



2018-2019 COURSE CATALOG

The courses herein are the courses currently being offered at North Carolina Virtual Academy for the current school year. Please direct any questions about the course offerings to the counselor, Whitney Cress (wcrest@ncvacademy.org).

Mathematics

Math 6

In NCVA's Grade 6 mathematics course, students deepen their understanding of multiplication and division of fractions to apply their knowledge to divide fractions by fractions, with an additional focus on increasing efficiency and fluency. Students gain a foundation in the concepts of ratio and rate as an extension of their work with whole number multiplication and division, and in preparation for work with proportional relationships in Grade 7. Students also make connections among area, volume, and surface area, and continue to lay the groundwork for deep algebraic understanding by interpreting and using expressions and equations.

Math 7

In NCVA's Grade 7 mathematics course, students focus on real-world scenarios and mathematical problems involving algebraic expressions and linear equations and begin to apply their understanding of rational numbers with increased complexity. The course lays the foundation for exploring concepts of angle, similarity and congruence, more formally addressed in Grade 8, as students work with scale drawings and construct and analyze relationships among geometric figures. Students also develop and apply understandings of proportional relationships.

Math 8

NCVA's Grade 8 mathematics course prepares students for more advanced study in algebra as students solve linear equations and systems of equations, work with radical and integer exponents, gain conceptual understanding of functions, and use functions to model quantitative relationships. To prepare students for more advanced study in geometry, the course emphasizes the Pythagorean theorem and a deepening exploration of similarity and congruence.

Advanced Math Courses

Pre-Algebra (7th Grade)

****Prerequisites as outlined in the parent/student handbook.**

In this course, students take a broader look at computational and problem-solving skills while learning the language of algebra. Students extend their understanding of ratio to develop an understanding of proportions and solve problems including scale drawings, percent increase and decrease, simple interest, and tax. Students extend their understanding of numbers and properties of operations to include rational numbers. Signed rational numbers are contextualized and students use rational numbers in constructing expressions and solving equations. Students derive formulas and solve two-dimensional area problems including the area of composite figures. In three dimensions, students find surface area using formulas and nets. Students also compute the volume of three-dimensional objects including cubes and prisms. Students make use of sampling techniques to draw inferences about a population including comparative inferences about two populations. Students also investigate chance processes through experimental and theoretical probability models.

Math 1 (8th Grade for High School Credit)

****Prerequisites as outlined in the parent/student handbook.**

Math 1 uses application problem solving and critical thinking. The NC Math 1 course of study covers the following concepts: solving equations and inequalities, graphing linear and non-linear equations, systems of equations, factoring, functions, polynomials, and radicals. The Standards for Mathematical Practice apply throughout the course and, together with the content standards, require that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problems and persevere in solving them.

English Language Arts

ELA 6

This course equips students with the essential language arts skills needed throughout their academic careers. Students read and analyze a variety of informational and fictional texts. Instruction and reading strategies accompany reading selections to help engage students in the text and sharpen their comprehension. Students express their ideas and knowledge using standard (formal) English in written and oral assignments. Writing expressive, analytical, and procedural compositions helps students develop communication skills necessary in today's world. Vocabulary is taught explicitly and through an array of vocabulary acquisition strategies that give students the tools to independently increase their vocabulary. Students study grammar, usage, and mechanics; and practice sentence analysis, sentence structure, and proper punctuation. Portfolios created by students provide a platform for them to set goals, monitor their progress, and reflect on their accomplishments and challenges. The course includes discussion activities that engage students in the curriculum while creating a sense of community.

ELA 7

This course continues the development of comprehension and analysis of informational and fictional texts with an ongoing emphasis on reading strategies. Students express themselves using standard (formal) English in written and oral presentations. Analyzing and practicing the form and structure of various genres of writing enhances students' communication skills. Students study a variety of media to understand informational and persuasive techniques, explicit and implied messages, and how visual and auditory cues affect messages. Grammar, usage, and mechanics skills are deepened. Students continue to widen their vocabulary and apply acquisition strategies. Portfolios created by students provide a platform for them to set goals, monitor their progress, and reflect on their accomplishments and challenges. The course includes discussion activities that engage students in the curriculum while creating a sense of community.

ELA 8

Throughout this course, students engage in literary analysis and close reading of short stories, poetry, drama, novels, and informational texts. The course focuses on interpretation of literary works, analysis of informational texts, and the development of oral and written communication skills in standard (formal) English. Students read "between the lines" to interpret literature and go beyond the text to discover how the culture in which a work of literature was created contributes to the theme and ideas it conveys. Analysis of the structure and elements of informational texts and media helps students develop the skills needed for academic success and navigating the world. Students continue to acquire knowledge and skills in grammar, usage, mechanics, and vocabulary. Setting goals, self-monitoring progress, and reflecting on successes and challenges help students become metacognitive learners. The course includes discussion activities that engage students in the curriculum while creating a sense of community.

Science

Science 6

The sixth-grade science curriculum presents matter, force and motion, energy, waves, light, rocks and minerals, geology, and plate tectonics. Students learn to observe and analyze through hands-on experiments, as they gain insight into how scientists understand our natural world. They learn how the vast body of scientific knowledge changes and increases with new information. Students build models of objects and events to help them understand the processes, systems, and cycles of the natural world.

Science 7

The Physical Science program introduces students to many aspects of the physical world, focusing first on chemistry and then on physics. The course provides an overview of the physical world and gives students tools and concepts to think clearly about matter, atoms, molecules, chemical reactions, motion, force, momentum, work and machines, energy, waves, electricity, light, and other aspects of chemistry and physics. Among other subjects, students study the structure of atoms; the elements and the Periodic Table; chemical reactions; forces, including gravitational, motion, acceleration, and mass; and energy, including light, thermal, electricity, and magnetism.

Science 8

The eighth grade North Carolina-state customized program introduces students to many aspects of physical science and life science, focusing first on chemistry and then on physics. The first semester of the course provides an overview of the physical world and gives students tools and concepts to think clearly about matter, atoms, molecules, and chemical reactions. Among other subjects, students study the structure of atoms, elements, and the periodic table. In life science, students study organisms, cells, cellular processes, and cell energy. The second semester of the course gives students the tools and concepts to think clearly about life science topics such as the interdependence of life, adaptation and change, and the history of life on earth. Among other subjects, students study the adaptation and change of organisms over time, the history of earth and of organisms on our planet, water and oceans, and earth's energy sources and the planet's natural and man-made resources.

Social Studies

Social Studies 6

World History A surveys the story of the human past from the period before written records, prehistory, through the fourteenth century. The course is organized chronologically and, within broad eras, regionally. The course focus is the story of the human past and change over time, including the development of religion, philosophy, the arts, and science and technology. Geography concepts and skills are introduced as they appear in the context of the historical narrative. Students explore what archaeologists and historians have learned about the earliest hunter-gatherers and farmers and then move to a study of the four river valley civilizations. After a brief writing unit, they study the origins of Confucianism, Hinduism, Buddhism, and Judaism and the eras in which they developed. The second half of the course traces the story of classical Greece and Rome, the Byzantine Empire, the origins of Christianity and Islam, and then continues through the fourteenth century in Europe, North Africa, and East Asia. Historical thinking skills are a key component of Intermediate World History. Students practice document and art analysis, conduct research, and write in a variety of formats. They also practice map reading skills and look at how historians draw conclusions about the past as well as what those conclusions are.

Social Studies 7

Continuing a survey of World History from prehistoric to modern times, online lessons and assessments complement the second volume of *The Human Odyssey*, a textbook series developed and published by K12. This course focuses on the story of the past from the fourteenth century to 1917 and the beginning of World War I. The course is organized chronologically and, within broad eras, regionally. Lessons explore developments in religion, philosophy, the arts, and science and technology. The course introduces geography concepts and skills as they appear in the context of the historical narrative. Major topics of study include the cultural rebirth of Europe in the Renaissance, the Reformation and Counter-Reformation, the rise of Islamic empires, changing civilizations in China, Japan, and Russia, the Age of Exploration, and the civilizations that had been flourishing in the Americas for hundreds of years prior to encounters with Europeans, the changes that came with the Scientific Revolution and the Enlightenment, democratic revolutions of the eighteenth and nineteenth centuries, the Industrial Revolution and its consequences, nineteenth century nationalism and imperialism, the remarkable transformations in communications and society at the turn of the twentieth century.

Social Studies 8

Students in eighth grade will continue to build on the fourth and fifth grade introductions to North Carolina and the United States by embarking on a more rigorous study of the historical foundations and democratic principles that continue to shape our state and nation. Students will begin with a review of the major ideas and events preceding the foundation of North Carolina and the United States

The main focus of the course will be the critical events, personalities, issues, and developments in the state and nation from the Revolutionary Era to contemporary times. Inherent in this study is an analysis of the relationship of geography, events and people to the political, economic, technological, and cultural developments that shaped our existence in North Carolina and the United States over time.

Electives

Art 6

Intermediate Art: American B. Following the same historical time line, lessons include an introduction to the artists, cultures, and great works of American art and architecture from the end of the Civil War through modern times. Students will investigate paintings done in various styles, from Impressionist to Pop; learn about modern sculpture and folk art; discover how photographers and painters have inspired one another; examine examples of modern architecture, from skyscrapers to art museums; and create artworks inspired by works they learn about.

Art 7

This course combines art history, appreciation, and analysis, while engaging students in hands-on creative projects. Lessons introduce major periods and movements in art history while focusing on masterworks and the intellectual, technical, and creative processes behind those works. Studio lessons provide opportunities for drawing, painting, sculpting, and other creative endeavors.

Music 8

Explore and build foundational musical skills with Spotlight on Music. This course offers a variety of learning activities that include singing, dancing, virtual instruments, listening maps, authentic sound recordings and playing the recorder. The course is organized into nine units. Students learn about these musical elements: duration, pitch, design, tone color, expressive qualities and cultural context. Students explore beat, meter, rhythm, melody, harmony, tonality, texture, form, tone color, dynamics, tempo, articulation, style, and music background.



4220 NC Highway 55 Suite 130

Durham, NC 27713

Office: 919.346.0121

Website: <http://ncva.k12.com>