



## High School Course Descriptions

All high school courses offered through the Online Academy @ North Hills High School are listed below and arranged alphabetically by department. The following pages provide more detail for each course, including course descriptions, duration, credit value, grade level(s), and prerequisites. Please refer to these detailed descriptions to learn more about each course. Additional courses may be offered based on course requests. Please see the last page for a list of additional potential course offerings based on overall student course demand.

### Art

Studio Art 1  
Studio Art 2

### Business, Computers & Information Technology

Personal Finance  
Accounting 1  
Career & Personal Planning

### English

English 9  
English 10  
American Literature & Composition  
Apocalyptic Literature  
Adventure & Quest  
Creative Writing

### Family & Consumer Science

Teen Transitions

### Health & Physical Education

Health  
Physical Education

### Mathematics

Pre-Algebra  
Algebra 1  
Geometry  
Algebra 2  
Trigonometry  
Pre-Calculus  
Computer Science

### Science

Biology  
Chemistry

### Science (cont'd)

Physics  
Environmental Science  
Anatomy & Physiology

### Social Studies

American Studies  
World History  
American Government  
Contemporary History  
Sociology  
Psychology  
Economics

### Technology Education

Web & Mobile App Design

## Art

### Studio Art 1

0.5 CREDIT

In Studio Art 1, students will experiment with several different art materials and tools to see what each tool can do best. Students will explore ordinary things around them to become more observant of the structures and meanings of things which can be seen in their home and community. Each lesson will be a study of a new way of drawing that builds on the previous lesson. Opportunities will be provided for expressing the technical skills learned in a unique, creative way.

*Grade Level: 9 – 12*

### Studio Art 2

0.5 CREDIT

This course introduces students to classical and contemporary painting, techniques, and concepts, with emphasis on the understanding of its formal language and the fundamentals of artistic expression. Painting from still life, landscape, and life models from observation will be geared towards realism; at the same time, various other painting styles could be explored. Color theory, linear perspective, compositional structure, figure/ground relationships, visual perception, spatial concepts, and critical thinking skills will all be emphasized. Students will study and research major painting styles and movements in historical context. The hope is that students will use this global approach to develop a “critical eye” in evaluation of contemporary painting. The main emphasis of this course is to encourage and nourish individuality and creativity.

*Prerequisite: Studio Art 1*

*Grade Level: 9 – 12*

## Business, Computers, & Information Technology

### Accounting 1

CREDIT 1.0

This course covers the basic principles of financial accounting for individuals and for companies with attention to both the mathematical formulas and to the ethical side of accounting. Skills, procedures, and careers of accounting will be explored. Each unit has practical exercises including a project at the end of the unit.

*Grade Level: 9-12*

### Career & Personal Planning

CREDIT 0.5

Career and Personal Planning guides students through the essential elements of the career planning process and the development of a defined career plan. Students will consider the many factors that impact career success and satisfaction. Using a process of investigation, research, and self-discovery, students will acquire the understandings critical to the career planning process. Upon completion of the course, students will have created a practical and comprehensive portfolio that reflects their skills and abilities, as well as their interests, values, and goals.

*Grade Level: 9-12*

### Personal Finance

CREDIT 0.5

This course is designed to help students budget, keep a checkbook and filing system, deal with debt and credit, and become wiser consumers. Students will learn how money and the dynamics surrounding it affect their relationships, their lifestyles, and their retirement.

*Grade Level: 9 – 12*

## English

### English 9

CREDIT 1.0

English for grade 9 contains thematically related lessons in reading, writing, and the study of literature. Topics are presented in ways that relate literacy skills to other aspects of a student's life. Each unit ends with an authentic assessment that presents students with a real-world scenario requiring some of the skills they learned in the unit. Students will share their ideas and analysis using several different modes, including oral and multimedia presentations.

*Grade Level: 9*

### English 10

CREDIT 1.0

English for grade 10 consists of thematically related lessons in analyzing literature, informational text, writing, speaking and listening, and language study. Vocabulary development is integrated into literature and informational text lessons. Each unit ends with an authentic assessment that presents students with a real-world scenario requiring some of the skills they learned in the unit. Writing and informational text lessons guide students through the stages of a rigorous research process and demonstrate how to evaluate, integrate, and share the information gathered during research. Students are required to share their ideas and analysis using several different modes, including oral and multimedia presentations.

*Grade Level: 10*

### American Literature and Composition

CREDIT 1.0

American Literature and Composition is traditionally an 11th grade course, with units organized chronologically according to periods in literary history. Each unit begins with a lesson that provides historical context for the era and introduces themes that emerged in the literature of that era. Each lesson provides students with an opportunity to review basic analysis skills before applying those skills to works of literature or key historical documents. Lessons focused on more difficult historical documents include activities that help students comprehend the complex ideas in these works. Writing and informational text lessons guide students through the stages of a rigorous research process and demonstrate how to evaluate, integrate, and share the information gathered during research. Students are required to share their ideas and analysis using several different modes, including oral and multimedia presentations.

*Grade Level: 11*

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## Apocalyptic Literature

CREDIT 0.5

Students examine major works of literature organized into thematic units. Each unit contains poetry, short stories, and a novel that revolve around the theme for the unit. Themes include the self, relationships, alienation, choice, and death. As students read these works, they have the opportunity to reflect on these important themes by writing in multiple modes and creating cross-disciplinary projects.

*Grade Level: 12*

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## Adventure & Quest

CREDIT 0.5

Students will experience novels, short stories, poetry, and non-fiction from countries around the world. The writers in this course have ideas and lives as interesting as their work. By reading contemporary work and some work of the 20th century you will also discover that “no matter what a writer’s origins, certain themes and events have been hard to run away from in the 20th and early 21st centuries.” Along this journey you will use technology, writing, reflection, vocabulary, research, and other academic and personal skills to help you learn to enter the world of your community, your country, and your world.

*Grade Level: 12*

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## Creative Writing

CREDIT 0.5

Students consider the importance of word play exercises in improving their facility with language while building a compelling and creative writing style. Focusing on word nuances and precision, students write in a variety of modes, including poetry, song lyrics, prose poetry, short stories, and creative nonfiction. There are several opportunities for peer review in this semester, during which students learn best practices for participating in writing workshops, and then revise their work using feedback from their peers.

*Grade Level: 9 - 12*

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# Family and Consumer Sciences

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## Teen Transitions

CREDIT 0.5

This course teaches students practical skills for understanding and managing their emotions, setting goals and getting organized, understanding and getting along with others in our diverse world, and making good decisions. Research shows that people who practice these skills have greater academic achievement as students and experience more success and satisfaction as adults.

*Grade Level: 9 - 12*

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# Health and Physical Education

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## Health

CREDIT 0.5

In this course, students acquire the knowledge and skills they need to lead a healthy life. They will focus on the impact of personal decisions on their own health. Students learn how to find, evaluate, and use reliable information related to a variety of health topics. They also study the basic science behind nutrition, exercise, stress, and psychology, and examine how these factors affect a person’s overall health.

*Grade Level: 9 – 12*

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## Physical Education

CREDIT 0.5

Physical Education encompasses learning how to live and maintain a healthy lifestyle. This course covers physical fitness, why it is important, how to have a healthy attitude, and how to stick with a healthy game plan. In this ever-changing world, physical fitness becomes more important and more difficult to find the time for. This course is designed for anyone, ranging from the beginner to advanced abilities.

*Grade Level: 9 – 12*

## Mathematics

### Pre-Algebra

CREDIT 1.0

Pre-Algebra will help students move from the world of simple mathematics to the exciting world of algebra and geometry. They will develop skills that will be necessary throughout their life by learning to solve real world problems. Each concept is presented using examples of the skills, concepts, and strategies students will need. Scaffolding of ideas is provided to ensure student learning. With numerous hands on activities and demonstration videos, they will have multiple opportunities to enhance their process solving skills. Students will be given different assessment opportunities to demonstrate mastery of each skill.

*Grade Level: 9 – 12*

### Algebra 1

CREDIT 1.0

Algebra 1 introduces students to the world of algebra through expressions and equations. Students will evaluate algebraic expressions, solve linear equations and graph them. Students will work with problems and applications that involve exponents, quadratic equations, polynomials and factoring methods, rational and radical equations, data analysis and probability. This course also steers students through various real-world scenarios with the emphasis on using basic statistics to interpret the information given and found. Students learn through online lesson materials, videos and interactive activities. The end of each unit tests students' understanding with a self-check quiz with feedback. Also included is a unit exam and project for students to apply what they have learned.

*Grade Level: 9 – 12*

### Geometry

CREDIT 1.0

Geometry is the study of the measurement of the world. Through practical applications, the student sees how geometric reasoning provides insight into everyday life. The course begins with the tools needed in geometry. From these foundations, the student explores the measure of line segments, angles, and two-dimensional figures. Students will learn about similarity, triangles and trigonometric ratios. Students explore quadrilaterals and circles, and learn how an object is transformed, as well as how to represent that transformation algebraically and geometrically.

*Grade Level: 9 – 12*

### Algebra 2

CREDIT 1.0

This course further extends the learner's understanding of major algebraic concepts, and prepares them with the building blocks needed to dive deeper into trigonometry, pre-calculus and advanced probability and statistics. Topics include radicals, quadratic functions and equations, polynomials, rationals, systems of equations and inequalities, exponents and logarithms, sequences and series, probability and statistics and trigonometry.

*Grade Level: 9 – 12*

### Trigonometry

CREDIT 0.5

In this course, students will understand and apply concepts, graphs, and applications of a variety of families of functions, including polynomial, exponential, logarithmic, logistic and trigonometric. An emphasis will be placed on use of appropriate functions to model real world situations and solve problems that arise from those situations. A focus is also on graphing functions by hand and understanding and identifying the parts of a graph.

*Grade Level: 9 – 12*

### Pre-Calculus

CREDIT 0.5

Pre-Calculus covers the major units of Introductory Trigonometry and Graphs, Trigonometric Equations and Identities, Analytical Trigonometry, Sequences and Series, Conic Sections and an Introduction to Calculus. A focus is also on graphing functions by hand and understanding and identifying the parts of a graph.

*Grade Level: 9 – 12*

### Computer Science

CREDIT 0.5

This course will teach students Java, one of the most widely used computer languages in the world. Students will complete multiple projects, both in the console and user interface, including: mad libs, player vs computer games, battleship, tic tac toe, picture shuffler and many more. This course assumes no coding experience with Java programming.

*Grade Level: 9 - 12*

## Science

### Biology

**CREDIT 1.0**

Biology introduces students to the scientific method and the major concepts of biology from an historical and practical viewpoint. Biology is presented in a multimedia format using interactive modules, labs, narrated animation, text, and videos to present the study of life on this planet. Students work through and complete several self-check activities and quizzes for practice, and participate in self-reflection. In each unit, students complete the unit exam and deliver a unit project.

*Grade Level: 9 – 12*

### Chemistry

**CREDIT 1.0**

Students will discover what chemistry is, and how it is used and found all around us. The importance of the scientific method to solve real world problems will be investigated. This course will also stress the important relationship between math and science while studying measurement, metric system and stoichiometry. Students will use higher order thinking throughout the entire course. An algebra background is recommended because of the amount and type of math involved.

*Grade Level: 9 – 12*

### Physics

**CREDIT 1.0**

Students begin their exploration of physics by reviewing the International System of Units (SI), scientific notation, and significant digits. They then learn to describe and analyze motion in one and two dimensions. Students apply mathematical concepts such as graphing and trigonometry in order to solve physics problems. Physics continues the student's exploration of mechanics while also guiding them through some other important topics of physics such as the principles of electricity and magnetism, nuclear science, and relativity. Throughout the course, students apply their understanding of physics by playing roles like science museum curator and elementary teacher. This is a trig based course. It is assumed you know and can use trigonometry.

*Grade Level: 9 – 12*

### Environmental Science

**CREDIT 0.5**

The earth's population is growing rapidly, and we need to find new, innovative ways to ensure that we are able to provide for our global energy needs. Students will look at the reasons why sustainability is important, take a balanced and evidence-based look at climate change, and learn new ways that we can harness renewable resources.

*Grade Level: 9 – 12*

### Anatomy and Physiology

**CREDIT 1.0**

The aim of this course is to expand upon Biology, while emphasizing the application of this material to human structures and functions. This course begins the study of human beings at the microscopic level and works its way up to an in-depth study of select organ systems. Special emphasis will be placed upon applying and demonstrating the information learned in this course through, not only tests and quizzes, but through special projects and collaboration as well. Additionally, biochemistry, cell biology, histology, biotechnology, bioethics, and pathology will also be studied. This course is highly recommended for students seeking a career in science or a health-related profession.

*Grade Level: 9 – 12*

## Social Studies

### American Studies

**CREDIT 1.0**

This course covers the discovery, development, and growth of the United States from the colonial period until the twentieth century. Geographical, economic, and political factors are explored as the key factors in the growth of the United States of America. By means of reading, analyzing, and applying historical data, students come to appreciate the forces that shaped our history and character as an American people. Not only are the topics of American history discussed, but students also explore research methods and determine accurate sources of data from the past.

*Grade Level: 9 – 12*

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## **World History**

**CREDIT 1.0**

World History covers the rise of civilization from hunter-gatherer societies through the events and movements that created the modern world. The course begins with a focus on the skills needed to read, understand, and analyze history, also demonstrating how historians and social scientists arrive at their conclusions about human history. Students are encouraged to make connections between events and movements.

*Grade Level: 10 – 12*

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## **American Government**

**CREDIT 1.0**

This course will guide students through an in-depth study of the history, structure, and guiding principles of American government. In this course students will understand the significance of government, law, and politics. They will examine the United States foundational documents and how they shaped the United States government. Students will examine the purposes and functions of federal, state and local government, the justice system, political systems the environment, and the economy. By the end of the course students will have a deep understanding of their civic responsibilities as well as the difference one individual can make in society.

*Grade Level: 11 – 12*

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## **Contemporary History**

**CREDIT 0.5**

This course begins with an assessment of life in United States pre-World War I and ends with the conflicts of the new millennium. Students will look at the nation in terms of economic, social, and political trends. The experiences of the last century are summarized, including a look into the civil rights issues that have embroiled the nation in conflict. The development of the United States of America into a superpower is explored within a global context.

*Grade Level: 9 – 12*

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## **Sociology**

**CREDIT 0.5**

Sociology examines the basics of sociology, which is the study of society including individuals, human groups, and organizations. The course is divided into four main areas: the sociological perspective, social structures, inequality in society, and social institutions and change. Students will examine controversies around social change, inequality, gender, and race. The course revolves around an overview of the field with projects that offer the student a chance to explore from a sociologist's perspective.

*Grade Level: 9 – 12*

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## **Psychology**

**CREDIT 0.5**

In Psychology the student begins with a brief history of psychologists and their experimental methods. Next they examine personality theories. Then human development from the infant stage through adult stage is explored. Finally, the last part of the course is about consciousness: sleep, dreams, and conscious-altering substances. Students are encouraged to increase their own self-awareness as they move through the course.

*Grade Level: 9 - 12*

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## **Economics**

**CREDIT 0.5**

This course introduces the principles and the applications of economics in everyday life. Students learn how individual and national economic decisions are made to allocate goods and services among competing users. A goal of the course is for the student to develop the critical skills of analysis, synthesis, and evaluation in a demanding and thoughtful academic setting. Students are encouraged to perform at higher levels as they are presented with historical documents and additional readings, work with a set of facts arranged by theme, become skillful in note-taking, and join in student discussions. Students develop and demonstrate their writing skills by preparing extended research-based papers.

## Technology Education

### Web and Mobile App Design

CREDIT 0.5

In this course, students will learn how to design a beautiful and functional website. Students will learn how to take their design and translate it into a live website using Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) programming languages. HTML5 and CSS3 will be the standard versions used in the class. Students will understand design components of websites, including the use of color, layout and when to use different techniques, typography rules, and the importance of imagery. At the conclusion of the course, students will present a website to the class. Upon completion of this course, each student will have hands-on experience creating a fully functioning website. Students do not need to have a previous technical background with HTML or CSS prior to taking this course.

Grade Level: 9 – 12

## Potential Course Offerings

Based on the number of course requests, the following courses may be offered during 2020-2021. For more information, please contact John Lesjack, Assistant Principal, at 412-318-1105 or [lesjackj@nhsd.net](mailto:lesjackj@nhsd.net).

### Advanced Placement Courses

AP English Language and Composition  
AP English Literature & Composition  
AP Calculus (AB)  
AP Calculus (BC)  
AP Biology  
AP Chemistry  
AP Physics 1  
AP European History  
AP United States History  
AP United States Government  
AP World History

### World Languages

Spanish 1  
Spanish 2  
Spanish 3  
French 1  
French 2  
French 3  
German 1  
German 2  
German 3  
Latin 1  
Latin 2  
Latin 3