introduction to the present perfect and simple future tenses.

Advanced Spanish Year One

This course builds upon the previously studied and practiced structure and vocabulary as well as furthering linguistic skills. Students now focus on Spanish and Spanish speaking countries through literature and art, while reviewing and reinforcing previously acquired structures and introducing more advanced grammatical forms. The grammatical forms studied include indicative mood (future tense, pluperfect and simple conditional), subjective mode (the present subjunctive) and the imperative mode.

Advanced Spanish Year Two

Students in this Spanish language class will be exposed to a variety of authentic texts and topics, while revising and reinforcing previously learned vocabulary and grammar.

Vocal Music

The vocal music curriculum is designed to both cultivate the feeling nature of students and help them work as a group as they sing together. All students and some full-time faculty participate in the High School Chorus. One day a week, rehearsal is divided into tenors/basses and sopranos/altos, and one day a week the chorus practices together. Emphasis is placed on correct vocal technique, sight-singing, and good musicianship. The repertoire performed is a variety of some of the finest choral music literature available including classical, spirituals, folk songs, and contemporary pieces.

There are two elective vocal music options taught in conjunction with the High School instrumental electives outlined under Instrumental music below.

Steiner Singers

This is a small choir that requires an audition for entrance and meets twice a week. Students study vocal technique and interpretation. All genres of music are studied including classical, contemporary, folk songs, and popular standards. Students sing as a full group, in small groups, and individually.

Bel Canto

Bel Canto is a small choral ensemble for high school girls that meets twice a week. This ensemble is open to all girls and no audition is necessary. Emphasis is placed on correct vocal technique and a wide variety of music is learned.

There are a number of choral concerts that all ensembles participate in throughout the year.

Instrumental Music

The High School Instrumental Music Program is a multi-disciplinary and multi-leveled curriculum educating students in musicianship skills, instrument skills acquisition, and providing scheduled performances at regular intervals. Students participating in the instrumental music program may choose from a robust offering of instrumental disciplines at levels appropriate to their skill set. College-level music professors, who deliver the highest educational standards and rigor with artistic vision and integrity, teach all instrumental music lessons.

Each year from ninth to twelfth grade, students choose one of the following full-year music electives.

Chamber Strings Orchestra

Chamber Strings/Orchestra explores and develops large ensemble skills with a special emphasis on collective string sound, phrasing, and articulation in order to bring forth concise and compelling musical performances. Chamber Strings/Orchestra performs two concerts: January (Winter Concert) and May (Spring Concert) with additional performances throughout the year.

Materials and Repertoire: Scales in rhythmic and bowing variations, abstracts and etudes drawn from the performance repertoire, Urtext editions of chamber music literature for large ensemble.

String Quartet and Trio

String Quartet and String Trio Chamber Ensembles explore and perform string chamber music drawn from traditional classical era as well as contemporary music styles. Developing strong sense of musical style with close examination and adherence to compositional devices is of primary objective.

Materials and Repertoire: Scales and arpeggios in varied rhythmic abstracts and configurations, close examination of musical stylistic and compositional devices. Woodwind Ensemble performs two concerts: January (Winter Concert) and May (Spring Concert) with additional performances throughout the year.

Woodwind Ensemble

The woodwind ensemble teaches two major skills: basic music literacy, and the mechanics of playing woodwind instruments including scales to improve technical facility, rhythm, tone, and intonation. Course objectives include the development of individual technique skills and mastery of individual parts in order to contribute to the ensemble; the development of style and rhythmic awareness; the development of group cooperation skills towards the goal of performing for classmates and the public.

Woodwind Ensemble performs two concerts: January (Winter Concert) and May (Spring Concert) with additional performances throughout the year.

Materials and Repertoire: Rubank Woodwind Method Studies, Rhythmic abstracts and exercises drawn from the current repertoire, performance pieces from early renaissance to contemporary styles.

Jazz Combo

Jazz Combo explores and examines the components of jazz music in order to integrate them into performance practice. The class focuses on jazz style, jazz theory, and jazz history.

Materials and Repertoire: Study of music theory, chord construction and voice leading, improvisational melodic/harmonic devices, pieces performed drawn from the Great American Songbook and Jazz Standards. Jazz Combo performs two concerts: January (Winter Concert) and May (Spring Concert) with additional performances throughout the year.

Beginning Guitar

Beginning Guitar introduces the student to basic playing styles on the guitar. The class learns open chords, basic note reading, and simple accompaniment styles. Students need not have prior guitar experience for this class. Beginning Guitar Class performs two concerts: January (Winter Concert) and May (Spring Concert) with additional performances throughout the year.

Materials and Repertoire: Basic Musical Devises for Guitar; Anest. Popular guitar compositions and music drawn from rock, jazz, and alternative styles.

Guitar Lab

Guitar Lab explores and discovers new musical concepts and ideas through an instrument-based technique. The class develops bass and guitar instrumental skills while integrating secondary electronic media as directed by the teacher. Guitar Lab performs two concerts: January (Winter Concert) and May (Spring Concert) with additional performances throughout the year.

Steel Drums Percussion Class: Beginning and Advanced

The Steel Drum Percussion Class integrates traditional steel drums methods with basic and advanced written notation through which students learn techniques, rhythms, and sounds of the west Indies music as well as contemporary popular music trends and repertoire.

Materials and Repertoire: Technical studies and dexterity exercises, scales and arpeggio identification and realization, rhythmic studies and abstracts drawn from the repertoire, performance pieces drawn from traditional steel drum repertoire and arrangements of popular contemporary styles
Beginning and Advanced Steel Drums Classes perform two concerts: January (Winter Concert) and May (Spring Concert) with additional performances throughout the year.

Art and Modeling

Art permeates life in a Waldorf school. Students use art to penetrate the academic curriculum, to enhance their main lesson books, to express themselves in their subject classes, and to deepen their relationships with each other. Students are working to develop their own artistic sensibilities, master technical skills, and learn to trust themselves to express their feelings and thoughts artistically.

In all art classes high-quality materials, brushes and pigments are used, and there is an intentional quiet organization brought to the activity. This develops a respect and focus for artistic work that allows students to quietly enter into an imaginative, thoughtful mood and express themselves through the media.

The High School art curriculum is arranged into five to six week blocks in which students take up specific artistic projects, introducing a wide range of media and techniques, and have the opportunity to work with a number of artists and material specialists as the four years are completed.

Grade Nine – Fine Art

The ninth grade art curriculum includes black and white drawing, monochrome painting, clay relief and sculpture, and printmaking. In black and white drawing, the contrast of dark and light is examined, with students creating a number of projects using ink, pencils and charcoal. The monochrome painting block features watercolor and tempera paints and helps students to learn how to bring form and beauty with a limited palette. The ninth grade clay work is both sculptural and relief work with a focus on the clay work of the Egyptian, Indian, European and Mexican cultures. Print making asks students to manage the precision of block carving, etching and lithography techniques, and then allows them to create multiple prints of their final works.

Grade Ten – Fine Art

In tenth grade, the students take up drawing, watercolor painting, pottery, and calligraphy. Ink drawing, including the creation of a calligram, is the focus of the drawing block. In the watercolor painting class, the students specialize in veil painting. Over the six-week pottery block they complete two three-dimensional sculptures, and at least one thrown pot on the pottery wheel. They also study perspective drawing in tenth grade.

Grade Eleven – Fine Art

The eleventh grade art curriculum includes Impressionist painting, Dutch painting, and various ways of studying the human head, including drawing, painting and clay modeling. During the Impressionism block, students study the techniques of the Impressionist masters and then create a detailed copy of a master work. They also learn full color seeing during an observational color block study as part of the Impressionism block. A similar approach is taken to the Dutch oil painting, as students first study the

techniques involved and then create a copy of a Dutch Master. The studies of the human head include the replication of famous head studies, such as Michelangelo's David, the modeling in clay of a life-sized human head, often modeled on a classmate, and the creation of a self-portrait.

Grade Twelve – Fine Art

During the twelfth grade year students take up the creation of a large and individual mosaic project, designing the piece transferring the plan to the backing wood, tiling the project, and finishing it with grout. In other art blocks of the senior year, students develop their drawing skills through a variety of media as they draw the human body from live in-class models. The art curriculum at the High School is completed by a final block in the spring of the senior year when the senior class together takes up creating a gift to the school that will remain in the building after they graduate. In recent years, projects have included large mosaic projects, murals on classroom and hallway walls, silk painting, and stained glass in clerestory windows.

The annual senior year trip to Italy is also a key part of the twelfth grade art curriculum as students create sketch books, view art that they have previously studied, and study the historical and cultural context of the art.

The handwork curriculum of the High School is woven into the art program, as students take up handcrafts with the regular art blocks.

Ninth – Craft Work

The ninth grade handwork blocks are basket weaving and woodworking. Students are introduced to the materials of cane, reed, rattan, and wooden staves. They are then guided through the creation of a simple seven-inch round woven basket. Students are then encouraged to try rectangular and square baskets, adding highlights with colored reed, beads, and adding other elements to the artistic design.

The woodworking classes are held in the workshop on the High School campus, the classes are a continuation of the balance of carving and construction taken up in eighth grade. Students are reintroduced to the tools and wood (allowing students new to the Rudolf Steiner School of Ann Arbor to be oriented) and then take up using hand tools to create a dovetail joint box. Again, the goal is to create a project that is both practical and beautiful. Tools used include the dovetail saw, coping saw, square gages, levels, and rasps.

Tenth – Craft Work

In tenth grade, students take two handwork blocks within the full art curriculum. They complete a silk painting class, which is truly a hybrid between art and craft as they use their artistic skill to complete the painting, relying on their understanding of the material and its capacities to support the final artistic creation.

In tenth grade they also do a block of book binding. Four different book-binding techniques are studied, with the student completing a small book in each style. First they construct a small flutter book, usually using chip board as a cover. The second project is a small book with a leather-bound spine. The third project is a library-style hardback book with sewn signatures. The final book is made in preparation for the poetry main lesson block coming later in the year, and is an accordion style book with a fold-up along the bottom to create a large pocket running the length of the accordion. While working on these books the students also learn how to make paste paper and apply a decorative paper cover to chipboard.

Eleventh – Craft Work

The eleventh grade students expand upon their tenth grade book-binding experience when they complete a second book-binding block. In this more advanced block they first create a leather wrap-around journal with signatures sewn directly into the leather cover, thus making an exposed stitching pattern on the outside of the book's spine. The closure is made with a button sewn to the cover and a braid attached to the button and wrapped around the book. The second project is a traditional hardback known as a "rounded" or "hollow back." The students prepare the inside of the book by sewing, rounding with a backing hammer, creating "shoulders" in a small press, and then finally "casing in" or gluing the book into a hard cover.

The third and final book is a "long stitch" book -- a book with signatures stitched into a spine piece made from chip board covered with paper.

Twelfth – Craft Work

In the twelfth grade art curriculum there are two craft or handwork blocks. The first is the creation of a piece of stained glass. Students design their approximately twelve-inch square piece, choose appropriate glass colors, cut and prepare the glass, lay out the pattern, and then solder the glass into place.

The twelfth grade year is ended with a block that focuses on the creation of the class gift, which often includes craft techniques. During the twelfth grade year there is sometimes the option of a jewelry block, depending on time and student interest.

Movement

Physical education, or movement as it is known at the Rudolf Steiner School of Ann Arbor, is an essential part of a fully balanced, healthy curriculum. Students at each stage of development need to fully explore the strengths and capacities of their physical bodies -- learning new skills, developing physical confidence and honing their senses of balance, rhythm and self-control. In addition, games -- cooperative and competitive -- allow students to practice and develop their evolving social skills.

- The High School movement program is designed to support students as they grow into their adult bodies and set a basis for physical activity that they can continue into adulthood. The curriculum calls for a variety of activities over the school year including cooperative games, competitive sports, yoga, self-defense, and social dancing.
- The movement curriculum at the High School level is supplemented by individual student participation in the competitive sports program with men's and women's cross country, men's and women's basketball, men's and women's soccer, and women's volleyball. In addition, some students are members of the High School Hiking Club, which has annual physical training for a fall three-day backpacking trip and a spring five-day trip to the Great Smoky Mountains National Park.

Computer Science

Computer Science classes in the High School support the students through the process of learning to use modern technology as a daily tool in their practical and academic lives. Over the four years they take on more complex and challenging projects, continuing to expand their skills, including applying them beyond the actual computer classes as they prepare papers, presentations and ultimately their college applications using computer technology.

Computer classes in the High School take place in a computer lab – with 32 mac mini stations, all of which run both a windows and mac environment, and are fully updated, kept current, and have appropriate internet filtering programs installed. This school has recently implemented a cloud-based office portal system that allows students to use a personal Microsoft Office account from any internet-enabled PC.

Grade Nine

There are two ninth grade computer classes. The first is a typing and internet class designed to ensure that all students have basic typing skills and an understanding of the internet, including its opportunities and dangers. Students use typing software to develop their typing skills, and are led through a variety of internet use exercises, puzzles and challenges.

The second ninth grade computer class is an introduction to the use of word processing and spreadsheet applications via the school's cloud-based office portal system. The goal is to enable students to use a computer environment for the completion of homework and assigned papers as they move into later grades.

Grade Ten

During the tenth grade year all students take a computer course entitled "Introduction to Computer Programming." Here they are introduced to the Alice Programming Language, an object-oriented learning language. A series of lessons is presented which develops both the conceptual understanding of a programming language and the student's ability to create code in Alice.

Grade Eleven

The computer curriculum concludes in the eleventh grade with a course called "Introduction to Computer Systems." This course covers both the history and evolution of computer technology and the architecture of modern systems. Students study topics such as Turing machines, binary and hexadecimal numbering systems, logic gates, and computer memory.

Practical Classes

Living a Healthy Life

Living a Healthy Life are classes taught to one-half of a class while the other half is in movement class. These 45 minute classes are designed to support the healthy growth and development of students over the four years. Topics within this curriculum include:

Health

In 9th grade health, we explore the major principles of health. This course provides students with an overview of health starting with where they are as adolescents and extending into adulthood. The course is divided into three main themes: mental, social, and physical health. Both exercise and nutrition are covered under physical health. In addition, the topics of safety, addiction, drug education, and social media awareness are discussed.

In 10th grade the topic is sexual health. In addition to discussing sexuality and relationships, we discuss pregnancy and STD prevention.

Practical Economics

In the 12th grade students explore the practical side of economics – household budgeting, credit cards, student loans, investment and savings, etc.

Paper Writing

This course supports the 10th and 11th grade students in the completion of term papers for their US History afternoon course

Additional Practical Classes

Gardening

In the High School, gardening is offered as an elective in the eleventh grade year, and students are involved in the cultivation of the school grounds through regular all-school work days. Ninth and tenth grade students participate in gardening activities as part of their movement classes in either the fall or spring of each year. In addition, there is an active Gardening Club, which tends to many of the school gardens.

Auto Mechanics

This course covers the basics of understanding and maintaining a vehicle. The following topics are covered: engine, transmission, clutch, front and rear wheel drive, exhaust system, brakes, suspension, electrical system, tune-up, cooling system, heating and air-conditioning. The students observe an oil

change and some carry out an oil change, and all participate in changing a tire and cleaning/polishing/waxing a car.

College Counseling

During the grade 11 year, students have College Prep once a week for about 16 weeks. During this course, we cover everything from exploring possible careers and interests, choosing between the ACT or SAT and why, how to prepare for the SAT or ACT, the college application process in general including making a list of possible schools (knowing what matters to you and finding the right fit), writing an application essay, financial aid and scholarships, how to make the most of visiting potential colleges, the steps in the application process, the difference between different types of applications (Early Decision, Early Action, Regular) etc. We also learn how to write a resume and the students receive guidance in setting up a placement for their two-week internship experience at the end of grade 11.

In the grade 12 year, we continue to meet once a week for about 18 weeks. At the beginning of the year, we are supporting the students in their actual application process, finalizing their list of schools, completing their essays, filling out the application forms, securing recommendation letters, meeting deadlines, etc. Mid-year, we are focusing on making decisions – how to choose what’s right for them. And then toward the end of the year, we turn our focus to preparing for the transition to college (or what’s next for them) and tips for success.

Individual Counseling

Available to all students as needed, they will work one-on-one with our High School Coordinator/College Counselor to deepen their individual process beyond the College Prep class. This is where they can get their specific questions answered and receive guidance related to their unique situation. The High School Coordinator is available to meet with students, with students and their families or with families as needed.

College Visits to High School

Each year the Rudolf Steiner High School hosts representatives from over 30 colleges and universities representing a variety of interests and opportunities (science, arts, business, design, etc.) small school, universities, international campuses, etc. Students have the opportunity to learn and ask questions about college offerings and campus life directly from the various college representatives.

College Nights

Each year the Rudolf Steiner High School hosts seven College Night evenings aimed primarily toward parents and guardians, although students are welcome to attend. We cover many of the same topics covered in College Prep classes from the parent perspective. These topics include: Applications 101, Understanding the ACT and SAT, Facing Anxiety: Student Support during the Application Process, Affording College, Making Choices, Engagement and Success, Preparing to Apply and Completing the Application.

Resources

An extensive library of resources is maintained at the High School and is available to students and parents. There are books for ideas, skill improvement, understanding the admissions process, what to do for a gap year, financial aid, scholarships, test preparation, college guides, etc. All these resources are available to peruse or to take out on loan.

Transcript and Counselor Letter Services

Each of our full-time faculty is prepared to write a personal recommendation letter for any of our students. Additionally, the High School Coordinator prepares a Counselor letter for each graduating student in support of their future plans. We easily provide transcripts and other supporting documents for the application process in a timely manner.