

## *Course Descriptions*

### **English**

#### *English 9-12*

Students write increasingly longer narrative forms; more abstract expository and persuasive essays; and more fully documented research papers.

#### *Honors English 9-12*

The honors program is organized into thematic and historical units through which students strengthen their critical thinking skill by extensive discussion and writing activities.

#### *AP English Language and Composition*

As they read, students become aware of how authors from different periods and disciplines match their rhetorical choices to particular aims. The class requires extensive reading and writing.

#### *AP English Literature and Composition*

Extensive composition and discussion require students to demonstrate their sensitivity to the language and structure of a piece of writing as well as to develop their own power and precision in organizing and expressing thought. Extensive reading and writing are required.

#### *Dual Enrollment English*

Writing activities will include exposition and argumentation with at least one researched essay. High school English student may satisfy their 12<sup>th</sup> grade English requirement, earn six hours of credit from college freshmen English through TCC and experience College course work.

#### *AVID 9, 10, 11, 12*

Advancement Via Individual Determination – This course is designed to assist student with note taking and test taking skills. There is an application and students must have an interview to get into the course as a transfer student and an exit interview to drop the course.

#### *Effective Reading Skill for High School Students*

Students are recommended for placement in this course based on multiple criteria which include results prior standard tests.

### **Math**

#### *Algebra I Part 1/Part 2*

The course is designed to help students understand the basic structure of algebra and acquire proficiency in applying algebraic concepts and skills in authentic situations.

#### *Algebra Honors*

The course is designed to prepare students for Scientific, Technology, Engineering and Mathematics (STEM).

### *Geometry Honors*

The course focuses on the development of problem-solving skills and acquisition of mathematical vocabulary and symbols.

### *Geometry Part 1/Part 2*

The course is designed to help students understand the basic structure of geometry and apply geometric concepts and skills in authentic situations.

### *AFDA*

Students will solve problems that require the formulation of linear, quadratic, exponential, or logarithmic equations or a system of equations.

### *Algebra II*

Continuing with other topics related to Algebra I, the course introduces and develops new topics including complex numbers, fundamental concepts of analysis, logarithmic and exponential equations, sequences and series.

### *Trigonometry*

Trigonometry compliments Algebra ii and offers a thorough treatment of trigonometric and circular functions.

### *Algebra II/Trigonometry*

Algebra II and Trigonometry combined.

### *Discrete Math*

Offers methods of problem-solving which are not normally found in the algebra, geometry, and trigonometry. It offers problems in the area of management science along with social decision-making topics including fair division.

### *Probability and Statistics*

The course provides an understanding of the kinds of regularity that occur in random functions and also provides experiences in associating probabilistic- math models with in the real world.

### *Math Analysis*

Topics include functions, theory of equations, matrices, sequences and series, polar coordinates, exponential and logarithmic functions.

### *AP Statistics*

Students study the major concepts and tools for collecting, analyzing, and drawing conclusions from data.

### *AP Calculus AB*

The course is a study of differentiation and integration techniques with an emphasis on applications.

### *AP Calculus BC*

Topics include differentiation and integration techniques; vector functions and parametric equations; polar graphs.

### *Computer Programming*

Students will be introduced to problem-solving and programming concepts using Alice, a three-dimensional graphics-oriented programming environment.

### *AP Computer Science*

Topics include computer systems, object-oriented program design concepts and implementation, classes, strings, arrays, recursion, data structures, and analysis of algorithms.

## **Social Studies**

### *World Geography*

Map skills are extended as students use an atlas and varied types of maps in regional studies, build spatial perceptions and develop a mental map of the world.

### *World History & Geography Part I (pre-history to 1500 A.D.)*

Students will explore the historic, economics, and cultural contributions of ancient and classical civilizations, both Western and non-Western.

### *World History & Geography II (1500 A.D. to the present)*

Historical concepts, political and economic systems, and cultural and historical difference are identified and examines.

### *Virginia & US History*

This course examines the political, economic, geographic, and social development of our state and the nation from the Age of Discovery to the present.

### *AP US History*

This course includes American history from the colonial period to the present, analyzing events and eras. Extensive writing and reading is required.

### *Virginia & US Government*

Students examine the purposes and structure of governments and the decision-making processes at the local, state, national, and international levels.

### *AP Government and Politics US*

Students gain an analytical perspective on government and politics in the US. Extensive writing and reading are required.

### *AP European History*

Students examine European history from the Renaissance to the present and trace the developments in political and diplomatic history, intellectual and cultural history, and social and economic history. Extensive reading and writing are required.

### *Sociology*

The course investigates human society, social relations, organization, and change. Emphasis is placed on topics as changing family patterns, poverty, stereotypes, and mass media.

### *Psychology I & II*

The course examines the principles of learning, characteristics of personality, measurement of intellectual abilities, and the effects of heredity and environment on human behavior.

### *AP Psychology*

Students focus on the systematic and scientific study of the behavior and mental processes of human being. Extensive reading and writing are required.

### *AP Government: Comparative*

Students examine public policy issues and evaluate the ways these governments respond to internal and external pressures. Extensive reading and writing are required.

### *AP Human Geography*

Students study cultural patterns and processes, analyze demographic and economic information, and apply geographic knowledge and perspectives to understand current world issues.

### *Economics*

Explores the choices and decisions people make about how to use limited resources, and the principal concepts of economic processes. Students will develop economic reasoning skills as applied to personal, community, national and global economic issues.

### *Leadership*

This course is designed to develop a student's personal leadership skills and understanding of group processes. It seeks to foster in students a better understanding of themselves and their capacity for leadership; to create an understanding of the importance of leadership; and to prepare students to assume leadership roles in the school and community.

## **Science**

### *Earth Science*

Includes earth processes of environmental concerns, energy, and earth processes.

Biology and the influence of Science, technology, and society.

### *Biology*

Topics include cell and cell processes, genetics, and heredity, cycles in nature, photosynthesis and respiration, ecology, and continuity of life.

### *Chemistry*

Involves the study of the structure, composition, properties, and reactions of matter.

### *Physics*

Involves the problem-solving as students investigate such topics are force and motion, work, heat, sound, light, electricity, magnetism

### *Oceanography*

Topics include oceanographic instruments, the chemistry of sea-water, ocean sediments, weather and climate, waves, tide and currents.

### *Astronomy*

Studies solar system, sun, and stars, structure of the universe, and the systematic nature of the cosmos.

### *AP Environmental Science*

Provides students with the scientific principles, concepts, and methodologies required to understand and analyze the interrelations of the natural world.

### *AP Biology*

Provides students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology.

### *AP Chemistry*

Allows students to attain a depth of understand and competence in dealing with complex chemistry topics.

### *AP Physics I*

Motivates student with a systematic development of the main principles of physics, emphasizing program-solving and a depth of understand of physics concepts.

### *AP Physics II*

Same as Physics I pre-requisite is AP Physics I.

## **World Languages**

### *French I, German I, Spanish I*

Students begin the sequential development of communicative skills. They use the language for oral and written communication, interpretation of spoken and written information, and presentations to

audience of listeners and readers. Culture is an integral part of all communicative efforts because it is a natural component of language use.

### *French II, German II, Spanish II*

Students continue the sequential development of all communicative skills.

### *Latin I*

Students are introduced to the culture and institutions of the Romans as they begin to read, understand, and interpret Latin.

### *Latin II, II IV, V*

Students increase their ability to read, understanding interpret Latin. They explore various literary styles and become acquainted with several Latin authors through a survey of Latin literature.

### *Japanese I*

They use more sophisticated language for oral and written communication, interpretation of spoken and written information.

## **Art**

### *Art Foundations*

The course will assist students in gaining more meaningful knowledge of a broad range of ideas, artistic styles, media, and artmaking processes.

### *Drawing, Painting, and Printmaking*

Students will keep a sketchbook/journal to document. Reflect on their artmaking process.

### *Ceramics, Sculpture, and Fine Arts Crafts*

The course is designed for student to develop and refine their ideas and skills in ceramics, sculpture, and fine arts crafts.

### *Advanced Art*

This course is designed to expand students' knowledge, skill development, and independent thinking in both two and three dimensional media.

### *AP Art History*

The course involves the intensive study of a representative sampling of global artworks from pre0-historic through the 21<sup>st</sup> century.

### *AP Art Studio 2D*

The course is an in-depth studio experience in which students compile a portfolio of quality two-dimensional artwork.

#### *AP Art Studio 3D*

The course is an in-depth experience in which student compile a portfolio of quality three-dimensional artwork using a variety of art forms and contributions or art to society.

### **Music**

#### *Mixed Chorus*

Emphasis is placed on understanding notational skills such as rhythm, pitch, and basic music symbols essential to accurate interpretation of the music score.

#### *Concert Choir*

Student are expected to demonstrate increased skills in music fundamentals and vocal development.

#### *Madrigal/Vocal Ensemble*

Students are given the opportunity to develop high standards of musicianship.

#### *Beginning Orchestra*

Designed to meet the needs of students wanting to play a string instrument. Attention is focuses on the production of basic rhythms and the understanding of one production, basic notation, and music fundamentals.

#### *Intermediate Band/Intermediate Orchestra*

Emphasis is placed on developing the concepts of tone production, stylistic performance, and ensemble awareness.

#### *Advanced Band/Advanced Orchestra*

Emphasis is placed on artistic performance commensurate with advance performance literature. Students become acquainted with the great heritage of symphonic literature.

#### *AP Music Theory*

Students will engage in intensive study of all aspects of music theory including notation, dictation, ear training, sight-singing, and harmonic analysis.

#### *Music Theory I*

Emphasis is placed on sight-singing, simple dictation, musical forms, and the basic principles of how music is organized

#### *Music Theory II*

The class includes the structure of triads and seventh chords, the inversion of chords, the quality and function of chords, and types of cadences.

### **Health and Physical Education**

#### *Health and Physical Education I*

Designed for the development of complex movement skills, cognitive understanding of movement principles, and development of personal fitness plans.

#### *Health and Physical Education II*

First semester is Driver Education-classroom Theory, second semester includes Wellness plan, health Careers. Risk factors while focusing on the refinement of complex motor skills.

#### *Health and Physical Education III*

Elective physical education courses provide students with the opportunity to participate in physical activities for specific purposes.

#### *Physical Education IV*

Student in elective physical education demonstrate the knowledge and understanding necessary to analyze movement performance in an activity of choice.

#### *Anatomy and Sports Injury*

This course will focus on basic anatomy (bones, muscles, ligaments, blood and nerve supply) and recognition, treatment, and rehabilitation of injuries to the upper and lower body.

### **Military Science**

#### *Naval Science I, II, III, IV*

The Naval Junior Reserve Officers Training Corps (NJROTC) curriculum includes instruction which emphasizes self-discipline, citizenship, patriotism, followership, leadership, and orientation in Naval subjects.

### **Business and Information Technology**

#### *Design, Multimedia, and Web Technologies*

Students will incorporate journalistic principles in design and layout of publications.

#### *Financial Management*

The investigation of financial options provides students with an opportunity to see that sound financial decisions can increase personal wealth and standard of living.

#### *Information Technology Fundamentals*

The focus of this course concentrates on computer maintenance/upgrading/trouble shooting, computer application, programming and graphics



### *Keyboarding*

Students develop skills in touch keyboarding techniques including word processing applications.

### *Computer Information Systems*

Students will prepare to sit for the Microsoft Office Specialist (MOS) industry certification.

## **Theatre Arts**

### *Introduction to Theatre Arts*

The course offer student a general overview of theatre and its use and effect in and on culture.

### *Performance Theatre*

The course affords student in-depth experience in elements of performance through actor training and application.

### *Technical Theatre*

Students will study scenic design, theatre management, sound design, stagecraft, makeup, masks, costume design and construction.

### *Cinema Studies*

This course provides opportunities for students to develop the knowledge, skills, and attitudes needed to respond to and create film and video works.

### *Studio Theatre*

Both performers and technicians collaborate on performances and bring their skills into the final arena of development-sharing their art with an audience.

## **Marketing Education**

### *Fashion Marketing*

This course is for students with career interest in apparel and accessories marketing.

### *Marketing*

Students will develop the skills and knowledge needed for careers in marketing, management, and entrepreneurship.

### *Co-Op*

Cooperative education is the supervised on-the-job instructional phase of an occupational preparation program.

### *Advanced Marketing*

Highlights skills important for supervisory-management employment in apparel businesses.

### *Marketing*

### *Advanced Entrepreneurship & Innovation*

Immerses students in entrepreneurship with an emphasis on design thinking, problem solving, and product development while practicing marketing strategy.

### **Technology**

#### *Communication Technology*

Students obtain knowledge and skills in desktop publishing, computer systems, lasers, and audio/video productions.

#### *Graphic Communications*

Activities include color/digital photography computer systems, scanning and imaging processes.

#### *Photography and Printing*

Students study the processes and skills used in black and white, digital photography and photo screen printing.

#### *Electronics Systems*

Students study basic alternative and direct current and the skills used in designing, constructing, and testing a circuit.

#### *Electronics II*

Activities include trouble-shooting, circuit analysis, and constructing printed circuits.

#### *Power and Transportation*

Students survey the broad sources of energy and power, used in power and transportation systems.

#### *Introduction to Engineering*

Students are involved in high tech device, engineering graphics and math/scientific principles through problem-solving experiences.

#### *Construction Technology*

Students work on individual and group projects that help them understand the jobs of architects, carpenters, electricians, plumbers, surveyors, contractors, masons, design engineers and a variety of construction careers.

#### *Production Systems*

Activities include computer aided manufacturing (CAM), computer numerical control, and robots used in flexible manufacturing systems.

#### *Basic Technical Drawing*

Students gain skills in mechanical drawing and computer assisted design and drawing (CADD).

#### *Architectural Drawing*

Students use resource materials, standard references and design software as they learn the general principles and practices to design structures, draw plot plans and elevation foundation plans.

### *Engineering Drawing*

Emphasis is placed on the interpretation of industrial prints and the ability to use computer assist design and drawing.

## **Family and Consumer Sciences**

### *Introduction to Hospitality and Catering Services*

Students practice managerial, production, and service skills used in government, commercial, or independently owned institutional food establishments and related food industry occupations.

### *Introduction to Childcare Occupations*

Students explore careers relating to the care of children as well as develop and plan developmentally appropriate curriculums that promote a healthy and safe environment for children.

### *Introduction to Culinary Occupations I*

The course combines professional culinary training, career exploration in the food service industry, and food preparation skills.

### *Introduction to Culinary Occupations II*

Students learn the theory and preparation of pastas, tarts, dairy products, meats, poultry, seafood, as well as international and regional foods.

### *Parenting and Child Development*

Students study the development of the child from prenatal to age six and learn skills for effective parenting.

### *Independent Living*

Students will learn basic information and practical skills related to such topics as interpersonal and family relations, life management, healthy living, food, clothing, and housing.

### *Virginia Teachers for Tomorrow I*

The class will focus on historical and contemporary topics relevant to an understanding of the knowledge, skills, and dispositions required of classroom teachers.

### *Virginia Teachers for Tomorrow II*

Students will take part in a year-long internship while developing a professional portfolio.

## **Gifted**

### *Think Tank for Super Thinkers*

The instructional focus will require students to think critically about social, political, economic, and environmental issues of our day.

*Sparks*

The course is offered in an online, blended format, allowing students to research and discuss selected topics. Instructional approaches are varied and student-centered.

*Independent Study*

This course allows students to pursue self-initiated, academically advanced study projects in their identified special interest.