

Virtual Advanced Placement (VAP)	Virtual Initial Credit (VIC)
Courses	Courses
AP Art History (Virtual) - 7189V	Abnormal Psychology thru Film (Virtual) - 1438V
AP Biology (Virtual) - 3509V	Adv Algebra with Financial Appl (Virtual) - 2205V
AP Calculus (Virtual) - 2259V	American Sign Language I (Virtual) -4105V
AP Computer Science (Virtual) - 2508V	American Sign Language II (Virtual) - 4106V
AP Human Geography (Virtual) - 1220V	Art History IA (Virtual) - 7187HV
AP English Language (Virtual) - 0509V	Art History IB (Virtual) - 7186HV
AP English Literature (Virtual) - 0519V	Art History I (Virtual) - 7188FV
AP Environmental Science (Virtual) - 3549V	Computer Programming I (Virtual)- 2575V
AP Government & Politics (Virtual) - 1449V	Digital IT (Virtual) - 2501V
AP Psychology (Virtual) -1439V	Digital Solutions I (Virtual)* - 2618
AP Statistics (Virtual) - 2279V	Digital Solutions II (Virtual)* - 2616
AP US History (Virtual) - 1319V	ELA IV College Prep (Virtual) - 0065V
AP World History (Virtual) - 1219V	English IV Mosaics - 0900V
	ESF Global Environment (Dual Credit) - 3961V
	Foundations of Programming (Virtual) - 2502V
	Literature to Film (Virtual) - 0245V
	Mandarin Chinese I (Virtual) - 4195V
	Mandarin Chinese II (Virtual) - 4295V
	Music Theory I - 7685V *COMING SOON*
	Procedural Programming (Virtual) - 2503V

*Pre-approved schools only.

VAR Course Descriptions

VIRTUAL AP and INITIAL CREDIT COURSE OVERVIEW

All Virtual AP and Initial Credit Courses are primarily asynchronous, with some regularly scheduled "live" meetings throughout the year. Each registered student should be scheduled time within the day to work on the coursework. In addition, there will be a required orientation during the summer to become acquainted to the online platform, review class expectations, and meet with the teacher to begin working. The virtual component of the courses allow students to progress through the curriculum at an individual pace, gives them 24-hour access to both the curriculum and supporting resources, and provides immediate feedback on assignments. As usual, each AP course culminates in a College Board AP exam that may lead to college credit, depending on the student's score and the policies of whichever institution the student attends.

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MATH

2259V - AP Calculus AB (Virtual)

1.0 Mathematics Credit

Prerequisites: Pre-calculus, Algebra II R

This course offers a combination of assessment and instruction in an online environment containing, but not limited to the areas of functions, functions and limits, differential calculus, and integral calculus. The course applies differential calculus to finding the slope of a curve, solving problems with related rates, calculating motion properties of moving particles, etc. It then applies integral calculus to finding the areas of irregular regions in a plane, volumes of rotation by various methods, and other scientific applications.

2279V – AP Statistics (Virtual)

1.0 Mathematics Credit

Prerequisites: Algebra II R

Students will become familiar with the vocabulary, method, and meaning in the statistics which exist in the world around them. This is an applied course in which students actively construct their own understanding of the methods, interpretation, communication, and application of statistics. Each unit is framed by enduring understandings and essential questions designed to allow students a deep understanding of the concepts at hand rather than memorization and emulation. Students will also complete several performance tasks throughout the year consisting of relevant, open-ended tasks requiring students to connect multiple statistical topics together. The TI 83+/84 OR 89 calculator and computers will be used to explore the world of data and the patterns which can be found by analyzing this information as well as statistical relationships. General topics of study include exploring data, planning and design of a study, anticipating patterns, and statistical inference.

SCIENCE

3509V– AP Biology (Virtual)

1.0 Life Science Credit

Prerequisites: Living Environment and Chemistry

This course is the equivalent of a college level biology class. Students will develop higher-level critical thinking skills, and learn how to research and distill information. Students will take the AP Exam in May and have the opportunity to earn college credit, as well as becoming better prepared for college courses through taking this class. An AP Biology course is designed to offer students a solid

foundation in introductory college-level biology. Course topics include: Introduction, Evolution, Cells and Homeostasis, Capturing and Using Energy, Biological Responses, Genetics, Transmission, Systems and Populations, and Change and Biodiversity. AP Biology is an in-depth study of biological principles, including scientific experimentation and science as a way of knowing. The course is designed to build enduring understandings of science principles and practices and to assist students in developing an appreciation for the study of life and help them identify and understand unifying scientific principles.

3549V – AP Environmental Science (Virtual)

1.0 Life Science Credit

Prerequisites: Living Environment and Chemistry

This course is the equivalent of a college level environmental science class. Students will take the AP Exam in May and have the opportunity to earn college credit, as well as becoming better prepared to take college courses. This course emphasizes the 'science' in environmental science, but also integrates portions of many different sciences. Throughout the course, students are taught multidisciplinary methods for collecting, analyzing, and interpreting data to monitor and abate problems within the environment in which we live. Students then use this information and data to identify and analyze environmental problems, both natural and human-made, to evaluate the risks associated with these problems, and to critically examine alternative solutions for resolving and/or preventing them. Course Topics: (Total Course Time 32-36 weeks): Module 1: Environmental Problems Module 2: Living World Module 3: Physical World Module 4: Population Module 5: Energy Module 6: Atmosphere and Climate Change. We will incorporate social sciences such as economics, politics, ethics, and law to understand real-world perspectives on environmental problems. After completing the course, students will be able to assess their role within the environment and make personal decisions that will lead to an environmentally sustainable future for their community, state, country, and all human beings.

3961V - ESF Global Environment (Dual Credit) (Virtual)

1.0 Science ELECTIVE DUAL Credit

Prerequisites: 3 Regents science courses before taking the course.

The Global Environment will help you to gain the knowledge and tools to make informed decisions regarding the environment and the earth's future and to be able to understand the connections between such varied topics as pollution, deforestation, climate change, acid rain, soil depletion, economics, evolution, history and social justice. The course stresses a science based systems approach in evaluating problems and potential solutions as well as the critical role of energy in many of the environmental challenges facing the world.

HISTORY

1449V - AP Government & Politics (Virtual)

1.0 Social Studies credit

Prerequisites: US History and Government

Advanced Placement United States Government and Politics offers a combination of assessment and instruction in an online environment. The course is designed to give students a critical perspective on politics and government. This course involves both the study of general concepts used to interpret United States politics and an examination of the various institutions, groups, beliefs, and ideas that make up American politics. Careful comparison of political systems produces useful knowledge about the institutions and policies countries have employed to address problems, or, indeed, what they have

done to make things worse. The course is taught with college-level texts. Preparation for the A.P. test will be an integral part of the course.

1220V - AP Human Geography (Virtual)

1.0 Social Studies ELECTIVE credit

AP Human Geography presents high school students with the curricular equivalent of an introductory college-level course in human geography or cultural geography. Content is presented thematically rather than regionally and is organized around the discipline's main subfields: economic geography, cultural geography, political geography, and urban geography. The approach is spatial and problem oriented. Case studies are drawn from all world regions, with an emphasis on understanding the world in which we live today. Historical information serves to enrich analysis of the impacts of phenomena such as globalization, colonialism, and human-environment relationships on places, regions, cultural landscapes, and patterns of interaction.

1439V – AP Psychology (Virtual)

1.0 Social Studies ELECTIVE Credit

Prerequisites: Global History

AP Psychology is a college level course providing students an overview of the development of human behaviors and thoughts. Along with preparation for the AP Psychology exam, the goals of this course are to immerse students in modern psychological investigation techniques, to accentuate the ethics and morality of human and animal research, and to emphasize scientific critical thinking skills in application to the social sciences. Psychology is a diverse social and biological science with multiple perspectives and interpretations.

1219V - AP World History (Virtual)

1.0 Global History credit

Prerequisite:

AP World History is designed to be the equivalent of a two-semester introductory college or university world history course. In AP World History students investigate significant events, individuals, developments, and processes in six historical periods from approximately 8000 B.C.E. to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and continuity and change over time. The course provides five themes that students explore throughout the course in order to make connections among historical developments in different times and places: interaction between humans and the environment; development and interaction of cultures; state building, expansion, and conflict; creation, expansion, and interaction of economic systems; and development and transformation of social structures.

1319V – AP US History (Virtual)

1.0US History Credit

Prerequisite:

AP U.S. History is designed to be the equivalent of a two-semester introductory college or university U.S. history course. In AP U.S. History students investigate significant events, individuals, developments, and processes in nine historical periods from approximately 1491 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and these challenges.

1438V - Abnormal Psychology Through Film (Virtual)

0.5 Social Studies ELECTIVE Credit

Prerequisites: Global History

This elective will explore abnormal human behavior through film. The films/topics covered will include, but are not limited to, *The Lord of the Flies* (Nature v Nurture), *The Matrix* (How the Mind and Body Interact), *A Beautiful Mind* (Schizophrenia), and *I Am Sam* (Intellectual Disability). The course will focus on basic foundations of the Psychology discipline and specific abnormal behaviors that are classified by the American Psychological Association (APA) as disorders. Students will view films that address these topics and then respond through analytical writing and group discussions.

ENGLISH

0519V – AP English Literature and Composition (Virtual)

1.0 English Credit

Prerequisites: English III

For a year, students will participate in an online course that will expose them to college-level readings, writings, and expectations. Students will engage in reading, analyzing, writing, rewriting, and discussing creations by renowned authors. With intensive concentration on composition skills and on authors' narrative techniques, this literary experience equips students with strategies for success in college, in a career, and the AP exam.

0509V – AP English Language and Composition (Virtual)

1.0 English Credit

Prerequisites: 85% or higher in English II or English II Honors

An AP course in English Language and Composition students in becoming skilled readers of prose written in a variety of periods, disciplines, and rhetorical contexts and in becoming skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer's purposes, audience expectations, and subjects as well as the way generic conventions and the resources of language contribute to effectiveness in writing. The college composition course for which the AP English Language and Composition course substitutes is one of the most varied in the curriculum.

0065V - English IV College Prep (Virtual)

1.0 English Credit

Prerequisites: 85% or higher in English II or English II Honors

This virtual course prepares for the demands of reading, writing, and communicating in college and beyond. It specifically focuses on honing skills in creative and analytical writing, as well as applies concepts learned to closely read and analyze both contemporary and historical informational texts.

0900V - English IV Mosaics (Virtual)

1.0 English Credit

Prerequisites: English III

The goal of this course is to have every graduate of the Rochester City School District leave us as a civic leader, who has a sound understanding and appreciation of whom they are and their value within their community. This will empower the student to become more open-minded towards the world, and to recognize that we are all different, but we all have many of the same basic needs. Students will be exposed to the high demands of rigorous study including, but not limited to such activities as: mindful seminars and discussions; research-based investigative work; expressive forms

of sharing learning; public speaking; purposeful community services chosen and performed by every student; independent and group work; and reading and writing at college-level expectations. The core of the class will revolve around routine discussions based upon cultural topics, current events, and class readings. Students will reflect frequently utilizing responses to capture immediate thoughts and then later, incorporating these learnings into a more comprehensive artistic expression of learning.

0245V – Literature to Film (Virtual)

1.0 English Credit or 1.0 ELECTIVE Credit

Prerequisites: English III

Film, while it may be influenced by written pieces of text, should often be considered an entirely unique piece of art for the purposes of critique and analysis. This course explores the multifaceted relationship between film and literature. Selected novels, short stories and plays are analyzed in relation to film versions of the same works in order to gain an understanding of the possibilities—and problems—involved in the transposition to film. Students will also be asked to look at the literature and film from varying perspectives and contexts (i.e. cultural, historical, biographical, political, economic, etc.).

ARTS

7189V – AP Art History (Virtual)

1.0 Art Credit

Prerequisites: Studio Art I

This course provides college-level instruction in art history beginning with pre-history and concluding with 21st century art and architecture. The course challenges students to examine major forms of artistic expression from the past and present within a variety of cultures, examine works of art critically with intelligence and sensitivity, and articulate how it represents the culture it was created within. Students enrolled in AP Art History are required to take the Advanced Placement examination administered by the College Entrance Examination Board in May.

7187HV – Art History IA (Virtual)

0.5 Art Credit

Part 1 of the Art History I class.

7186HV – Art History IB (Virtual)

0.5 Art Credit

Prerequisites: Art History IA

Part 2 of the Art History I class.

7188V – Art History I (Virtual)

1.0 Art Credit

Prerequisites: Global History I

Students are introduced to artwork chronologically from pre-history through the late 20th Century. The Art History I course is comprised of Art History IA and Art History IB to give a complete look at the evolution of art. Art from all major periods are examined, with emphasis on major contributing ideas, movements throughout history and an in-depth look at painting, sculpture and architecture. This course will give students a complete view of how history shapes art and at times, how art shapes history. Students will learn through online study and discussion, virtual gallery tours and individual assignments. This is a full-year elective that is open to all students in grades 11 and 12.

The prerequisites for this course include a passing grade in Global History, an interest in art and a commitment to success.

7685V – Music Theory I (Virtual) *COMING SOON*

0.5 Music Credit

This class is designed for students with very little or no music theory background. Students will develop listening skills and train the student in the basic rudiments including: all major and minor scales, intervals, chords and triads, melodic and rhythmic structure, simple melodic and harmonic writing, and basic harmony/ non-harmonic tones.

LOTE

4105V – American Sign Language I (Virtual)

1.0 Foreign Language Credit

Prerequisites: N/A

Includes fingerspelling and basic sign vocabulary, allowing for immediate conversation at the simple sentence level. Vocabulary is built on signs from home, school, food, family, weather, jobs, feelings and descriptors. Aspects of Deaf Culture will be explored, including characteristics, famous role models and its history.

4205V – American Sign Language II (Virtual)

1.0 Foreign Language Credit

Prerequisite: American Sign Language I

Students will be able to comprehend messages and short conversations when they contain frequently used grammatical features and word order patterns. Understand main ideas and information when watching signed television broadcasts, instructional videotapes, and films on topics of interest to them or to the general public. Express themselves clearly, using proper ASL grammar on familiar topics. Lastly, understand and continues to use the rules of Deaf Culture.

4195V – Mandarin Chinese I (Virtual)

1.0 Foreign Language Credit

Prerequisites: N/A

This is an introductory course of Mandarin Chinese. The objective is to develop communicative skills as well as cultural awareness. Through learning simplified Chinese characters and Pinyin phonetic system on the virtual learning environment, learners will do reading and writing, discuss real-world topics, and explore the social background of the language. Besides online study and online work submission, the teacher meets with learners face to face on a regular basis to address individual learning needs.

4295V – Mandarin Chinese II (Virtual)

1.0 Foreign Language Credit

Prerequisite: Mandarin Chinese I

You will learn more about Chinese food, clothing, art and history as magnified through language. More emphasis will be placed on written forms of Mandarin. A school exam completes this course.

COMPUTER SCIENCE

2508V – AP Computer Science A (Virtual)

1.0 ELECTIVE Credit

Prerequisites: Algebra I and Geometry R

The AP Computer Science A course is equivalent to the first semester of a college level computer science course. The course involves developing the skills to write programs or part of programs to correctly solve specific problems. AP Computer Science A also emphasizes the design issues that make programs understandable, adaptable, and when appropriate, reusable. At the same time, the development of useful computer programs and classes is used as a context for introducing other important concepts in computer science, including the development and analysis of algorithms, the development and use of fundamental data structures, and the study of standard algorithms and typical applications. In addition an understanding of the basic hardware and software components of computer systems and the responsible use of these systems are integral parts of the course.

2575V – Computer Programming I (Virtual)

1.0 Math/ Science Credit or ELECTIVE Credit

Prerequisites: Algebra I

An introduction to the theory and practice of computer programming, the emphasis of this course is on techniques of program development within the object-oriented paradigm. Topics include, but are not limited to control structures, data types, error handling, design cycle, math methods, simple data structures, and basic concepts of software development. Java is the programming language used in the course.

2618V – Digital Solutions I (Virtual) (Select schools only)

0.5 CTE ELECTIVE Credit

Prerequisite: Recommendation by School Principal

This course is designed to provide students the opportunity to utilize the Computer Science design cycle to identify and provide solutions to digital problems from a student and/or teacher standpoint. Students will collaborate to investigate problems; plan solutions; create the solutions and finally evaluate/debug the solutions. Students will document their findings, adding to a digital users guide created for peers, as a resource that indexes commonly encountered situations and their solutions. Students will be required to complete and maintain several running projects that address problems and or solutions.

2616V – Digital Solutions II (Virtual) (Select schools only)

0.5 CTE ELECTIVE Credit

Prerequisite: Digital Solutions I and employment as IM&T Student Intern

The Digital Solutions 2 course is a hands on study of technology integration in an educational context and an extension of DS1. Students will be required to assess problem sets throughout the day and define the best approach to addressing or solving those problems. In addition to solving problems for students and teachers, students will be required to complete and maintain several running projects that address problems or solutions in educational technology integration, design/participate in a service project that benefits the community and is related to technology. The course also asks students to have a prior understanding of Chrome OS, Microsoft Windows OS, and Apple OS.

2501V - Digital Information Technology (Virtual)

1.0 CTE ELECTIVE Credit

This virtual course provides you with the foundational skills needed for future careers in a variety of technological fields. You'll explore emerging technologies, digital design, Microsoft Office online applications, operating systems, and much more! Learn your strengths and how they relate to potential career opportunities.

2502V - Foundations of Programming (Virtual)

1.0 CTE ELECTIVE Credit

Learn the skills required to be competitive in today's high-tech workforce. This course covers the fundamentals of programming using the computer language Python. It provides you with the concepts, techniques, and processes associated with computer programming and software development. You'll also explore the vast programming career opportunities available in this high-demand field.

2503V - Procedural Programming (Virtual)

1.0 CTE ELECTIVE Credit

Prerequisite: Foundations of Programming

Do you want to learn higher-level coding skills? This course teaches advanced programming concepts using the computer language Python. You will learn techniques and processes associated with computer programming and software development.