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REGISTRATION GUIDE

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Official Copy – December 12, 2011

High Schools

Cave Spring High School

Glenvar High School

Hidden Valley High School

Northside High School

William Byrd High School

Burton Center for Arts and Technology

Middle Schools

Cave Spring Middle School

Glenvar Middle School

Hidden Valley Middle School

Northside Middle School

William Byrd Middle School

Roanoke County School Board

Mr. David Wymer, Chairman - Catawba Magisterial District
Mr. H. O'Dell (Fuzzy) Minnix, Vice Chairman – Cave Spring Magisterial District
Mr. Drew Barrineau - Windsor Hills Magisterial District
Mr. Jerry Canada - Hollins Magisterial District
Mr. Michael Stovall - Vinton Magisterial District

Superintendent

Dr. Lorraine Lange
Roanoke County Public Schools
5937 Cove Road NW
Roanoke, VA 24019
www.rcs.k12.va.us

Secondary Schools

School	Principal
Burton Center for Arts and Technology.....	Mr. Jason Suhr
Cave Spring High School.....	Mr. Steve Spangler
Glenvar High School.....	Mr. Joe Hafey
Hidden Valley High School.....	Mrs. Rhonda Stegall
Northside High School.....	Mr. Frank Dent
William Byrd High School.....	Dr. Richard Turner
Cave Spring Middle School.....	Mr. Steven Boyer
Glenvar Middle School.....	Dr. Julie Myers
Hidden Valley Middle School.....	Mr. Kenneth Nicely
Northside Middle School.....	Ms. Lori Wimbush
William Byrd Middle School.....	Mrs. Tammy Newcomb



IMPORTANT – PLEASE READ CAREFULLY

Dear Parents and Students:

Welcome to the beginning stages of planning for your 2012-2013 academic year with Roanoke County Schools. We are pleased to offer a variety of opportunities for our students. We now have a limited selection of online learning opportunities for high school students during the school day. In the past, we offered these online courses in a supplemental nature, not during the school day. We are also excited that we are in the planning stages of opening a Science, Technology, Engineering, and Mathematics (STEM) academy to be housed at BCAT using existing staff. Our goal is to be in full operation for the 2012-2013 school year; however, this edition of our registration guide is being printed before the STEM application process with the state department is complete. Please keep in close communication with your child's school counselor for details.

The ongoing budget shortfall will continue to have an effect on the electives that will be offered in the 2012-2013 school year. As in the past, we can ensure that the core areas of study (English, math, science, and social studies) will be available for each student; however, we cannot ensure that a student's first choice of elective will be available. Because we must have a certain number of students register for a class prior to assigning a teacher, there may be instances when electives may not be offered due to an insufficient number of students registering for those electives. Should a student have the misfortune where none of his/her elective choices are available, the school may contact the parent and assign the student an available elective. Requests for changes to a student's schedule will be considered only under the following circumstances:

- a- Failure of a course that is a prerequisite for a scheduled course or a graduation requirement
- b- Human or computer error
- c- Grouping adjustments and/or balancing class sizes
- d- Recommendations of the Child Study Committee or IEP Committee

We thank you for partnering with us regarding your child's education. We look forward to continuing excellent instruction and excellent opportunities for our students in Roanoke County. Thank you!!!

Sincerely,

Dr. Cecil C. Snead, II
Director of Secondary Instruction/Technology, CTE, and Adult Ed.

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GRADUATION REQUIREMENTS

The requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters the ninth grade for the first time.

RISING 12th GRADE GRADUATING CLASSES 2013

STANDARD DIPLOMA 22 credits		ADVANCED STUDIES DIPLOMA 24 credits	
ENGLISH	4	ENGLISH	4
MATH	3	MATH	4
Courses shall be at or above the level of Algebra and shall include two course selections from among: Algebra I Part 1; Algebra I Part 2; Algebra I; Computer Mathematics; Geometry; Algebra, Functions, and Data Analysis; Algebra II; or other math courses above the level of Algebra and Geometry.		Courses shall be at or above the level of Algebra and shall include three different course selections from among: Algebra I Part 1; Algebra I Part 2; Algebra I; Computer Mathematics; Geometry; Algebra, Functions, and Data Analysis; Algebra II; or other math courses above the level of Algebra II. Algebra II is a requirement for an Advanced Studies Diploma.	
LABORATORY SCIENCE	3	LABORATORY SCIENCE	4
Courses shall include three selections from two different science disciplines: Earth Science, Biology, Ecology (classified under Biology), Chemistry, and Physics.		Courses shall include four selections from three different science disciplines: Earth Science, Biology, Ecology (classified under Biology), Chemistry, and Physics.	
HISTORY/SOCIAL SCIENCE	3	HISTORY/SOCIAL SCIENCE	4
US and VA History (required)		US and VA History (required)	
US and VA Government (required)		US and VA Government (required)	
Students may choose one from the following courses: World Geography, World History I, World History II, AP World History.		Students may choose two from the following courses: World Geography, World History I, World History II, AP World History.	
HEALTH AND P.E.	2	HEALTH AND P.E.	2
PERSONAL FINANCE	0.5	PERSONAL FINANCE	0.5
		WORLD LANGUAGES	3 or 4
		Three years of one language or two years each of two languages.	
FINE ARTS/CAREER AND TECHNICAL EDUCATION	1	FINE ARTS/CAREER AND TECHNICAL EDUCATION	1
See listing in registration guide.		See listing in registration guide.	
ELECTIVES	5.5	ELECTIVES	0.5 OR 1.5
Students graduating with a Standard Diploma must include at least two sequential electives which may include courses from a variety of options.		Students in Advanced Studies Program may or may not be enrolled in advanced level courses.	
Of the total credits shown above, students must earn a minimum of SIX VERIFIED CREDITS from the following disciplines:		Of the total credits shown above, students must earn a minimum of NINE VERIFIED CREDITS from the following disciplines:	
English 11 Writing & Reading/Literature/Research	2	English 11 Writing & Reading/Literature/Research	2
Mathematics	1	Mathematics	2
Science	1	Science	2
History/Social Science	1	History/Social Science	2
Student's Choice	1	Student's Choice	1

VERIFIED CREDIT means passing the course and the end-of-course SOL test.

BOARD OF EDUCATION SEAL will be awarded to students who complete the requirements for a Standard or Advanced Studies Diploma with an average grade of "A".

GOVERNOR'S SEAL will be awarded to students who complete the requirements for an Advanced Studies Diploma with an average grade of "B" or better, and successfully complete college-level coursework that will earn nine transferable college credits (2 AP, 2 dual, or 1 AP and 1 dual).

ADVANCED MATHEMATICS AND TECHNOLOGY SEAL will be awarded to students who earn either a Standard or Advanced Studies Diploma, satisfy all of the mathematics requirements for the Advanced Studies Diploma with a "B" average or better, and either (a) pass an examination in a career and technical education field that confers certification, or (b) acquire a professional license in a career and technical education field, or (c) pass an examination approved by the Board that confers college-level credit in a technology or computer science area.

CAREER AND TECHNICAL EDUCATION SEAL will be awarded to students who earn either a Standard or Advanced Studies Diploma, complete a prescribed sequence of courses in a career and technical education concentration, and (a) maintain a "B" or better average in those courses, or (b) pass an examination in a career and technical education concentration, or (c) acquire a professional license in a career and technical education field from the Commonwealth of Virginia.

EXCELLENCE IN CIVICS EDUCATION SEAL will be awarded to students who meet each of the following four criteria: 1) Satisfy the requirement to earn a Standard Diploma or Advanced Studies Diploma; AND 2) Complete Virginia and United States History and Virginia and United States Government courses with a grade of "B" or higher; 3) Complete 50 hours of voluntary participation in community service or extracurricular activities AND 4) Have good attendance and no disciplinary infractions as determined by local school board policies.

GRADUATION REQUIREMENTS

The requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters the ninth grade for the first time.

RISING 11th GRADE GRADUATING CLASS OF 2014

STANDARD DIPLOMA 22 credits		ADVANCED STUDIES DIPLOMA 24 credits	
ENGLISH	4	ENGLISH	4
MATH	3	MATH	4
Courses shall be at or above the level of Algebra and shall include two course selections from among: Algebra I; Geometry; Algebra, Functions, and Data Analysis; Algebra II; or other math courses above the level of Algebra and Geometry. Computer math may be used in conjunction with Algebra I and Geometry to satisfy mathematics graduation requirements if the student also completes a CTE concentration (at least 2 CTE courses that total 72 weeks in an approved sequence).		Courses shall be at or above the level of Algebra and shall include three different course selections from among: Algebra I Part 1; Algebra I Part 2; Algebra I; Computer Mathematics; Geometry; Algebra, Functions, and Data Analysis; Algebra II; or other math courses above the level of Algebra II. Algebra II is a requirement for an Advanced Studies Diploma.	
LABORATORY SCIENCE	3	LABORATORY SCIENCE	4
Courses shall include three selections from two different science disciplines: Earth Science, Biology, Ecology (classified under Biology), Chemistry, and Physics.		Courses shall include four selections from three different science disciplines: Earth Science, Biology, Ecology (classified under Biology), Chemistry, and Physics.	
HISTORY/SOCIAL SCIENCE	3	HISTORY/SOCIAL SCIENCE	4
US and VA History (required)		US and VA History (required)	
US and VA Government (required)		US and VA Government (required)	
Students may choose one from the following courses: World Geography, World History I, World History II, AP World History.		Students may choose two from the following courses: World Geography, World History I, World History II, AP World History.	
HEALTH AND P.E.	2	HEALTH AND P.E.	2
PERSONAL FINANCE	0.5	PERSONAL FINANCE	0.5
		WORLD LANGUAGES	3 or 4
		Three years of one language or two years each of two languages.	
FINE ARTS/CAREER AND TECHNICAL EDUCATION	1	FINE ARTS/CAREER AND TECHNICAL EDUCATION	1
See listing in registration guide.		See listing in registration guide.	
ELECTIVES	5.5	ELECTIVES	0.5 OR 1.5
Students graduating with a Standard Diploma must include at least two sequential electives which may include courses from a variety of options.		Students in Advanced Studies Program may or may not be enrolled in advanced level courses.	
Of the total credits shown above, students must earn a minimum of SIX VERIFIED CREDITS from the following disciplines:		Of the total credits shown above, students must earn a minimum of NINE VERIFIED CREDITS from the following disciplines:	
English 11 Writing & Reading/Literature/Research	2	English 11 Writing & Reading/Literature/Research	2
Mathematics	1	Mathematics	2
Science	1	Science	2
History/Social Science	1	History/Social Science	2
Student's Choice	1	Student's Choice	1
VERIFIED CREDIT means passing the course and the end-of-course SOL test.			
BOARD OF EDUCATION SEAL will be awarded to students who complete the requirements for a Standard or Advanced Studies Diploma with an average grade of "A".			
GOVERNOR'S SEAL will be awarded to students who complete the requirements for an Advanced Studies Diploma with an average grade of "B" or better, and successfully complete college-level coursework that will earn nine transferable college credits (2 AP, 2 dual, or 1 AP and 1 dual).			
ADVANCED MATHEMATICS AND TECHNOLOGY SEAL will be awarded to students who earn either a Standard or Advanced Studies Diploma, satisfy all of the mathematics requirements for the Advanced Studies Diploma with a "B" average or better, and either (a) pass an examination in a career and technical education field that confers certification, or (b) acquire a professional license in a career and technical education field, or (c) pass an examination approved by the Board that confers college-level credit in a technology or computer science area.			
CAREER AND TECHNICAL EDUCATION SEAL will be awarded to students who earn either a Standard or Advanced Studies Diploma, complete a prescribed sequence of courses in a career and technical education concentration, and (a) maintain a "B" or better average in those courses, or (b) pass an examination in a career and technical education concentration, or (c) acquire a professional license in a career and technical education field from the Commonwealth of Virginia.			
EXCELLENCE IN CIVICS EDUCATION SEAL will be awarded to students who meet each of the following four criteria: 1) Satisfy the requirement to earn a Standard Diploma or Advanced Studies Diploma: AND 2) Complete Virginia and United States History and Virginia and United States Government courses with a grade of "B" or higher; 3) Complete 50 hours of voluntary participation in community service or extracurricular activities AND 4) Have good attendance and no disciplinary infractions as determined by local school board policies.			

GRADUATION REQUIREMENTS

The requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters the ninth grade for the first time.

RISING 6th – 10th GRADE GRADUATING CLASSES OF 2015-2019

STANDARD DIPLOMA 22 credits		ADVANCED STUDIES DIPLOMA 24 credits	
ENGLISH	4	ENGLISH	4
MATH	3	MATH	4
Courses shall be at or above the level of Algebra and shall include two course selections from among: Algebra I; Geometry; Algebra, Functions, and Data Analysis; Algebra II; or other math courses above the level of Algebra and Geometry. Computer math may be used in conjunction with Algebra I and Geometry to satisfy mathematics graduation requirements if the student also completes a CTE concentration (at least 2 CTE courses that total 72 weeks in an approved sequence).		Courses completed to satisfy this requirement shall include at least three different course selections from among: Algebra I, Geometry, Algebra II, or other mathematics courses above the level of Algebra II. Algebra, Functions, and Data Analysis can be used as a fourth course in this sequence. Algebra II is a requirement for the Advanced Studies Diploma.	
LABORATORY SCIENCE	3	LABORATORY SCIENCE	4
Courses shall include three selections from two different science disciplines: Earth Science, Biology, Ecology (classified under Biology), Chemistry, and Physics.		Courses shall include four selections from three different science disciplines: Earth Science, Biology, Ecology (classified under Biology), Chemistry, and Physics.	
HISTORY/SOCIAL SCIENCE	3	HISTORY/SOCIAL SCIENCE	4
US and VA History (required)		US and VA History (required)	
US and VA Government (required)		US and VA Government (required)	
Students may choose one from the following courses: World Geography, World History I, World History II, AP World History.		Students may choose two from the following courses: World Geography, World History I, World History II, AP World History.	
HEALTH AND P.E.	2	HEALTH AND P.E.	2
ECONOMICS AND PERSONAL FINANCE	1	ECONOMICS AND PERSONAL FINANCE	1
		WORLD LANGUAGES	3 or 4
		Three years of one language or two years each of two languages.	
FINE ARTS/WORLD LANGUAGES/CAREER AND TECHNICAL EDUCATION	2	FINE ARTS/CAREER AND TECHNICAL EDUCATION	1
See listing in registration guide.		See listing in registration guide.	
ELECTIVES	4	ELECTIVES	2 or 3
Students graduating with a Standard Diploma must include at least two sequential electives which may include courses from a variety of options.		Students in Advanced Studies Program may or may not be enrolled in advanced level courses.	
Of the total credits shown above, students must earn a minimum of SIX VERIFIED CREDITS from the following disciplines:		Of the total credits shown above, students must earn a minimum of NINE VERIFIED CREDITS from the following disciplines:	
English 11 Writing & Reading/Literature/Research	2	English 11 Writing & Reading/Literature/Research	2
Mathematics	1	Mathematics	2
Science	1	Science	2
History/Social Science	1	History/Social Science	2
Student's Choice	1	Student's Choice	1

VERIFIED CREDIT means passing the course and the end-of-course SOL test.

BOARD OF EDUCATION SEAL will be awarded to students who complete the requirements for Standard, Standard Technical, Advanced Studies, or Advanced Technical Diploma with an average grade of "A".

GOVERNOR'S SEAL will be awarded to students who complete the requirements for an Advanced Studies or Advanced Technical Diploma with an average grade of "B" or better, and successfully complete college-level coursework that will earn nine transferable college credits (2 AP, 2 dual, or 1 AP and 1 dual).

ADVANCED MATHEMATICS AND TECHNOLOGY SEAL will be awarded to students who earn either a Standard, Standard Technical, Advanced Technical, or Advanced Studies Diploma, satisfy all of the mathematics requirements for the Advanced Studies Diploma with a "B" average or better, and either (a) pass an examination in a career and technical education field that confers certification, or (b) acquire a professional license in a career and technical education field, or (c) pass an examination approved by the Board that confers college-level credit in a technology or computer science area.

CAREER AND TECHNICAL EDUCATION SEAL will be awarded to students who earn either a Standard, Standard Technical, Advanced Technical, or Advanced Studies Diploma, complete a prescribed sequence of courses in a career and technical education concentration, and (a) maintain a "B" or better average in those courses, or (b) pass an examination in a career and technical education concentration, or (c) acquire a professional license in a career and technical education field from the Commonwealth of Virginia.

EXCELLENCE IN CIVICS EDUCATION SEAL will be awarded to students who meet each of the following four criteria: 1) Satisfy the requirement to earn a Standard, Standard Technical, Advanced Technical, or Advanced Studies Diploma; AND 2) Complete Virginia and United States History and Virginia and United States Government courses with a grade of "B" or higher; 3) Complete 50 hours of voluntary participation in community service or extracurricular activities AND 4) Have good attendance and no disciplinary infractions as determined by local school board policies.

GRADUATION REQUIREMENTS

The requirements for a student to earn a diploma from a Virginia high school shall be those in effect when that student enters the ninth grade for the first time.

RISING 6th – 9th GRADE GRADUATING CLASSES OF 2016-2019

STANDARD TECHNICAL DIPLOMA 22 credits		ADVANCED TECHNICAL DIPLOMA 26 credits	
ENGLISH	4	ENGLISH	4
MATH	3	MATH	4
Courses shall be at or above the level of Algebra and shall include two course selections from among: Algebra I; Geometry; Algebra, Functions, and Data Analysis; Algebra II; or other math courses above the level of Algebra and Geometry. Computer math may be used in conjunction with Algebra I and Geometry to satisfy mathematics graduation requirements if the student also completes a CTE concentration (at least 2 CTE courses that total 72 weeks in an approved sequence).		Courses completed to satisfy this requirement shall include at least three different course selections from among: Algebra I, Geometry, Algebra II, or other mathematics courses above the level of Algebra II. Algebra, Functions, and Data Analysis can be used as a fourth course in this sequence. Algebra II is a requirement for the Advanced Technical Diploma.	
LABORATORY SCIENCE	3	LABORATORY SCIENCE	4
Courses shall include three selections from two different science disciplines: Earth Science, Biology, Ecology (classified under Biology), Chemistry, and Physics.		Courses shall include four selections from three different science disciplines: Earth Science, Biology, Ecology (classified under Biology), Chemistry, and Physics.	
HISTORY/SOCIAL SCIENCE	3	HISTORY/SOCIAL SCIENCE	4
US and VA History (required)		US and VA History (required)	
US and VA Government (required)		US and VA Government (required)	
Students may choose one from the following courses: World Geography, World History I, World History II, AP World History.		Students may choose two from the following courses: World Geography, World History I, World History II, AP World History.	
HEALTH AND P.E.	2	HEALTH AND P.E.	2
ECONOMICS AND PERSONAL FINANCE	1	ECONOMICS AND PERSONAL FINANCE	1
		WORLD LANGUAGES Three years of one language or two years each of two languages.	3 or 4
FINE ARTS/WORLD LANGUAGES See listing in registration guide.	1	FINE ARTS/CAREER AND TECHNICAL EDUCATION See listing in registration guide.	1
CAREER AND TECHNICAL EDUCATION (Must include career concentration)	4	CAREER AND TECHNICAL EDUCATION (Must include career concentration)	3
ELECTIVES	1	ELECTIVES	0
Students graduating with a Standard Diploma must include at least two sequential electives which may include courses from a variety of options.		Students in Advanced Studies Program may or may not be enrolled in advanced level courses.	
Of the total credits shown above, students must earn a minimum of SIX VERIFIED CREDITS from the following disciplines:		Of the total credits shown above, students must earn a minimum of NINE VERIFIED CREDITS from the following disciplines:	
English 11 Writing & Reading/Literature/Research	2	English 11 Writing & Reading/Literature/Research	2
Mathematics	1	Mathematics	2
Science	1	Science	2
History/Social Science	1	History/Social Science	2
Student's Choice	1	Student's Choice	1
VERIFIED CREDIT means passing the course and the end-of-course SOL test.			
BOARD OF EDUCATION SEAL will be awarded to students who complete the requirements for Standard, Standard Technical, Advanced Studies, or Advanced Technical Diploma with an average grade of "A".			
GOVERNOR'S SEAL will be awarded to students who complete the requirements for an Advanced Studies or Advanced Technical Diploma with an average grade of "B" or better, and successfully complete college-level coursework that will earn nine transferable college credits (2 AP, 2 dual, or 1 AP and 1 dual).			
ADVANCED MATHEMATICS AND TECHNOLOGY SEAL will be awarded to students who earn either a Standard, Standard Technical, Advanced Technical, or Advanced Studies Diploma, satisfy all of the mathematics requirements for the Advanced Studies Diploma with a "B" average or better, and either (a) pass an examination in a career and technical education field that confers certification, or (b) acquire a professional license in a career and technical education field, or (c) pass an examination approved by the Board that confers college-level credit in a technology or computer science area.			
CAREER AND TECHNICAL EDUCATION SEAL will be awarded to students who earn either a Standard, Standard Technical, Advanced Technical, or Advanced Studies Diploma, complete a prescribed sequence of courses in a career and technical education concentration, and (a) maintain a "B" or better average in those courses, or (b) pass an examination in a career and technical education concentration, or (c) acquire a professional license in a career and technical education field from the Commonwealth of Virginia.			
EXCELLENCE IN CIVICS EDUCATION SEAL will be awarded to students who meet each of the following four criteria: 1) Satisfy the requirement to earn a Standard, Standard Technical, Advanced Technical, or Advanced Studies Diploma; AND 2) Complete Virginia and United States History and Virginia and United States Government courses with a grade of "B" or higher; 3) Complete 50 hours of voluntary participation in community service or extracurricular activities AND 4) Have good attendance and no disciplinary infractions as determined by local school board policies.			

Secondary Special Education Programs

Roanoke County Public Schools provides intervention services through various models to identified students receiving special education services. Special education courses are offered to provide students with specialized instruction. These courses are designed to meet the Individualized Education Program (IEP) needs of students with disabilities, and when appropriate, incorporate the Standards of Learning necessary to satisfy course requirements.

MODIFIED STANDARD DIPLOMA	
<i>* See eligibility requirements below</i>	
20 CREDITS	
ENGLISH	4
MATH	3
Courses completed to satisfy this requirement shall include content from among applications of Algebra, Geometry, Personal Finance, and Statistics in courses that have been approved by the State School Board.	
LABORATORY SCIENCE	2
Courses completed shall include content from at least two of the following: applications of Earth Science, Biology, Ecology (classified under Biology), Chemistry, or Physics in courses approved by the State School Board.	
HISTORY AND SOCIAL SCIENCE	2
Courses completed to satisfy this requirement shall include one unit of credit in U.S. and Virginia History and U.S. and Virginia Government in courses approved by the State School Board.	
HEALTH AND PHYSICAL EDUCATION	2
FINE ARTS/CAREER AND TECHNICAL EDUCATION	1
See listing in registration guide.	
ELECTIVES (Must include two sequential electives)	6
Satisfactory completion of Personal Finance course is required for classes of 2012 and beyond. Explanation in registration guide (pg. ix).	
*The Modified Standard Diploma is intended for certain students at the secondary level who have a disability and are unlikely to meet the credit requirements for a Standard Diploma. Eligibility and participation shall be determined by the student's Individual Education Program (IEP) team and the student, where appropriate, at any point after the student's eighth grade year.	
*The school must secure the informed written consent of the parent/guardian and the student to choose this diploma.	
*The student shall also be allowed to pursue the Standard or Advanced Studies Diploma at any time throughout that student's high school career. The student must not be excluded from courses and tests required to earn the Standard or Advanced Studies Diploma.	
*This diploma does not require verified credits. Students pursuing the Modified Standard Diploma shall pass literacy and numeracy competency assessments prescribed by the State School Board. Literacy and numeracy competency is defined as passing grade 8 Math and English (Reading, Literature, Research) SOL tests. Students may also substitute higher-level SOL tests in English 11 (Reading, Literature, Research) and Math (Algebra I, Geometry, Algebra II).	

Standards of Learning Tests (SOL)

The Virginia Standards of Learning tests are developed to measure student progress on the Standards of Learning objectives. The SOL tests are designed to assess knowledge as well as critical thinking skills. Students are assessed as they move through the educational program in each of the following core content areas:

- English
- Mathematics
- Science
- History/Social Science

Middle school students are administered the following SOL tests in the spring:

Grade 6	U.S. History to 1865 Math and Reading
Grade 7	U.S. History 1865 to the Present Math, *Algebra I, and Reading
Grade 8	English, Math, *Algebra I, *Geometry, Science, Civics

***Courses used for high school verified credit**
High school tests are given in certain high school courses and are referred to as End-of-Course tests. Students are administered the End-of-Course tests in the spring of each year with opportunities for retesting in the summer and fall.

High school End-of-Course tests are offered in the following subjects:

English	*Grade 11 Reading, Literature, Research *Grade 10 Writing
Mathematics	Algebra I Algebra II Geometry
History/Social Science	World History & Geography to 1500 World History & Geography 1500 to Present U.S. & Virginia History World Geography
Science	Earth Science Biology Chemistry

**Mandatory for graduation*

REMOVAL OF CREDIT-BEARING COURSE(S) FROM THE SCHOLASTIC RECORD

(Middle School Students)

The parent/guardian of any student enrolled in a middle school, taking a credit-bearing course, may request that the credit-bearing course be removed from their child's record prior to the beginning of the 9th grade year.

If the parent/guardian elects to remove their child's credit-bearing course from their record and if it is the first course in a sequence of courses, i.e., a prerequisite for further courses in the same curricular area, then that course must be taken again for credit and completed satisfactorily before the student can be enrolled in any other course(s) in the sequence.

Removal in the context of this policy means deleting the course title, the grades, and the credit from the student's scholastic record.

All requests must be made on a standard form that can be obtained from the school counseling office of the school the student attends.

FINE ARTS/CAREER AND TECHNICAL EDUCATION REQUIREMENT

The Commonwealth of Virginia requires that each student pass at least one credit in the field of Fine Arts or Career and Technical Education in order to meet the requirements for graduation. Following is a listing of these courses and credits that would meet this requirement.

FINE ARTS

The Fine Arts are primarily 9-12 grade courses offered in art, music, dance, or theater.

<u>Course Name</u>	<u>Credit(s)</u>
AP Studio Art	1.0
Art I	1.0
Art II	1.0
Art III	1.0
Art IV	1.0
Chorale	1.0
Computer Graphics I	1.0
Computer Graphics II	1.0
Concert Band	1.0/1.5
Instrumental Ensemble	1.0
Journalism	1.0
Mixed Chorus	1.0
Music Theory I	1.0
Performing Arts I*	1.0
Performing Arts II*	1.0
Performing Arts III*	1.0
Performing Arts IV*	1.0

Photography I	1.0
Photography II	1.0
Photojournalism	1.0
Stage Band	1.0
Symphonic Band	1.0/1.5
Theater Arts	1.0
Visual Arts I – Cultures*	2.0
Visual Arts II – Styles*	2.0
Visual Arts III – Personal Style*	2.0
Visual Arts IV – Careers*	1.0
Vocal Ensemble	1.0

*Students must be enrolled in Specialty Centers

CAREER AND TECHNICAL EDUCATION

<u>Course Name</u>	<u>Credit(s)</u>
Accounting/COE	1.0/2.0
Advanced Accounting/COE	1.0/2.0
Advanced Floral Design	2.0
Advanced Machining Concepts	2.0
Advanced Marketing	1.0/ 2.0
Advertising*	0.5
AP Computer Science A	1.0
Architectural Drawing	1.0
Auto Service Technology I	2.0
Auto Service Technology II	2.0
Auto Service Technology III	2.0
Building Trades I	2.0
Building Trades II	2.0
Business Law	1.0
Career Cooperative Education	2.0
Child Development	1.0
Commercial Digital Photography I	1.0
Commercial Digital Photography II	1.0
Computer-Aided Drafting & Technical Drawing	1.0
Computer Applications and Technologies (Governor's School)	1.0
Computer Information Technology I	2.0
Computer Information Technology II	2.0
Computer Information Technology III	2.0
Pre-AP Computer Programming Elective	1.0
Cosmetology I	2.0
Cosmetology II	2.0
Cosmetology III	2.0
Criminal Justice I	2.0
Criminal Justice II	2.0
Criminal Justice III	2.0
Culinary Arts I/COE	2.0/3.0
Culinary Arts II/COE	2.0/3.0
Database Design and Management (Oracle)	2.0
Database Design and Management with PL/SQL (Oracle)	2.0
Digital and Web Design I	2.0
Digital and Web Design II	2.0
Digital Photography & 3D Animation	1.0

Early Childhood Education I	2.0
Early Childhood Education II	2.0/3.0
Electricity/Electronics I	1.0
Engineering Economy*	0.5
Engineering Drawing	1.0
Engineering Internship*	0.5
Engineering Mechanics: Statics*	0.5
Engineering Methods*	1.0
Engineering Research*	0.5
Fashion Marketing	1.0/2.0
Fashions and Interior Design	1.0
Floral Design/Greenhouse Production	2.0
Fundamentals of Research.....	1.0
Game Design and Programming/COE	2.0/3.0
Geospatial Technology	1.0
GIS.....	0.5
Graphic & Advertising Design I	2.0
Graphic & Advertising Design II	2.0
History of and Introduction to Mass Communication*	1.0
Industrial Cooperative Training	2.0
Information Technology (IT) Fundamentals/COE	1.0/2.0
Introduction to Building Trades.....	2.0
Introduction to Engineering I*	1.0
Introduction to Engineering II*	1.0
Introduction to Culinary Arts	1.0
Introduction to Marketing	0.5
JAVA.....	0.5
Keyboarding	0.5
Landscaping/Turf Management	2.0
Landscaping II	2.0
Machine Technology	2.0
Make It Your Business*	0.5
Marketing	1.0/2.0
Marketing Management*	1.0
Masonry I	2.0
Masonry II	2.0
Materials and Processes Technology	1.0
Mechatronics/Robotics I	2.0
Mechatronics/Robotics II	2.0
Media Production I*	1.0
Media Production II*	1.0/2.0
Motorsports Technology	2.0
MS Office and Beyond/COE	1.0/2.0
Nutrition and Wellness	1.0
On-the-Job Training	1.0/2.0/3.0
Personal Finance	0.5
Photography	1.0
Precision Machining	2.0
Principles of Business	1.0
Robotics	0.5
Sports, Entertainment and Recreation Marketing	1.0/2.0
Teachers for Tomorrow	1.0
Teaching Internship	2.0/3.0

Using Digital Input Technologies	1.0
Welding I	2.0
Welding II	2.0
Welding III	2.0
Woods Technology I	1.0
Woods Technology II	1.0

*Students must be enrolled in Specialty Centers.

**SEQUENTIAL ELECTIVES
REQUIREMENT**

Students who will graduate with a standard diploma or modified standard diploma will be required to take at least two sequential electives that may include a concentration of courses selected from a variety of options. The options include an approved sequential combination of eighteen or thirty-six week elective courses in the same department that total two years of study.

Students who attend Burton Center for Arts and Technology must take two years of study in the same program with the exception of business students who may take one year of business education at their home school and one year at Burton Center for Arts and Technology.

PERSONAL FINANCE REQUIREMENT

The Code of Virginia requires that all middle and high school students master objectives developed by the State Department of Education for economics education and financial literacy. Roanoke County students currently in grades 11 & 12 (classes of 2013 & 2014) meet this requirement by successfully completing a course in Personal Finance. This is an 18 week semester course described in the Business and Information Technology section of this guide. Students in grades 9 & 10 (classes of 2015 and 2016) must meet a 1 credit (36 weeks) requirement by taking Economics and Personal Finance.

PROMOTION POLICY

The schools of Roanoke County shall develop such programs that best meet the needs of all students and which can be efficiently administered by the staff of the respective schools in compliance with the provision established by the State Board of Education in Regulations Establishing Standards for Accrediting Public Schools in Virginia.

Promotion or retention of a student is of necessity based upon state and local requirements.

**Elementary and Middle Schools
Promotion/Retention**

Individual student promotion shall be based upon satisfactory performance as follows:

- a. **First-fifth grades** - Students must pass at least two (2) of the following: mathematics, social studies, science, English. A pupil may be retained if the final grade of "F" is received in English or mathematics. A pupil may be retained if he/she consistently works below grade level in English, mathematics, social studies, or science.
- b. **Sixth-eighth grades** - Students must pass all four (4) of the core subjects (mathematics, social studies, science, and English) to be promoted to the next grade level or attend a summer program in areas of need (a student can enroll in no more than two areas of study). Competency shall be demonstrated in the areas of summer instruction.

GRADING SCALE

A – 90-100	Superior student performance in relation to objectives established for the course
B – 80-89	Above average student performance in relation to objectives established for the course
C – 70-79	Average student performance in relation to objectives established for the course
D – 60-69	Minimal student performance in relation to objectives established for the course
F - 0-59	Performance that does not meet minimal objectives established for the course

GRADE LEVEL DESIGNATIONS

High school grade level assignments will be made according to the total number of credits the student has earned as follows:

<u>Grade</u>	<u>Units of Credit Earned</u>
9 (freshman).....	0
10 (sophomore).....	6
11 (junior).....	12
12 (senior).....	18

SCHEDULING ADJUSTMENT POLICY

1. Changes from one course to another will be made under the following circumstances only:

- Failure of a course that is a prerequisite for a scheduled course or a graduation requirement;
- Human or computer error;
- Grouping adjustments and/or balancing of class sizes;
- Recommendation of Child Study Committee or IEP Committee.

2. Dropping a course:

In grades 9-12 a student must be enrolled in a minimum of five (5) credit-producing courses at all times.

- No student may withdraw passing from a full-credit course after the first five (5) weeks or after the interim report is sent home. The time limit for withdrawing from a 2 or 3 credit block course (in class 2 or 3 periods) is 2 ½ weeks.
- No student may withdraw passing from a one-half credit course after the first two and one-half (2 ½) weeks.
- Students may drop the following subjects through the end of the first nine (9) weeks or until the first nine (9) weeks report card is sent home: mathematics, world languages, chemistry, physics, biology II, AP biology, AP chemistry, AP Physics, and Specialty Center courses of one or more credits. Students who wish to drop a dual enrolled course will follow VWCC policy. All other courses follow the policy stated in sections a and b above.

3. Adding a course:

- No student may add a full-credit course after the first five weeks. The limit for adding a 2 or 3 credit block course (in class 2 or 3 periods) is 2 ½ weeks.
- Exception: Middle School students taking Algebra I may be moved to an alternative math at semester.
- Exception: Students may
 - drop Pre-calculus and add College Algebra
 - drop Algebra II and add Algebra Functions and Data Analysis
 until the last day of the first 9 weeks.
- No student may add a one-half credit course after the first two and one-half (2 ½) weeks.
- In transferring from one course to another in the same discipline, the student will

have both grades counted in the nine-weeks in proportion to the time spent in each class.

4. Transfer students from other accredited schools will be the exception to this policy and will be evaluated and placed based upon the merits of the individual cases.

GRADE POINT AVERAGE (WEIGHTED COURSES)

A student's grade point average in the Roanoke County Public Schools is computed on a four-point scale using the final yearly average with computation beginning with high school credit-bearing courses and continuing through the end of the senior year.

Weighted courses include Advanced Placement courses, dual-enrolled courses, certain Governor's School courses, and certain Specialty Center courses.

When a student repeats the same course he or she has already passed, the highest final grade will be used for class rank computation. The exception to this is if a student receives an F. Then the two grades will be averaged together. Both grades will be shown on the transcript. Credit will be awarded on the transcript the first time the course is passed.

Class rank computation methods will be consistent throughout the county. Grades and credits established by a transfer student from an accredited school are included in the computation of that student's GPA according to the Roanoke County Schools policy. According to policy, transfer students' grades are weighted only if those courses are weighted in Roanoke County.

Grade Point Values

Non-weighted courses are assigned the following quality point values:

- A = 4 points
- B = 3 points
- C = 2 points
- D = 1 point
- F = 0 points

Weighted courses are assigned the following quality point values:

- A = 5 points
- B = 4 points
- C = 3 points
- D = 1 point
- F = 0 points

In this Registration Guide, weighted courses are indicated by "w" next to the course credit. See page xii for an example.

FULL DAY SCHEDULE

All students in the secondary schools shall maintain a full day schedule. A full day schedule is defined as a minimum of five credit-bearing courses per day.

Criteria for exemption from full-day attendance at the high school level are as follows.

Student must be:

- a senior and qualify for a hardship, health problem(s), or an Individualized Education Plan (IEP).
 - currently enrolled or have completed the necessary courses to meet graduation requirements.
 - employed and/or enrolled in a program approved by the principal.
- All exceptions to a full-day schedule must be approved on an individual basis by the high school principal and the superintendent.

SUMMER SCHOOL

A listing of courses offered and additional information will be available in late May in the principal's office and the school counseling office.

COURSE LOAD

All students shall be expected to carry the normal load of classroom work required to meet the minimum standards necessary for graduation and the attendance requirements of the state.

Students on the secondary level may be permitted to carry additional courses provided their records indicate their ability to handle such courses, their presence in the class will not cause overcrowding, and the needs of the students requiring the courses have been fulfilled.

INDEPENDENT STUDY

An independent study provides the senior student the opportunity to pursue a program of his/her own design in the areas of mathematics, world languages, music, art, or science. World language independent study students must be enrolled in, or have completed, the AP level of the language. **An independent study will only be considered if all other Roanoke County courses in that field of study have been exhausted by the student.** Students who wish to be considered for this program must submit in writing prior to May 15 their proposed program.

The proposal must contain the following:

- the area(s) of concentration;
- a description of the study;
- the terminal objectives of the study;

- the methods for meeting terminal objectives;
- types of assistance needed to complete the study;
- the evaluation processes to be used;
- a description of the method(s) to be used to document the work.

This is a highly selective program designed for seniors who have shown academic excellence, a high interest level, and the ability to work independently. Interested students should consult with their school counselor during the registration process. Eligible students will be asked to confer with a member of the respective department involved. Upon mutual agreement, final selection for the independent study program will be made by the Director of Instruction, principal, subject area supervisor, and teacher. A student may enroll in no more than one independent study. Independent study is an elective course carrying one full credit and cannot be substituted for a required or another elective course.

PRE-ADVANCED PLACEMENT CLASSES

Pre-AP classes are rigorous classes that prepare students for the Advanced Placement Program in high school. The classes strengthen the skills every student needs to succeed in Advanced Placement, in college, and in careers. Pre-AP classes help students to develop thinking and problem-solving skills. There is a heavy emphasis on developing analytical writing and critical reading and thinking.

School counselors will provide a Pre-AP information sheet.

ADVANCED PLACEMENT PROGRAM

Advanced Placement courses offer students the opportunity to do college-level work while still in high school. They are available to qualified, academically oriented students in the tenth, eleventh, and twelfth grades. Students may take the nationally administered examinations in May. According to their performance on the examination, they may receive college credit hours for each examination they take. This makes it possible for a student who is successful on a number of the exam(s) to enter college at or near the sophomore level.

Roanoke County Public Schools offers several Advanced Placement courses. These courses are as follows:

AP Biology
AP Calculus AB

AP Calculus BC with Analytic Geometry
 AP Chemistry
 AP Computer Science A
 AP English 11: Language and Composition
 AP English 12: Literature and Composition
 AP French Language
 AP German Language
 AP Latin
 AP Physics B
 AP Spanish Language
 AP Statistics
 AP Studio Art
 AP US Government & Politics
 AP U.S. and Virginia History
 AP World History

Students will be required to apply for admission to any AP course. The criteria for selection for all AP courses are available in the school counseling office.

DUAL ENROLLMENT:

ROANOKE COUNTY PUBLIC SCHOOLS- VIRGINIA WESTERN COMMUNITY COLLEGE

Roanoke County Public Schools has a rigorous course of study that includes the offering of dual enrollment classes for college credit. Virginia Western Community College has agreed to give credit for the courses being offered at each of the high schools. High school graduation credit will also be given for successful completion of the course.

Students who successfully complete the course will earn college credit. The course will be taught at the high school by a college-accredited high school staff member. Books for the course will be furnished at no charge to the student. As the tuition at Virginia Western Community College changes, the cost for dual enrollment classes will reflect that change. **Tuition will be announced in the spring of 2012 after VWCC announces its tuition.**

In order to receive college credit, a student must complete a Virginia Western Community College application and pay tuition as a Virginia Western student. The actual registration for this course and others will be done at the local high school. Credits from Virginia Western may be transferred to many colleges and universities, dependent upon individual admission practices.

ASSOCIATE'S DEGREE AVAILABLE THROUGH VIRGINIA WESTERN COMMUNITY COLLEGE AND ROANOKE COUNTY SCHOOLS

A Roanoke County student may earn an associate's degree through Virginia Western Community College by taking dual enrollment courses and AP courses (a 3 or better must be achieved on the AP College Board exam before VWCC credit is awarded). Most courses may be taken through the student's normal high school schedule with few exceptions where VWCC requires that some classes be taken on the VWCC campus during weekend courses, online courses, or a hybrid of both weekend and online courses. A detailed separate brochure is available in your school's guidance office if a student is interested. Please contact your child's guidance counselor for the brochure and more specific information.

GOVERNOR'S EDUCATION FOR A LIFETIME: SENIOR YEAR PLUS

Early College Scholars is a program that encourages juniors and seniors who are prepared and interested in accelerating their coursework toward a college degree while still in high school. A student who wishes to be part of this program must sign an agreement along with his parent, counselor, and principal, and agree to

- have a "B" average or better;
- be pursuing an Advanced Studies Diploma;
- be completing or have completed college level course work (i.e., Advanced Placement or dual enrollment) that will earn at least 15 transferable college credits.

The Path to Industry Certification: High School Industry Credentialing initiative encourages students to work toward a selected industry credential or state license while pursuing a high school diploma. Students who earn a credential by passing a certification or licensure examination may earn up to two student-selected verified credits to meet graduation requirements.

Virginia Virtual Advanced Placement School provides AP level courses in online versions for students whose home high school cannot offer these courses. In order to have tuition paid, a student must qualify for the Early College Scholar program. See your counselor for details regarding these opportunities. Principals must approve any student who takes a class through the Virginia Virtual Advanced Placement School.

DISTANCE LEARNING

Certain schools will have the opportunity to engage in collaborative learning experiences using state of the art technology. Two-way audio and video communication will allow certain classes to be shared among high schools.

ROANOKE COUNTY PUBLIC SCHOOLS VIRTUAL HIGH SCHOOL

Grades 9-12 only

NEW: Our Virtual High School (VHS) program has expanded for 2012-13 to include course offerings during the school day. This is in addition to the supplemental programs that we have offered in the past. Since we are offering online services during the day, these courses would be no charge to the student; however, the student will be limited to one virtual course per academic year during the school day as it will count towards one of their eight periods for one virtual session. This means the student would have to enroll in a study hall the next session to complete their schedule.

SUPPLEMENTAL VIRTUAL: The Virtual High School (VHS) is a program that allows students to work independently. There are three sessions where we offer virtual classes: summer, fall, and spring. Summer session begins and ends around the same time as traditional face-to-face summer school, currently a six-week program. The fall session begins two weeks after regular school begins and ends before Winter Break, currently a twelve-week program. The spring session begins in early February and runs for approximately 12 weeks. During the year (fall and spring sessions), the VHS courses are offered in addition to the regular school day and are open to any rising 9th-12th grade student who chooses to take additional classes, provided they meet the criteria for the class. Taking classes online erases the barriers of time and place, allowing students to participate in "anytime/anyplace learning." It is important to remember that online learning requires the students to be independent, motivated learners. Students will be required to attend an orientation meeting, take midterm exams, and the final exams under supervised conditions at a Roanoke County high school. Students must have access to a computer with Internet access and an email account to participate in the Virtual High School. Computers will not be issued. The program is tuition-based. More specific information is available from your school counselor.

For students to be successful in an online course, the following components should be present:

Students should

- avoid procrastinating behavior;
- possess motivation to learn;
- possess the ability to follow written directions;
- learn independently;
- have access to an online service that is reliable;
- have access to a reliable computer equipped with MS Word, MS PowerPoint, a printer, and free Adobe Acrobat Reader;
- possess a working knowledge of technology, including Internet research skills and skilled use of the above software;
- communicate effectively with their instructor regarding subject matter and any other problem.
- read and comprehend a variety of written communications.

Registration is not complete until tuition is paid in full. Please consult your school counselor to see if your child is a candidate for online learning. Students enrolled in an online SOL course for the first time are required to take the corresponding SOL test. Summer session students will take the SOL test at the regular summer school location during the scheduled testing time. Fall or spring session students will take the SOL test at their home school during the scheduled testing time.

Students may enroll in the Virtual High School during the school year IN ADDITION to a regular school day of courses.

Online courses will be offered assuming there is sufficient enrollment.

Online courses have exams: no exemptions.

The following online classes are offered:

<u>½ Credit Courses</u>	<u>\$225.00*</u>
Health I	VS7011
Health II	VS7111
Personal Finance	VS6120S
(Online Personal Finance course is offered only to 11 th – 12 th grade students this year). These are offered only under special circumstances. Please discuss with your counselor.	
<u>1 Credit Courses</u>	<u>\$400.00*</u>
<u>Completed in one session</u>	
PreCalculus	VS3108
English 11 CB	VS1108
**AP English 11	VS1107
English 12 CB	VS1127

**AP English 12	VS1132
US/VA History	VS2055
US/VA Government	VS2065
Ecology	VS4074
Economics & Personal Finance	VS6120

Other courses may be offered. Please check the website www.rcs.k12.va.us/online for additional course offerings.

*All supplemental courses may be dropped for full refund prior to the first day of the course. Supplemental courses may be dropped within the first two weeks of class with no academic penalty and no monetary refund.

**The AP Exams will not be administered until spring.

ENGLISH LANGUAGE PROFICIENCY

English language proficiency instruction is offered to students who are identified as learning English in addition to their primary language. This program provides intensive instruction and/or support in reading, writing, and speaking English.

SERVICES FOR GIFTED STUDENTS

PROGRAM DESIGN

Opportunities within the
Regular School Day
Grades 6-12

In grades 6-12, two full-time gifted specialists, classroom teachers, and supervisory personnel facilitate the provision of differentiated instruction for gifted students in the classroom in order to meet their needs every day.

Insight:

Unveiling Career Opportunities
Grades 11-12

INSIGHT is a 0.5 credit elective course for identified gifted eleventh and twelfth grade students. This course provides students with opportunities to explore a career through direct contact with a professional working in the career and through related seminar work. Students work with a mentor for a minimum of 50 hours during after-school hours, weekends, vacation days, and teacher workdays between September and May. Students also meet with the INSIGHT Coordinator and participate in 25 hours of seminars focusing on related career exploration topics. These seminars are scheduled on a monthly basis throughout the school year.

Every effort is made to help find a suitable mentor; however, participation in the course is

contingent upon mentor availability. Students who successfully complete the first year course will have the option of participating in the INSIGHT program for a second year. Students do not have to participate in their junior year in order to participate in their senior year.

As all hours are worked on personal time, students are asked to seriously assess their academic, extracurricular, and personal time commitments prior to enrolling in the INSIGHT program. Registration course number is 6291N.

Pathways Grades 9-10

Pathways is a program originally created by 2 high school students and designed to provide gifted 9th and 10th grade students with opportunities to explore the different career paths that will be available to them in the future.

Monthly meetings will be held (at RCS Central Office or at on-site locations). At these meetings, guest speakers will discuss job descriptions, educational requirements (both high school and college), additional training, average salaries, and advantages of their specific jobs. Occasional field trips may be held.

Quest Grades 6-8

A year-long series of QUEST (Queries, Unique experiences, Explorations, Scientific discoveries and Technological endeavors) workshops and field trips are offered through the Gifted Program for students in grades six through eight. Students are notified of the QUEST offerings via a mailing from the Gifted Department.

A student may enroll in as many sessions as his/her schedule permits. Each student is notified by mail of the date, time, and site of each workshop in which he/she indicates an interest.

Destination Imagination Grades 6-12

Destination Imagination (DI) is an international organization for students which teaches life skills and expands imagination through team-based creative problem solving. DI emphasizes creativity, teamwork, and problem solving.

Annually, approximately 40 teams of students from schools in Roanoke County engage in creative problem solving as they prepare for the regional DI competition.

Those parents, teachers, and/or other interested individuals who serve as Team Managers prepare for their roles as they engage in training sessions led by the regional DI association.

Roanoke County includes funds in its instructional budget to defray the costs of passports for individual teams, costs of training materials, registration expenses, and a portion of the expenses incurred by teams as they pursue the solutions to selected challenges.

Summer Residential Governor's School

The Summer Residential Governor's School program includes academic, agricultural, artistic, and language programs. Each Summer Residential Governor's School focuses on one special area of interest. These programs provide gifted rising juniors and seniors opportunities for intensive educational experiences in visual and performing arts, humanities, agriculture, life sciences, math, science and technology, and engineering.

Students live on a college or university campus for four weeks. During this time, students are involved in classroom and laboratory work, field studies, research, individual and group projects and performances, and seminars with noted scholars, visiting artists, and other professionals. A director and a student-life staff provide supervision of students 24 hours a day, throughout the course of study.

One of the most important aspects of the Summer Residential Governor's School is the opportunity participants have to live, study, and get to know other students with similar interests and abilities from across Virginia. Both co-curricular and extracurricular activities are designed to encourage students' interests and abilities.

Each school division has a specific number of nominations it may send to the Virginia Department of Education. There is no cost to the student except transportation to and from the site and spending money.

BURTON CENTER FOR ARTS AND TECHNOLOGY

Burton Center for Arts and Technology provides courses that are not available at the five county high schools in the areas of technology and the arts. Students attending Burton usually take four to six classes at their home high school, with the actual number dependent on individual student need, Roanoke County Public Schools regulations, and scheduling logistics. Students contemplating enrollment at Burton should request a Burton Registration Form from their school counselor.

Burton Center is an extension of the home high school. Classes offered at Burton provide

unique educational experiences that can only be provided by the county at a central location because of the facility needed and instructor expertise required. Students attending Burton classes usually earn two credits toward graduation for each Burton class they complete. Students who successfully complete a sequence of classes within a program, fulfill attendance requirements, and complete a specified program of professional development are eligible to receive a competency certificate.

Students who successfully complete a sequence of classes within a program and pass the corresponding State Board of Education Certification Exam (where available) may earn as many as two verified credits.

Burton students are also required to participate in the appropriate student organization for their program. Student organizations are designed to develop leadership skills, develop technical skills, and encourage students to do research and enrichment activities related to their Burton classes. Student organization activities are co-curricular, although some activities occur in the evenings and on weekends.

Following is a list of courses offered at Burton. **Descriptions of the courses are found in the registration guide section that is listed in bold type above each set of courses.**

Courses offered at BCAT include:

Art

Advanced Placement Studio Art*
Visual Arts I - Cultures*
Visual Arts II - Styles*
Visual Arts III - Personal Style*
Visual Arts IV - Careers*

Computer Science and Technology

Computer Information Technology I
Computer Information Technology II
Computer Information Technology III
Digital and Web Design I
Digital and Web Design II
Game Design and Programming

English

Pre-AP English 9*
Pre-AP English 10*
AP English 11*

Family and Consumer Sciences

Early Childhood Education I
Early Childhood Education II
Teaching Internship

Mathematics

AP Calculus BC with Analytic Geometry*
 Algebra II*
 AP Calculus AB*
 Integrated Precalculus*

Performing Arts

Performing Arts I*
 Performing Arts II*
 Performing Arts III*
 Performing Arts IV*

Science

Advanced Chemistry*
 Integrated Physics*

Social Studies

Criminal Justice I

Criminal Justice II
 Criminal Justice III

Technology Education

Engineering Economy*
 Engineering Mechanics, Statics*
 Engineering Professional Development
 and Internship*
 Engineering Methods*
 Engineering Research*
 Introduction to Engineering I*
 Introduction to Engineering II*

Technical and Trade

Advanced Floral Design/Greenhouse
 Production
 Applied Media Production
 Auto Service Technology I

Auto Service Technology II
 Auto Service Technology III
 Building Trades I
 Building Trades II
 Career Cooperative Education
 Cosmetology I
 Cosmetology II
 Cosmetology III
 Culinary Arts I
 Culinary Arts II
 Floral Design/Greenhouse Production
 History of and Introduction to Mass
 Communication Studies*
 Industrial Cooperative Training
 Introduction to Building Trades
 Landscaping/Turf Management
 Landscaping II

Masonry I
 Masonry II
 Mechatronics/Robotics I
 Mechatronics/Robotics II
 Media Production I*
 Media Production II*
 Media Production Internship*
 Motorsports Technology I
 Motorsports Technology II
 Motorsports Technology III
 Welding I
 Welding II
 Welding III

*Specialty Center Courses

SELECTING COURSES

When selecting courses for the upcoming school year, students and parents/guardians should select carefully the courses to be taken.

The courses chosen should be based on the student's ability, past record of academic achievement, interest in the subject, the career goal(s) of the student, and teacher recommendations. The pursuit of a course of studies leading to entrance into college can include those courses not directly related to college entrance. Art, music, and career and technical courses offer students the opportunity to explore new areas of study as well as gain knowledge and skills that may likely prove useful to them in whatever career they choose. Students pursuing training in career and technical-oriented courses should take those academic courses specifically required for their career goal.

Through careful course selection and close cooperation between the student and school counselor, a student will be able to pursue a career goal and still have time for other course offerings without excluding any particular area of study.

This catalog is a listing of courses taught in Roanoke County middle and high schools. All courses are not taught in all schools.

Many courses which are offered are done so contingent upon sufficient student interest.

This may result in some courses not being available in certain schools even though they are listed for those schools.

The schools in which each subject is taught are indicated by the initials of the school(s) shown below the course's descriptive paragraph.

The initials for each school are as follows:

CSM	Cave Spring Middle School
GM	Glenvar Middle School
HVM	Hidden Valley Middle School
NM	Northside Middle School
WBM	William Byrd Middle School
BCAT	Burton Center for Arts and Technology
CSH	Cave Spring High School
GH	Glenvar High School
HVH	Hidden Valley High School
NH	Northside High School
WBH	William Byrd High School

Students desiring to take a course offered at a school other than their assigned school should contact their school counselor for details.

Parents/guardians are encouraged to contact their child's school counselor to arrange a parent/teacher conference when low or failing grades are received in achievement, effort, or conduct.

COURSE DESCRIPTION

Course title → **AP WORLD HISTORY** ← *Course number* **2049N**

Number of credits → **Credit(s): 1^W** ← *Weighted course*

Courses needed or other requirements to be met before you can take this course → **Prerequisite(s): None**

Grade level(s): 10-12 ← *Course offered to students in these grade levels*

Course description → AP World History is designed to provide students with the analytic skills and factual knowledge necessary to critically study global historical events. In this rigorous course, students will study history from prehistory to the present according to both the AP curriculum and Virginia Standards of Learning for World History. This course is the equivalent to a full-year introductory college course and will prepare students for intermediate college courses. College credit may be earned by taking the AP World History exam.

Schools offering this course → **School(s) offering course: CSH, GH, HVH, NH, WBH**

ROANOKE COUNTY PUBLIC SCHOOLS
SPECIALTY CENTERS
An Overview

Specialty schools concentrate on special interests or talents of students. The centers offer Roanoke County students choices to focus their learning experiences and offer rigorous courses to students who have specific interests and career goals. Students must complete an application and be accepted before they enter a specialty center. If students complete the four-year sequence of classes at the center, they will be awarded a special seal on their diploma. **Classes will be offered only if there is sufficient enrollment.**

William Byrd High School Students Only

Center for Business and Marketing
William Byrd High School

The primary emphasis of the Center for Business and Marketing is to utilize appropriate technology to build a solid foundation of business and marketing practices that form the basis for all industry operations. Many fundamental social, economic, and legal practices are explored; an emphasis is also placed on employees' abilities to effectively make decisions in the competitive work environment. Other fundamentals such as financing operations, organizing businesses, and marketing particular products and services are also examined and evaluated.

Goals and Objectives:

- To develop an appreciation of the American Private Enterprise System;
- To offer curriculum that will explore key marketing and business concepts while gaining an understanding of the globalization of commerce and industry and the growth of technology;
- To assist students in identifying their interests and aptitudes to discover the business and marketing careers they will enjoy;
- To introduce students to the real world of work through job shadowing and cooperative part-time, on-the-job training and classroom simulations;

- To prepare students for productive employment and for continued learning in the workplace and/or in post-secondary institutions;
- To develop critical thinking skills and the ability to make decisions and solve problems both creatively and insightfully;
- To develop the ability to communicate effectively in both written and oral form as well as to work cooperatively with all groups of people (managers, clients, employees, investors, as well as others with vested interests in a business).

Course Descriptions

ADVERTISING 6400N
Credit(s): .5
Prerequisite(s): None
Grade level(s): 9-12

Advertising is big business. It is really about what motivates people to buy a product, use a service, or support a cause. This course will introduce the student to advertising principles and practices that contribute to business success. Students will learn about the process of creating, executing, and evaluating commercial messages. The wide range of careers available in advertising, new electronic media, public perception, advertising history, and methods of production in advertising will be explored. Students will find the world of advertising fascinating.

MAKE IT YOUR BUSINESS 6401N
Credit(s): .5
Prerequisite(s): None
Grade level(s): 9-10

Make It Your Business will enable students to explore the concept of owning their own business within our Free Enterprise System. Students will explore the many decisions prospective business owners face, including risks and rewards of small business operations, types of ownership, enterprise ideas, analyzing markets and competitors, and planning for staffing, operations, and financing. Students will complete a "going into business project" as a part of the course assignments.

Center for Business and Marketing William Byrd High School			
Four-Year Curriculum For Completion of Specialty Center Program			
Grade 9	Grade 10	Grade 11	Grade 12
English 9 Math Science World History (Optional) Health/PE Elective (Marketing or Business)* Elective	English 10 Math Science World History (Optional) Health/PE Elective (Marketing or Business)* Elective	English 11 Math Science U.S. and Virginia History Elective (Marketing or Business)* Elective (Marketing or Business)* Elective	English 12 Math U.S. and Virginia Government Science (Optional) Elective (Marketing or Business)* Elective (Marketing or Business)* Elective
*Suggested marketing tracks (part-time employment recommended in 11 th and 12 grades)			
9 th	10 th	11 th	12 th
Introduction to Marketing Advertising Make it Your Business	Introduction to Marketing Advertising Make it Your Business	Marketing Fashion Marketing Sports/Entertainment Marketing Marketing Management	Marketing Advanced Marketing Fashion Marketing Sports/Entertainment Marketing
*Suggested business tracks (part-time employment optional in 11 th and 12 grades)			
Keyboarding Principles of Business Information Technology (IT) Fundamentals	MS Office and Beyond Business Law Accounting Information Technology (IT) Fundamentals	MS Office and Beyond Business Law Accounting Advanced Accounting Personal Finance	MS Office and Beyond Business Law Accounting Advanced Accounting Personal Finance

MARKETING MANAGEMENT: 8132
A Virtual Enterprise Simulation
Credit(s): 1
Prerequisite(s): None (knowledge of WORD recommended)
Grade level(s): 11-12

In this course students develop skills that are essential to their success in corporate America. Basic knowledge and skills necessary for supervision and management will be emphasized using the **Virtual Enterprise VA** method of instruction. Students will plan and manage their own virtual business. The daily operations of the student-run, web-based businesses provide authentic experiences and real-world applications of principles used in marketing in the business world.

INTRODUCTION TO MARKETING 8111
Credit(s): 0.5
Prerequisite(s): None
Grade level(s): 9-12

Introduction to Marketing is the basic elective course offered in the three-year Marketing Program. The course is designed to provide students with the competencies needed for successful entry-level employment in marketing occupations. It equips students with the social, economic, marketing, and job search competencies necessary for successful employment in retail, wholesale, and service businesses. Manager, assistant manager, supermarket jobs, waitress, hotel/motel manager, cashier, fashion coordinator, salesperson, buyer, and many more jobs will be explored. Students will participate in DECA activities.

Center for Engineering
Burton Center for Arts and Technology

The Center for Engineering offers a four-year advanced curriculum integrating math, science, and technology as a study of the profession of engineering. The Center's curriculum focuses on the development of the theoretical understandings of the engineering discipline and on the practical skills and understandings necessary for any engineer. Students who are not enrolled in Geometry in the 8th grade **MUST** take Geometry in summer school before admission **OR** take it as a 9th grader at their home school in addition to Algebra II at the Engineering Center.

Goals and Objectives:

- To establish a foundation for the understanding of engineering as a profession;
- To introduce and cultivate the development of engineering analysis, problem solving, and design skills;
- To integrate mathematical and scientific concepts into practical engineering applications;
- To provide individual and group hands-on learning experiences for students;
- To offer real-world engineering experiences through mentoring/internships in a professional setting.

Course Descriptions

INTRODUCTION TO ENGINEERING I C8439
Credit(s): 1
Prerequisite(s): Meet selection criteria
Grade level(s): 9

Students will, through applications in civil/mechanical, electrical/computer, and mechanics engineering, explore the qualitative and fundamental quantitative aspects of engineering. Students will use fundamental math, science, and computer knowledge and skills to gain exposure to the analytical and problem-solving processes associated with engineering, and will develop an interest in the discipline in general. Several projects are presented which teach valuable application (hands-on) skills as well as reaffirming theoretical knowledge.

INTRODUCTION TO ENGINEERING II C8441
Credit(s): 1^W
Prerequisite(s): "C" or above in Introduction to Engineering I
Grade level(s): 10

Students will continue to explore the three selected strands of engineering (civil/mechanical, electrical/computer, mechanics) in greater depth and complexity to understand foundational math, science, and engineering concepts and their applications in various related fields. Greater emphasis will be placed on system analysis and complexity. Students will receive instruction in basic statics, strength of materials, dynamics, and digital electronics and begin to understand the interrelated aspects of engineering. Projects related to content instruction will be completed.

ENGINEERING METHODS C8440
Credit(s): 1^W
Prerequisite(s): "C" or above in Introduction to Engineering II
Grade level(s): 11

This course introduces the engineering profession, professionalism, and ethics; it covers problem presentation, engineering graphics, digital computer application, word processing, worksheets, and programming in the latest Autodesk technology. Students will be enrolled in two dual enrollment engineering courses that include Engineering Graphics (Autocad) and Introduction to Engineering and Engineering Methods.

ENGINEERING RESEARCH C8444
Credit(s): 0.5^W
Prerequisite(s): "C" or above in Engineering Methods or written teacher recommendations
Grade level(s): 12

Students enrolled in Engineering Research must have mastered and completed the Engineering Methods course and be concurrently enrolled in Engineering Professional Development and Internship. Students will, under the supervision of a mentor in the industry, develop and complete a research project in a field of engineering. Students will be expected to present a final engineering project and research for review by an advisory committee that will include their mentor and engineering instructor. Correlation with the Engineering Professional Development and Internship class will be heavily incorporated.

Center for Engineering
Burton Center for Arts and Technology

Four-Year Curriculum
For Completion of Specialty Center Program

Grade 9	Grade 10	Grade 11	Grade 12
Introduction to Engineering I Pre-AP Algebra II**	Introduction to Engineering II Integrated Pre-calculus**	Engineering Methods AP Calculus AB** Pre-AP Chemistry** Integrated Physics**	Engineering Research Engineering Professional Development and Internship AP Calculus BC with Analytic Geometry Statics Engineering Economy
English Social Studies Science Health and PE Language Elective***	English Social Studies Science Health and PE Language Elective*	English Social Studies Elective* Elective*	English Social Studies Science Elective*

*Optimum suggested course of study includes programming as an elective for two of the four years.
 **Counts toward graduation requirements for mathematics and science.
 ***9th Graders are strongly encouraged to take Computer Aided Drafting/Technical Drawing at the base school.

ENGINEERING PROFESSIONAL DEVELOPMENT AND INTERNSHIP C8445
Credit(s): 0.5^W
Prerequisite(s): "C" or above in Engineering Methods or written teacher recommendations
Grade level(s): 12

Students must have mastered and completed the Engineering Methods course to be enrolled in Engineering Professional Development and Internship. This course starts with lessons in on-the-job safety and professional development. The students will explore the engineering profession through experiences in local industry and research facilities. Students will work with a mentor during this time and complete research related to their area of interest. Correlation with the Engineering Research class will be heavily incorporated. Business-casual attire is required.

ENGINEERING ECONOMY C6810
Credit(s): 0.5^W
Prerequisite(s): "C" or better in Engineering Methods
Grade level(s): 12

Engineering Economy presents economic analysis of engineering alternatives. Studies include economic and cost concepts, calculating economic equivalence, comparing alternatives, replacement economy, economic optimization in design and operation, depreciation, and after tax analysis. Dual enrollment with Virginia Western will be offered.

ENGINEERING MECHANICS: Statics C8498
Credit(s): 0.5^W
Prerequisite(s): "C" or better in Engineering Methods
Grade level(s): 12

This course introduces mechanics of vector forces and space, scalar mass and time, including S.I. and U.S. customary units. Statics teaches equilibrium, free-body diagrams, moments, couples, distributed forces, centroids, moments of inertia analysis of two-force and multi-force members and friction and internal forces. Dual enrollment with Virginia Western will be offered.

PRE-AP ALGEBRA II C3109P
Credit(s): 1
Prerequisite(s): "C" or above in Geometry
 or written teacher recommendations
Grade level(s): 9

Algebra II is designed to be an extension of Algebra I. Students enrolled in Algebra II are assumed to have mastered basic Algebra I concepts. New concepts that broaden algebraic reasoning are introduced. Some of the topics studied include polynomials, factoring, quadratics, systems of linear and nonlinear equations and inequalities, rational expressions, radicals, relations/functions and their graphs, matrices and determinants, exponential and logarithmic functions, sequences and series, conic sections, and analysis of collected data. Graphing calculators will be an integral part of this course.

INTEGRATED PRECALCULUS C3103N
Credit(s): 1^W
Prerequisite(s): "C" or above in Algebra II
 or written teacher recommendations
Grade level(s): 10

Students enrolled in Integrated Precalculus must have mastered basic algebraic concepts. New concepts introduced in Integrated Precalculus will be reinforced with engineering and CAD coursework and laboratories. Some of the mathematics topics will include an introduction to functions; linear functions; exponential and logarithmic functions; transformations of functions; trigonometric functions; composite, inverse, and combination functions; polynomial and rational functions; trigonometry of vectors; and related topics including geometric series, parametric equations, implicitly defined curves, and complex numbers. Graphing calculators and laptop computers will be an integral part of this course.

AP CALCULUS AB C3209N
 (Dual enrollment) C113209
Credit(s): 1^W
Prerequisite(s): Integrated Precalculus
Grade level(s): 11-12

Advanced Placement Calculus AB consists of a full year of work in calculus and related topics. This course is intended for students who have a thorough knowledge of analytic geometry and elementary functions in addition to college preparatory algebra, geometry, and trigonometry. The purpose of the course is to prepare the student for advanced placement in college calculus. Dual enrollment may not be available at all schools.

**AP CALCULUS BC with Analytic
 Geometry** C3210N
Credit(s): 1^W
Prerequisite(s): AP Calculus AB
Grade level(s): 12

Advanced Calculus is a course designed to build on the concepts learned in AP Calculus AB and to prepare students for the higher levels of mathematics. The diversity of topics and versatility of the knowledge gained in this course will enable students to solve problems in many fields of study, including physics, engineering, biology, and chemistry. The course includes vectors and dynamical systems, series and approximation, advanced integration techniques, parametric and polar functions, multiple variable functions, differential equations, and real-world modeling examples. The students will extend the applications of calculus to a wider arena of physical phenomena through the use of graphing calculators and computer software.

PRE-AP CHEMISTRY C4509N
Credit(s): 1
Prerequisite(s): Biology
Grade level(s): 11

Advanced Chemistry is a challenging, math-intensive, fast-paced course which requires competence and depth in solving chemical problems, sharp reasoning and analyzing skills, advanced intellectual engagement, rigorous laboratory work, and intensive and independent out of class writing and problem-solving assignments. This course will cover interaction of matter and energy, quantitative and qualitative studies of substance changes, experimental and analytical investigations, manipulation of chemical quantities, extensive research, language of chemistry, chemical calculations, and formulation of principles. The use of technology including calculators and computers with scientific probes and sensors will be employed where feasible.

INTEGRATED PHYSICS C4065N
Credit(s): 1^W
Prerequisite(s): Pre-AP Chemistry
Grade level(s): 11

Integrated Physics emphasizes a more complex understanding of experimentation, the analysis of data, and the use of reasoning and logic to evaluate evidence. The use of higher mathematics, including algebra, inferential statistics, and trigonometry is important, as well as a conceptual understanding of physical systems. Students build on basic physical science principles. Key areas covered include force

and motion, kinetic molecular theory, energy transformations, wave phenomena and the electromagnetic spectrum, light, electricity, magnetic fields, and non-Newtonian physics. Technology including graphing calculators and computers will be employed. The course stresses the practical applications of physics in the field of engineering.

Center for
Mass Communication Studies
Burton Center for Arts and Technology

The Center for Mass Communication is a four-year course of study in the areas of television, radio, and print media. Students will study the history and development of the different media. Other focus topics include marketing techniques, TV production, radio production, print production, and legal and ethical industry issues. A supervised internship in the areas of television, radio, and print media will be part of the fourth year of study.

Goals and Objectives:

- To provide students an opportunity to focus on the major elements of the communications industry;
- To afford students a hands-on experience in television, radio, and print media production;
- To give students entry level skills into the mass communications field.

Course Descriptions

DIGITAL AND WEB DESIGN (See Computer Science and Technology section)

MASS COMMUNICATION STUDIES PRE-AP ENGLISH 9 C1072N

Credit(s): 1
Prerequisite(s): English 8
Grade level(s): 9

The intent of this course is to develop the skills, thought processes, and concepts that will facilitate student success in high school Advanced Placement English courses. Critical thinking skills are developed through literature, non-fiction text, oral presentation, and the writing process. Heavy emphasis is placed on becoming an analytical reader and writer. The content of this course will be delivered in an integrated fashion with History and Introduction to Mass Communication. Summer reading is required.

PRE-AP ENGLISH 10 C1078N

Credit(s): 1
Prerequisite(s): English 9
Grade level(s): 10

The intent of this course is to develop the skills, thought processes, and concepts that will facilitate student success in high school Advanced Placement English

Center for Mass Communication Studies
Burton Center for Arts and Technology

Four-Year Curriculum
For Completion of Specialty Center Program

Grade 9	Grade 10	Grade 11	Grade 12
History of and Introduction to Mass Communication Pre-AP English 9	Media Production I Pre-AP English 10	Media Production II Digital and Web Design I AP English 11	Applied Media Production Media Production Internship
Math Social Studies Science Health and PE Electives	Math Social Studies Science Health and PE Electives	Math Science US History/Dual/AP Elective	Math Social Studies AP English 12 Elective

courses. Critical thinking skills are developed through literature, non-fiction text, oral presentation, and the writing process. Heavy emphasis is placed on becoming an analytical reader and writer. Summer reading is required.

AP ENGLISH 11: LANGUAGE AND COMPOSITION 1107N

Credit(s): 1^W
Prerequisite(s): English 10
Grade level(s): 11-12

This course will give students the opportunity and experiences to become sophisticated readers and writers. Students will study prose written from a variety of periods, disciplines, and rhetorical contexts written for a variety of purposes. Instruction incorporates the Standards of Learning set forth by the state of Virginia. Students will be encouraged to take the AP exam. Summer reading is required.

HISTORY OF AND INTRODUCTION TO MASS COMMUNICATION C8688

Dual enrollment C118688
Credit(s): 1
Prerequisite(s): Meet selection criteria
Grade level(s): 9

Students will study the history and development of television, radio, and print media. Areas of study will include ethics, responsibilities, marketing, public speaking, and career opportunities associated with the media profession. Students will be given hands on experience with video, audio, multimedia/web, and print production. Media related field trips and guest speakers will be used to provide students an understanding of the industry. Students will complete a

mass media project during the year. Project plans will be reviewed and approved by a committee of media professionals.

MEDIA PRODUCTION I C8688N

Dual enrollment C118688N
Credit(s): 1^W
Prerequisite(s): History of and Introduction to Mass Communication
Grade level(s): 10

This is the second course in the 4-year sequence of mass communications study. Students will delve further into the role media plays in both shaping and reflecting culture. Students will develop skills in copywriting, reporting, script writing, public speaking, and editing by producing video, radio, newspaper, and magazine reports. Projects will include development of keyboarding, desktop publishing, digital and film photography, graphic design, and audio/video production skills. Topics in the legal, ethical, and economic fundamentals of communication/media will be explored. Field trips will continue to be a critical part of the instructional process. Students will complete a variety of mass media projects throughout the year.

MEDIA PRODUCTION II C8689A

Dual enrollment C118689A
Credit(s): 1^W
Prerequisite(s): Media Production I
Grade level(s): 11

This is the third course in the 4-year sequence of mass communications study. Students will delve further into the role media plays in both shaping and reflecting culture. Students will develop skills in copywriting, reporting, script writing, public speaking, and editing by producing video, radio, newspaper, and magazine

reports. Projects will include development of keyboarding, desktop publishing, digital and film photography, graphic design, and audio/video production skills. Topics in the legal, ethical, and economic fundamentals of communication/media will be expanded. Field trips based on the various areas of the industry will continue to be a critical part of the instructional process. Students will create a personal portfolio of work in an area of choice within the field of mass media.

APPLIED MEDIA PRODUCTION C8689N

Dual enrollment C118689N
Credit(s): 1^W
Prerequisite(s): Media Production II
Grade level(s): 12

This is the fourth course in the 4-year sequence of mass communications study. Students will continue their study of the role media plays in both shaping and reflecting culture. Using the foundational skills learned in Media Production I & II, students will hone skills in copywriting, reporting, script writing, public speaking, and editing by producing video, radio, newspaper, and magazine reports. Students will select one area of the industry, and with the guidance of the instructor, develop a related project. Further exploration of topics in the legal, ethical, and economic fundamentals of communication/media will occur. Field trips will continue to be a critical part of the instructional process. Students will complete a variety of mass media projects throughout the year.

MEDIA PRODUCTION INTERNSHIP C8690

Dual enrollment C118690
Credit(s): 1^W
Prerequisite(s): Media Production II
Grade level(s): 12

This course must be taken along with Applied Media Production. Students will work with the instructor to identify the student's primary area of interest and skill within the industry. Students will be placed in a community business for an internship experience to take place throughout the school year. The student must complete 140 hours. The course instructor will supervise all student placements and work closely with industry mentors to assess student progress and further develop student skills. In addition, students will spend 40 hours in classroom seminars focused on job and employment related skills. Seminar includes study of postgraduate opportunities.

Center for the Performing Arts
Burton Center for Arts and Technology

The Center for the Performing Arts is a four-year course of study which will expose talented and interested students to musical theatre. Students will study acting, voice, and dance and will have several performance opportunities throughout the course of the year.

Goals and Objectives:

- To provide in-depth training in musical theatre (acting, voice, and dance);
- To offer knowledge of artistic skills necessary for successful careers in the performing arts;
- To provide instruction by professional faculty and artists-in-residence;
- To provide opportunities for students to be showcased in the community.

Course Descriptions

PERFORMING ARTS I **C9416N**

Credit(s): 2

Prerequisite(s): Acceptance into the program

Grade level(s): 9

Each year the students will have activities in acting, dance, and voice. Acting, first year, is an introduction to basic acting concepts and techniques including method acting, character development, improvisation, acting for film and television, and technical theatre. First year dance is an introduction to the genres of ballet, tap, jazz, and modern presented in cultural and historical context, focusing on vocabulary, principals, and basic elements of each style. The voice portion of the course begins the development of essential skills required in singing and vocal production. Music theory, sight-singing, and ear training, along with musical theatre history, performance etiquette, and musical styles will all be integrated to build a well-rounded singer.

PERFORMING ARTS II **C9417N**

Credit(s): 2^w

Prerequisite(s): Performing Arts I

Grade level(s): 10

Acting, second year, builds upon the foundation of Acting 1. The class reinforces and refines the skills developed in Acting 1. Second year dance builds upon the basic technical facility and kinesthetic body awareness attained in Dance 1. The class reinforces and refines fundamental skills and allows students greater exposure to performance opportunities. Voice 2 will be a continuation of Voice 1, building upon the basic vocal techniques and musical principals of Voice 1.

PERFORMING ARTS III **C9418N**

Credit(s): 2^w

Prerequisite(s): Performing Arts II

Grade level(s): 11

Acting, third year, emphasizes the development of the total actor through a more in-depth study of acting techniques. Dance 3 emphasizes development of the total dancer by integrating each student's physical, analytical, and creative growth. Students will study specific genres more in-depth while continuing to take classes in other genres. Voice 3 will be a continuation of Voice 2, emphasizing on the development of the total singer.

PERFORMING ARTS IV **C9419N**

Credit(s): 2^w

Prerequisite(s): Performing Arts III

Grade level(s): 12

Acting, fourth year, is the culmination of the total actor by integrating techniques and skills developed throughout the course of study. Dance 4 culminates the training of the total dancer by integrating student's techniques, perception, artistic interpretation, and the understanding of dance as a creative expression in cultural/historical context. Voice 4 culminates the training of the total singer by integrating all aspects of vocal production and musicianship learned over the course of study.

Center for the Performing Arts
Burton Center for Arts and Technology

Four-Year Curriculum
For Completion of Specialty Center Program

Grade 9	Grade 10	Grade 11	Grade 12
Performing Arts I	Performing Arts II	Performing Arts III	Performing Arts IV
English Social Studies Math Science Health and PE Elective	English Social Studies Math Science Health and PE Elective	English Social Studies Math Science Electives	English Social Studies Math Science Electives

Center for Visual Arts and
Museum Studies*
Burton Center for Arts and Technology
and Taubman Museum of Art

*Museum Studies is subject to funding.

The Center for Visual Arts offers a four-year advanced program for students who are talented and motivated in the visual arts. Students accepted into the program will participate in accelerated and enriched artistic experiences that integrate studio work, research, critique, and aesthetics in the visual arts.

Goals and Objectives:

- To provide talented and motivated students with an opportunity to study the visual arts in an enriched and accelerated environment;
- To immerse students in creative and intensive visual arts experiences;
- To provide students with a specific understanding of the history and impact of the visual arts;
- To facilitate a year-long independent study project under the internship of professional artists and businesses;
- To encourage participation in visual arts electives, extra-curricular, and co-curricular activities.

VISUAL ARTS I – CULTURES AND MUSEUM STUDIES C9200N

Credit(s): 2

Prerequisite(s): Meet selection criteria

Grade level(s): 9

Visual Arts I – Cultures is an advanced course where students will study art principles and techniques through studio-based experiences. Art history through the Renaissance will be emphasized. Hands-on-training, museum experiences, and interaction with artists will allow the students to acquire extensive understanding of the development and importance of art throughout world cultures. Students will create a portfolio and keep a sketchbook journal.

VISUAL ARTS II – STYLES AND MUSEUM STUDIES C9201N

Prerequisite(s): Meet selection criteria

Credit(s): 2^W

Grade level(s): 10

Visual Arts II – Styles is a studio/lecture class exploring art, culture, and society from the Mannerism period through Contemporary times with an in-depth look into styles and movements that developed during this time. The students' studio experiences will include drawing, printmaking, computer graphics, ceramics, sculpture, jewelry making, and painting using oils, acrylics, and watercolors. The students will continue to develop their research journals and portfolios that were started in the Visual Arts I – Cultures and Museum Studies class. Field trips and exposure to local artists will be an integral part of this curriculum. Summer assignments are required.

VISUAL ARTS III - PERSONAL STYLE AND MUSEUM STUDIES C9202N

Credit(s): 2^W

Prerequisite(s): Meet selection criteria

Grade level(s): 11

Visual Arts III – Personal Style and Museum Studies is a studio lab environment in which the students focus on the development of their own personal styles as artists using a variety of media. Students will engage in a comprehensive exploration of modern cultures and artists that relate to their individual fields of concentration. Students will correspond with people prominent in their chosen fields for professional guidance and will continue their museum studies with the Taubman Museum of Art. Students will produce work suitable for exhibiting and will be responsible for all aspects of organizing and setting up a professional student art show. Work on their sketch journals and portfolios will continue. Summer assignments are required.

Center for Visual Arts and Museum Studies
Burton Center for Arts and Technology and
Taubman Museum of Art

**Four-Year Curriculum
For Completion of Specialty Center Program**

Grade 9	Grade 10	Grade 11	Grade 12
Visual Arts I – Cultures and Museum Studies	Visual Arts II – Styles and Museum Studies	Visual Arts III – Personal Style and Museum Studies	Visual Arts IV – Careers and Museum Studies AP Studio Art
English Science Math Health/PE Social Studies Elective	English Science Math Health/PE Social Studies Elective	English Science Math Social Studies Elective	English Science Math Social Studies Elective

All center classes in art are double blocked except Visual Arts IV and AP Studio Art.

VISUAL ARTS IV – CAREERS AND MUSEUM STUDIES C9203N

Credit(s): 1^W

Prerequisite(s): Meet selection criteria

Grade level(s): 12

Visual Arts IV – Careers and Museum Studies is an advanced class where the students will participate in an internship under the direction of local artists, businesses/museums. The students will work on personal art portfolios, research journals, and artists' work ethics. The students will also be enrolled in the Advanced Placement Studio Art course. Class emphasis will be placed on critique of internships and student portfolios.

AP STUDIO ART 9190N

Credit(s): 1^W

Prerequisite(s): 2 credits of art, the recommendation of the art teacher, and an art portfolio

Grade level(s): 12

This full year weighted art course allows students to pursue college level course work. Students taking this course will focus on one of the following areas: Drawing Portfolio, 3-D Design Portfolio, or 2-D Design Portfolio. Individual artwork will be evaluated for quality, depth, discovery, and demonstration of superior knowledge of art principles and techniques. Summer assignments will be required. College credit may be earned through a satisfactory score on the AP College Board Test for AP Studio Art, which requires the submission of a portfolio.

CULINARY PROGRAM AT BCAT

CULINARY ARTS I **B8275**

Dual enrollment B118275

Credit(s): 2.0/3.0

Prerequisite(s): Introduction to Culinary Arts or Nutrition and Wellness

Grade level(s): 10-12

Have you ever dreamed of being a chef in an upscale restaurant? Now you have the opportunity to get solid hands-on experience as you prepare for occupations such as chef/cook, baker/pastry helper, pastry decorator, hospitality worker, dietetic aide/assistant, food demonstrator, and entrepreneur. Students interested in a career in the food industry will practice managerial, production, and service skills. Students plan, select, store, purchase, prepare, and serve food and food products. Students also learn basic nutrition, sanitation, food safety, the use and care of commercial equipment, and the operation of institutional food establishments. The cooperative education method is available for this course where students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year.

CULINARY ARTS II **B8276**

Dual enrollment B118276

Credits: 2.0/3.0

Prerequisites: Culinary I

Grade Level(s): 11-12

Culinary Arts II provides students an opportunity to refine skills in serving, dining room management, and other skills learned in Culinary Arts I. Students plan, select, store, purchase, prepare, and serve food and food products through advanced catering opportunities. Students continue to explore:

- Principles of Culinary Arts
- Principles of Hospitality Management
- Sanitation and Safety
- Stock, Soups, and Sauce Preparation
- Application for Nutrition for Food Service
- Garde Manger
- American Regional Cuisine
- Menu Planning and Dining Room Service

- Principles of Baking
- Food Purchasing
- International Cuisine
- Fruit, Vegetable & Starch Preparation

The cooperative education method is available for this course where students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year.

MECHATRONICS/ROBOTICS PROGRAM AT BCAT

MECHATRONICS/ROBOTICS I **B8425**

Dual enrollment B118425

Prerequisite(s): Meet selection criteria

Credit(s): 2

Grade level(s): 9-12

Students will obtain the core skills needed to become Engineering Technicians that include:

- Automation Operations and Programmable Controllers
- Basic Component Adjustments
- Gauging, Indexing, Sorting, Queuing and Torque
- Servicing Robotic Assembly units
- Multiple Station Control
- Mechanical Fabrication
- Pneumatics and Hydraulics
- Program will include a Dual Enrollment option with VWCC
- Program will include cooperative education or internship options

MECHATRONICS/ROBOTICS II **B8426**

Dual enrollment B118426

Prerequisite(s): Meet selection criteria

Credit(s): 2

Grade level(s): 10-12

Students will build upon the core skills developed in Mechatronics 1 that are needed to become Engineering Technicians including:

- D.C. and A.C. Circuits
- Technical Computer Applications including basic exposure to the use of AutoCad and Inventor
- Introduction to Engineering Design and

- applications using VEX Robots
- Mechanisms
- Applied Hydraulics and Pneumatics
- Introduction to Electronics
- Applied Technology
- Principles and Applications of Robotics
- Intro to Basic Computer Integrated Manufacturing
- Materials and Processes of Manufacturing
- Automated Manufacturing Systems
- Introduction to Problem Solving in Technology
- Orientation to Engineering

ROANOKE VALLEY GOVERNOR'S SCHOOL FOR SCIENCE AND TECHNOLOGY

The Roanoke Valley Governor's School for Science and Technology opened August, 1985. It is a rigorous half-day program designed for ninth through twelfth grade students from Bedford County, Botetourt County, Craig County, Franklin County, Roanoke County, Roanoke City, and the City of Salem, who have creative, capable minds and a strong interest in academics. The screening process for this program begins in January. Students must attend a meeting at the Governor's School in order to receive an application. For additional information concerning next year's program, contact your school counselor or the Governor's School. Parents will provide transportation to the Roanoke Valley Governor's School and back to the student's home school.

COURSES AND CREDITS

SCIENCE OFFERINGS:

RVGS Physics	1.0 ^W
RVGS Chemistry	1.0 ^W
AP Chemistry	2.0 ^W
College General Biology +	2.0 ^W
AP/College Physics+	2.0 ^W
AP/University Physics+	2.0 ^W
AP Environmental Science/ College Ecology+	2.0 ^W

MATHEMATICS OFFERINGS:

RVGS Algebra II	1.0 ^W
RVGS Precalculus	1.0 ^W
AP Calculus AB	1.0 ^W
AP Accelerated Laboratory Calculus	1.0 ^W
AP College Statistics+	1.0 ^W
AP Calculus BC	1.0 ^W
College Linear Algebra+	1.0 ^W

ELECTIVES:

JAVA Programming+	0.5 ^W
Biotechnology and Bioinformatics+	0.5 ^W
Directed Study	0.5
Environmental Research	0.5
Experimental Botany	0.5
Fundamentals of Research	0.5
Geographical Information Systems+	0.5 ^W
Mathematics Research	0.5

Mentorship	0.5
Product Design Engineering	0.5
Technology-based Research in Applied Physics	0.5
Robotics	0.5

+May be dually enrolled

Courses other than mathematics or science will be taken at the student's home school. Placement in the courses listed above is dependent on having the prerequisite and the student's choice.

THE VIRGINIA WESTERN REGIONAL ACADEMY FOR ADVANCED TECHNOLOGY

The regional center for the study of engineering, advanced mechatronics, and culinary arts is a career pathway, a focused half-day program, designed for eleventh and twelfth grade students from Craig County, Botetourt County, Franklin County, Roanoke County, Roanoke City, and the City of Salem, who have creative, capable minds and a strong interest in applied academics. All classes will be taught in the new Advanced Technology Center on the Virginia Western Community College Campus with the exception of the culinary classes which will be taught in the Culinary Institute's kitchens at the Claude Moore Educational Complex. The screening process for this program begins in January. Students must attend a meeting at the Academy in order to receive an application. For additional information concerning next year's program, contact your school counselor for the Academy contact information. Parents will provide transportation to the Academy and back to the student's home school.

The Academy will make every effort to stress critical skills and behaviors identified as being the most important skills and behaviors for success for workers in modern business, integrating core academic, workplace readiness skills, and enhanced computer literacy into all curricula.

COURSES

Advanced Technology in Mechatronics

- D.C. and A.C. Circuits
- Technical Computer Applications
- Introduction to Engineering Design
- Mechanisms
- Applied Hydraulics and Pneumatics
- Electronics I

- Electronics I Lab
- Applied Technology
- Principles and Applications of Robotics
- Intro to Basic Computer Integrated Manufacturing
- Materials and Processes of Manufacturing
- Automated Manufacturing Systems I
- Introduction to Problem Solving in Technology
- Orientation to Engineering

- Engineering Transfer
- Engineering Economics
- Pre-Calculus with Trigonometry
- Introduction to Robotics
- Introduction to Engineering and Engineering Methods
- Calculus of One Variable I
- Introductory Linear Algebra
- Advanced Robotics
- Introduction to Engineering
- Calculus of One Variable II
- Topics in Analytic Geometry
- Introduction to Engineering Design
- Engineering Mechanics – Statics
- Computer Methods in Engineering and Technology
- Computer Programming for Engineers (C++)

- Culinary
- Principles of Culinary Arts
- Principles of Hospitality Management
- Sanitation and Safety
- Stock, Soups, and Sauce Preparation
- Application for Nutrition for Food Service
- Garde Manger
- American Regional Cuisine
- Menu Planning and Dining Room Service
- Principles of Baking
- Food Purchasing
- International Cuisine
- Fruit, Vegetable & Starch Preparation

ASSOCIATE'S DEGREE PROGRAM THROUGH VWCC AND ROANOKE COUNTY SCHOOLS

A Roanoke County student may earn an associate's degree through Virginia Western Community College by taking dual enrollment courses and AP courses (a 3 or better must be achieved on the AP College Board exam before VWCC credit is awarded). Most courses may be taken through the student's normal high school schedule with few exceptions where VWCC requires that some classes be taken on the VWCC campus during weekend courses, online

courses, or a hybrid of both weekend and online courses. A detailed separate brochure is available in your school's guidance office if a student is interested. Please contact your child's guidance counselor for the brochure and more specific information.

Sixth/Seventh Grade Elective/Interest Program

Each middle school offers courses to sixth grade and seventh grade students which may vary from school to school.

ELECTIVE/INTEREST 6/7

Credit(s): 0
Prerequisite(s): None
Grade level(s): 6/7

Students in Grades 6/7 may select from the following electives and/or interest block program.

1. Band (36 weeks - course description under Band)
2. Choir (36 weeks - course description under Chorus)
3. Interest Block – The following may be included: art, business, family and consumer science, technology education, and world languages exploratory.

School(s) offering course: CSMS, GMS, NMS

ELECTIVE/INTEREST 6/7

Credit(s): 0
Prerequisite(s): None
Grade level(s): 6/7

Students in Grades 6/7 may select from the following electives and/or interest block program.

1. Band (36 weeks - course description under Band)
2. Choir (36 weeks - course description under Chorus)
3. Interest Block - The following may be included: art, technology education, world languages exploratory, study skills, and computer skills.

School(s) offering course: HVMS

ELECTIVE/INTEREST 6/7

Credit(s): 0
Prerequisite(s): None
Grade level(s): 6/7

Students in Grades 6/7 may select from the

following electives and/or interest block program.

1. Band (36 weeks - course description under Band)
2. Choir (36 weeks - course description under Chorus)
3. Interest Block - Interest block is a full year course. The following may be included: art, business, family and consumer science, technology education, world languages exploratory, and Literature Circle.

School(s) offering course: WBMS

Art

ART EXPLORATORY 6 (Interest Block Program)

Credit(s): 0
Prerequisite(s): None
Grade level(s): 6

Art Exploratory is a hands-on course that will offer students the opportunity to personally explore art through drawing, painting, sculpture, graphics, and critique. Emphasis will be on the students' creative experiences while exploring basic art concepts and materials.

School(s) offering course: CSM, GM, HVM, NM, WBM

ART EXPLORATORY 7 (Interest Block Program)

Credit(s): 0
Prerequisite(s): None
Grade level(s): 7

Art Exploratory 7 is a studio-oriented course that will offer the students the opportunity to study art through exploration and investigation of the creative process. The students will acquire knowledge that permits them to identify art styles and art concepts while using an array of art supplies. Students will explore perspective, drawing, painting, sculpture, graphics, and critique.

School(s) offering course: CSM, GM, HVM, NM, WBM

ART 8 9011N

Credit(s): 0
Prerequisite(s): None
Grade level(s): 8

Art 8 is a semester course that will enhance the students' awareness of art concepts through the creation of a variety of art projects. The study of the elements of art and principles of design will be highlighted throughout this class. The students will create in the areas of drawing, painting, sculpture,

graphics, and critique.

School(s) offering course: CSM, GM, HVM, NM, WBM

INTRODUCTION TO CRAFTS 9030N
Credit(s): 0
Prerequisite(s): None
Grade level(s): 8

Introduction to Crafts is a hands-on semester course where the students learn methods for creating culturally diverse crafts. Basic art concepts will be used in the exploration of functional and decorative craft projects in fiber, paper, metal, clay, wood, and/or beading.

School(s) offering course: CSM, GM, HVM, NM, WBM

ART I 9018N
Credit(s): 1
Prerequisite(s): None
Grade level(s): 9-12

This full year studio course introduces at a beginner level drawing, painting, sculpture, ceramics, printmaking, photography, and graphic design through hands-on art projects.

Study includes the elements of art and principles of design, art history, criticism, judgment, and aesthetics. A student portfolio of artworks will be developed.

School(s) offering course: CSH, GH, HVH, NH, WBH

ART II 9028N
Credit(s): 1
Prerequisite(s): 1 credit of art
Grade level(s): 10-12

This full year studio course explores at an intermediate level drawing, painting, sculpture, ceramics, printmaking, photography, and graphic design through hands-on art projects.

Study includes the elements of art and principles of design, art history, criticism, judgment, and aesthetics at an intermediate level. A student portfolio of artworks will be continued.

School(s) offering course: CSH, GH, HVH, NH, WBH

ART III 9038N
Credit(s): 1
Prerequisite(s): 2 credits of art or the approval of the instructor
Grade level(s): 11-12

This full year studio course explores at an advanced intermediate level drawing, painting, sculpture, ceramics, printmaking, photography, and graphic design through hands-on art projects. Study includes the elements of art and principles

of design, art history, criticism, judgment, and aesthetics at an advanced intermediate level. A student portfolio of artworks will be continued.

School(s) offering course: CSH, GH, HVH, NH, WBH

ART IV 9168N
Credit(s): 1
Prerequisite(s): 3 credits of art or approval of instructor
Grade level(s): 11-12

This full year studio course explores at an advanced level drawing, painting, sculpture, ceramics, printmaking, photography, and graphic design through hands-on art projects.

Study includes the elements of art and principles of design, art history, criticism, judgment, and aesthetics at an advanced level. A student portfolio of artworks will be completed.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP STUDIO ART 9191/9192/9193
Credit(s): 1^w
Prerequisite(s): 3 credits of art or approval of instructor
Grade level(s): 11-12

This full year weighted art course allows students to pursue college level course work. Students taking this course will focus on one of the following areas: Drawing Portfolio, 3-D Design Portfolio, or 2-D Design Portfolio. Individual artwork will be evaluated for quality, depth, discovery, and demonstration of superior knowledge of art principles and techniques. Summer assignments will be required. College credit may be earned through a satisfactory score on the AP College Board Test for AP Studio Art, which requires the submission of a portfolio.

School(s) offering course: BCAT, CSH, GH, HVH, NH, WBH

COMPUTER GRAPHICS I 9146N
Credit(s): 1
Prerequisite(s): None
Grade level(s): 9-12

This full year course explores at a beginner level desktop publishing, typography, digital photography, photo editing software, and digital illustration. The students will begin a digital portfolio.

School(s) offering course: CSH, GH, HVH, NH, WBH

Art Program

6 th Grade	Art Exploratory 6		
7 th Grade	Art Exploratory 7		
8 th Grade	Art 8 and Introduction to Crafts		
Grades 9-12	Art I	Computer Graphics I	Digital Photo/Art I
Grades 10-12	Art II	Computer Graphics II	Digital Photo/Art II
Grades 11-12	Art III	Art IV	AP Studio Art

COMPUTER GRAPHICS II 9147N
Credit(s): 1
Prerequisite(s): Computer Graphics I
Grade level(s): 9-12

This full year course explores at an intermediate level desktop publishing, typography, digital photography, photo editing software, and digital illustration. The students will continue a digital portfolio.

School(s) offering course: CSH, GH, HVH, NH, WBH

DIGITAL PHOTO/ART I 9148N
Credit(s): 1
Prerequisite(s): None
Grade level(s): 9-12

This full year course explores at a beginner level digital photography, design techniques, printing processes and photo editing software to achieve a broad range of knowledge for creative expression. Historical and contemporary photographers and their contributions will be explored. A student portfolio of photographs will be developed.

School(s) offering course: CSH, GH, HVH, NH, WBH

DIGITAL PHOTO/ART II 9142
Credit(s): 1
Prerequisite(s): Photography I or Digital Photography/Art
Grade level(s): 10-12

This full year course explores at an intermediate level digital photography, design techniques, printing processes and photo editing software to achieve a broad range of knowledge for creative expression. Historical and contemporary photographers and their contributions will be explored. A student portfolio of photographs will be continued.

School(s) offering course: CSH, GH, HVH, NH, WBH

English

ENGLISH 6 1004N
Credit(s): 0
Prerequisite(s): Language Arts 5
Grade level(s): 6

The language arts program is a total language approach to the study of our English language. The program includes the study of reading with emphasis on comprehension and vocabulary building, and the application of spelling and grammar fundamentals in written and oral communication.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE- AP ENGLISH 6 1008N
Credit(s): 0
Prerequisite(s): Language Arts 5
Grade level(s): 6

The intent of this course is to introduce and develop the skills, thought processes, and concepts that will facilitate student success in high school Advanced Placement English courses. Critical thinking skills are developed through literature, non-fiction text, oral presentation, and the writing process. Heavy emphasis is placed on becoming an analytical reader and writer. Summer reading is required.

School(s) offering course: CSM, GM, HVM, NM, WBM

ENGLISH 7 1025N
Credit(s): 0
Prerequisite(s): English 6
Grade level(s): 7

English 7 develops the student's skills in literature, vocabulary, composition, language study (a writer-based grammar), and speech. Instruction provides a sequential presentation of skills, incorporating the Standards of Learning set forth by the state of Virginia.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP ENGLISH 7 1028N
Credit(s): 0
Prerequisite(s): English 6
Grade level(s): 7

The intent of this course is to introduce and develop the skills, thought processes, and concepts that will facilitate student success in high school Advanced Placement English courses. Critical thinking skills are developed through literature, non-fiction text, oral presentation, and the writing process. Heavy emphasis is placed on becoming an analytical reader and writer. Summer reading is required.

School(s) offering course: CSM, GM, HVM, NM, WBM

ENGLISH 8 1045
Credit(s): 0
Prerequisite(s): English 7
Grade level(s): 8

English 8 develops the student's skills in literature, vocabulary, composition, language study (a writer-based grammar), and speech. Instruction provides a sequential presentation of skills, incorporating the Standards of Learning set forth by the state of Virginia.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP ENGLISH 8 1048N
Credit(s): 0
Prerequisite(s): English 7
Grade level(s): 8

The intent of this course is to introduce and develop the skills, thought processes, and concepts that will facilitate student success in high school Advanced Placement English courses. Critical thinking skills are developed through literature, non-fiction text, oral presentation, and the writing process. Heavy emphasis is placed on becoming an analytical reader and writer. Summer reading is required.

School(s) offering course: CSM, GM, HVM, NM, WBM

ENGLISH 9 1065
Credit(s): 1
Prerequisite(s): English 8
Grade level(s): 9

English 9 develops the student's skills in literature, vocabulary, composition, language study (a writer-based grammar), and speech. Instruction provides a sequential presentation of skills, incorporating the Standards of Learning set forth by the state of Virginia.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRE-AP ENGLISH 9 1068N
Credit(s): 1
Prerequisite(s): English 8
Grade level(s): 9

The intent of this course is to develop the skills, thought processes, and concepts that will facilitate student success in high school Advanced Placement English courses. Critical thinking skills are developed through literature, non-fiction text, oral presentation, and the writing process. Heavy emphasis is placed on becoming an analytical reader and writer. Summer reading is required.

School(s) offering course: CSH, GH, HVH, NH, WBH

ENGLISH 10 1085
Credit(s): 1
Prerequisite(s): English 9
Grade level(s): 10

English 10 develops the student's skills in literature, vocabulary, composition, language study (a writer-based grammar), and speech. Instruction provides a sequential presentation of skills incorporating the Standards of Learning set forth by the state of Virginia. Emphasis is on an in-depth literary study of various genre, including poetry, nonfiction, and short stories. Composition development continues, including practice in sentence combining techniques and appropriate punctuation.

School(s) offering course: CSH, GH, HVH, NH, WBH

ENGLISH 10 (College Bound) 1088N
Credit(s): 1
Prerequisite(s): English 9
Grade level(s): 10

English 10 develops the student's skills in literature, vocabulary, composition, language study (a writer-based grammar), and speech. Instruction provides a sequential presentation of skills incorporating the Standards of Learning set forth by the state of Virginia. Emphasis is on more in-depth literary study of various genre and composition development.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRE-AP ENGLISH 10 1078N
Credit(s): 1
Prerequisite(s): English 9
Grade level(s): 10

The intent of this course is to develop the skills, thought processes, and concepts that will facilitate student success in high school Advanced Placement English courses. Critical thinking skills are developed through literature, non-fiction text, oral presentation, and the writing process. Heavy emphasis is placed on becoming an analytical reader and writer. Summer reading is required.

School(s) offering course: CSH, GH, HVH, NH, WBH

ENGLISH 11 1105
Credit(s): 1
Prerequisite(s): English 10
Grade level(s): 11

English 11 develops the student's skills in literature, vocabulary, composition, language study (a writer-based grammar), and speech. Instruction provides a sequential presentation of skills incorporating the Standards of Learning set forth by the state of Virginia. The student will receive an introduction to the research process.

School(s) offering course: CSH, GH, HVH, NH, WBH

ENGLISH 11 (College Bound) 1108N
Credit(s): 1
Prerequisite(s): English 10
Grade level(s): 11

English 11 develops the student's skills in literature, vocabulary, composition, language study (a writer-based grammar), and speech. Instruction provides a sequential presentation of skills incorporating the Standards of Learning set forth by the state of Virginia. Emphasis is on a more in-depth literary study of various genre and the research process.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP ENGLISH 11: LANGUAGE AND COMPOSITION 1107N
Credit(s): 1^W
Prerequisite(s): English 10
Grade level(s): 11-12

This course will give students the opportunity and experiences to become sophisticated readers and writers. Students will study prose written from a variety of periods, disciplines, and rhetorical contexts written for a variety of purposes. Instruction incorporates the Standards of Learning set forth by the state of Virginia. Students will be encouraged to take the AP exam. Summer reading is required.

School(s) offering course: CSH, GH, HVH, NH, WBH

ENGLISH 12 1125
Credit(s): 1
Prerequisite(s): English 11
Grade level(s): 12

English 12 develops the student's skills in literature, vocabulary, composition, language study (a writer-based grammar), and speech. Instruction provides a sequential presentation of skills incorporating the Standards of Learning set forth by the state of Virginia. Emphasis is on the résumé, cover letter, and college application process.

School(s) offering course: CSH, GH, HVH, NH, WBH

ENGLISH 12 (College Bound) 1127N
Credit(s): 1
Prerequisite(s): English 11
Grade level(s): 12

English 12 develops the student's skills in literature, vocabulary, composition, language study (a writer-based grammar), and speech. Instruction provides a sequential presentation of skills incorporating the Standards of Learning set forth by the state of Virginia. Emphasis is on the résumé, cover letter, college application process and essay, and a more in-depth study of literature.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP ENGLISH 12: LITERATURE AND COMPOSITION 1132
(Dual enrollment) 111132
Credit(s): 1^W
Prerequisite(s): English 11
Grade level(s): 12

Students will complete and go beyond the regular English 12 curriculum through increased emphasis on independent reading and experiences in more intensified literary analysis, verbalization, and composition. Students will be given the option of taking the AP exam. **Summer reading is required and will be assigned by the instructor.** (Dual enrollment with Virginia Western Community College and/or AP exam is available. Exam exemption in this class does not apply.)

School(s) offering course: CSH, GH, HVH, NH, WBH

TALES AND LEGENDS 1175
Credit(s): 0.5
Prerequisite(s): None
Grade level(s): 9-12

This course includes a study of the major backgrounds of western culture to include Aesop's fables, the Robin Hood tales, the King Arthur legends, American tall tales, and the myths of Greece, Rome, and Scandinavia

School(s) offering course: NH

THEATER ARTS I 1345
THEATER ARTS II 1365
THEATER ARTS III 1385
THEATER ARTS IV 1405
Credit(s): 1
Prerequisite(s): None for Theater Arts I
Grade level(s): 9-12

These courses introduce and extend the study of theater crafts with emphasis on the technical aspects of play production: directing, lighting, set construction,

scene design, and the reading and studying of contemporary dramas. Classes will be offered contingent upon sufficient enrollment.

School(s) offering course: CSH, GH, HVH, NH, WBH

**COLLEGE BOARD EXAMINATION
SUMMER PREPARATION FOR S.A.T** 1540

Credit(s): 5

Prerequisite(s): None

Grade level(s): 10-12

This is a one-semester **summer course** designed to help students prepare for the S.A.T. examination. Both English and math will be emphasized. **Rising eleventh and twelfth grade students will be given priority.**

School(s) offering course: CSH, GH, HVH, NH, WBH

INTRODUCTION TO JOURNALISM 1444

Credit(s): 0

Prerequisite(s): Approval of Instructor

Grade level(s): 8

This course includes lectures in the basics of news-gathering, news reporting, video, video editing, layout, and production. Students in this course will become part of the staff of a video news program, which is produced daily, and the school newspaper, which is produced quarterly. Students will learn to use digital video cameras and Studio7 video editing software. Students will also learn the basic principles behind journalistic writing. Emphasis is placed on developing good speaking and good writing skills.

School(s) offering course: HVM, WBM

PHOTOJOURNALISM I 0261

PHOTOJOURNALISM II 0262

PHOTOJOURNALISM III 0263

PHOTOJOURNALISM IV 0264

(Yearbook)

Credit(s): 1

Prerequisite(s): Approval of instructor

Grade level(s): 9-12

These courses are for students interested in producing the student yearbook/annual and are designed to explore ethical journalism issues, while producing a high-quality annual publication. Through the course requirements, students are encouraged to develop advanced technology skills (computer, digital photography), enhance peer management techniques, and acquire an appreciation of the diversity of the student body. These courses may require occasional after-school lab work.

School(s) offering course: CSH, GH, HVH, NH, WBH

JOURNALISM I 0266

JOURNALISM II 0267

JOURNALISM III 0268

JOURNALISM IV 0271

(Newspaper)

Credit(s): 1

Prerequisite(s): Approval of instructor

Grade level(s): 9-12

These courses are for students interested in planning, writing, and designing a 12-16 page school newspaper and are designed to introduce the historical and ethical issues associated with news writing. Furthermore, students will assist with all aspects of newspaper production, including selling advertisements, writing and editing, photography, and designing pages. These courses may require some after-school lab work.

School(s) offering course: CSH, GH, HVH, NH, WBH

**APPLICATION AND DEVELOPMENT
OF READING SKILLS**

Part I 03881 Part IV 03884

Part II 03882 Part V 03885

Part III 03883 Part VI 03886

Credit(s): 0

Prerequisite(s): Principal referral or IEP committee referral

Grade level(s): 6-8

This course will teach students basic reading skills: strategies for decoding, vocabulary development, and comprehension techniques. Parts I and II will provide the students with the opportunity to learn and apply those critical tools used by effective readers.

School(s) offering course: CSM, GM, HVM, NM, WBM

**APPLICATION AND DEVELOPMENT
OF READING SKILLS**

Part I 0388 Part V 0411

Part II 0389 Part VI 0412

Part III 0408 Part VII 0413

Part IV 0409 Part VIII 0414

Credit(s): 5

Prerequisite(s): Principal referral or IEP committee referral

Grade level(s): 9-12

This course will teach students basic reading skills: strategies for decoding, vocabulary development, and comprehension techniques. Parts I and II will provide the students with the opportunity to learn and apply those critical tools used by effective readers.

School(s) offering course: CSH, GH, HVH, NH, WBH

English Language Proficiency

English for ELL MS I 7586N

English for ELL MS II 7587N

English for ELL MS III 7588N

Credit(s): 0

Prerequisite(s): Meet federal, state and local qualifications for LEP program

Grade level(s): 6-8

The English Language Proficiency Program provides students who are English Language Learners (ELL) with extensive instruction in reading, writing, and speaking. The purposes of the program are to help students attain rapid proficiency in English in order to make satisfactory achievement in the regular school programs and to provide instruction which satisfies cultural, as well as linguistic, needs of students with limited English proficiency. ELL students are enrolled in one or two periods.

School(s) offering course: BCAT, CSM, GM, HVM, NM, WBM

English for ELL HS I 7589 7589N

English for ELL HS II 7590 7590N

English for ELL HS III 7591 7591N

English for ELL HS IV 7592 7592N

Credit(s): 1
2

Prerequisite(s): Meet federal, state and local qualifications for LEP program

Grade level(s): 9-12

This course is for elective credit and cannot satisfy a graduation requirement for English

The program provides students who are English Language Learners (ELL) with extensive instruction in reading, writing, and speaking. The purposes of the program are to help students attain rapid proficiency in English in order to make satisfactory achievement in the regular school programs and to provide instruction which satisfies cultural, as well as linguistic, needs of students with limited English proficiency. ELL students are enrolled in one two-hour block.

School(s) offering course: BCAT, CSH, GH, HVH, NH, WBH

English Language Proficiency Resource

ELL Resource 6 7982N

ELL Resource 7 7983N

ELL Resource 8 7984N

ELL Resource 9 7985N

ELL Resource 10 7986N

ELL Resource 11 7987N

ELL Resource 12 7988N

Credit(s): 0

Prerequisite(s): Meet federal, state and local qualifications for LEP program

Grade level(s): 6-12

These courses are for students with limited language proficiency who need additional support in developing listening, speaking, reading, and writing skills in English.

School(s) offering course: BCAT, CSM, GM, HVM, NM, WBM, CSH, GH, HVH, NH, WBH

Health and Physical Education

HEALTH & PHYSICAL EDUCATION 6 7007

Credit(s): 0

Prerequisite(s): None

Grade level(s): 6

This course is a blending of physical and health education. The physical education emphasizes the development of physical and social skills in the areas of team activity, individual and dual activity, fitness related activity, rhythms and dance, and cooperative games. Health education incorporates personal health, physical fitness and nutrition, medicine and drugs, diseases and disorders, injury prevention and safety, consumer and environmental health, family and social health, and sexuality education.

School(s) offering course: CSM, GM, HVM, NM, WBM

HEALTH & PHYSICAL EDUCATION 7 7025

Credit(s): 0

Prerequisite(s): None

Grade level(s): 7

This course is a blending of physical and health education and builds on the skills developed in grade 6. In physical education there is a more balanced approach to team and individual activities while including fitness activities, aerobics, dance, and cooperative games. Health education incorporates personal health, physical fitness and nutrition, medicine and drugs, diseases and disorders, injury prevention and safety, consumer and environmental health, family and social health, and sexuality education.

School(s) offering course: CSM, GM, HVM, NM, WBM

FIT AND ACTIVE FOR LIFE – PE 8 **FY: 7046**
Sem: 7047
Credit(s): 0
Prerequisite(s): None
Grade level(s): 8

This course may be taken as a full year or semester. This elective course is designed to encourage physical activity and provide the opportunity to develop the skills, knowledge, and understanding necessary for the development of personal fitness and the competent participation in a variety of fitness activities, recreational pursuits and individual, dual, and team sports.

School(s) offering course: CSM, GM, HVM, NM, WBM

High School Health and Physical Education Requirements

All students are required to complete Health and PE 9 and Health and PE 10 to satisfy the high school requirements for graduation. Eleventh and twelfth grade students may take additional physical education courses as electives.

HEALTH & PHYSICAL EDUCATION 9 **7064**
Credit(s): 1
Prerequisite(s): None
Grade level(s): 9

This course will include both health and physical education. The classroom health education component provides students the opportunity to develop an understanding of health concepts, behaviors, and skills that reduce health risks and enhance the well-being of self and others. Specific topics include personal fitness, nutrition, mental and emotional health, the prevention and control of disease, safety and first aid and family life education that focuses on dating and abstinence education. The physical education component is designed to enhance the relationship between physical activity, personal wellness and the development of a personal fitness plan. An emphasis will be placed on the five health related fitness components and their application in a wide variety of activities including team, individual and dual activity, outdoor adventure, rhythm and dance, and strength training and conditioning.

School(s) offering course: CSH, GH, HVH, NH, WBH

HEALTH & PHYSICAL EDUCATION 10 **7074**
Credit(s): 1
Prerequisite(s): Health & Physical Education 10
Grade level(s): 10

This course includes health, physical education and a nine week classroom component of driver education. Upon successful completion of this course students may enroll in a commercial driving school program to complete behind-the-wheel instruction required to meet DMV requirements for a provisional license. The classroom health education component provides students an opportunity to develop an understanding of health concepts, behaviors, and skills that reduce health risks and enhance the well-being of self and others. Specific topics include injury prevention, medication and substance abuse, marriage, human reproduction, parenthood, and stages of healthy human development. The focus in physical education is on the development of the skills, knowledge, and understanding necessary for the development of personal fitness and the competent participation in a variety of activities including team, individual and dual activities, outdoor adventure, rhythm and dance, and strength training and conditioning.

School(s) offering course: CSH, GH, HVH, NH, WBH

STRENGTH TRAINING, CONDITIONING & PERSONAL FITNESS **7084**
Credit(s): 1
Prerequisite(s): HPE 10
Grade level(s): 11-12

The focus of this elective course will be physical conditioning with an emphasis on strength training and the skills and knowledge necessary to develop an individualized personal fitness program. A variety of activities will be incorporated to develop and enhance both the health and skill related components of fitness.

School(s) offering course: CSH, GH, HVH, NH, WBH

ADVANCED PE **7094**
Credit(s): 1
Prerequisite(s): HPE 10
Grade level(s): 11-12

This elective course is designed to encourage physical activity and provide the opportunity to enhance the skills, knowledge, and understanding necessary for the development of personal fitness and proficiency in a variety of fitness activities, recreational pursuits and individual, dual, and team sports.

School(s) offering course: CSH, GH, HVH, NH, WBH

Mathematics

ACCELERATED MATHEMATICS PROGRAM

Roanoke County Public Schools offers an Accelerated Mathematics Program (AMP) for select students beginning in the sixth grade. Students will be chosen in the fifth grade for the Accelerated Mathematics Program. Selected students will participate in a mathematics course that contains curriculum two years in Math 6 and Math 7. Ultimately, enrollment in AMP will make it possible for these students to take a sixth year of advanced mathematics in high school.

Outline of Mathematics Courses for AMP

<u>Student Academic Year</u>	<u>Curriculum</u>
6 th Grade	Pre-Algebra
7 th Grade	Pre-AP Algebra I
8 th Grade	Pre-AP Geometry
9 th Grade	Pre-AP Algebra II
10 th Grade	Pre-Calculus
11 th Grade	AP Calculus AB
12 th Grade	AP Statistics/ AP Calculus BC with Analytic Geometry

RECOMMENDATION CRITERIA FOR MIDDLE SCHOOL ALGEBRA I

Roanoke County Public Schools will be offering Middle School Algebra I and Pre-AP Algebra I to recommended 7th and 8th grade students:

- 7th Grade Pre-AP Algebra I – “C” or better in Pre-Algebra
- 8th Grade Algebra I or Pre-AP Algebra I
- Pass score on the math 6 and math 7 SOL tests
- B or better in math 6 and 1st semester math 7
- C or better in pre-AP math 6 and 1st semester pre-AP math 7
- Diagnostic data from the Algebra Prognosis Test
- Maturity in study and work habits

MATHEMATICS 6 **3005**
Credit(s): 0
Prerequisite(s): None
Grade level(s): 6

In this course several strands are presented. Computation of whole numbers, decimals, and fractions are reviewed. Other strands include graphing, statistics, probability, measurement, geometry, and pre-algebra topics. Problem-solving strategies continue from earlier levels and are stressed throughout the course. Applications of mathematics

and connections to other subject areas are integrated throughout the course.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP MATH 6 **3012**
Credit(s): 0
Prerequisite(s): “B” in Math 5 or written teacher recommendation
Grade level(s): 6

In Pre-AP Math 6 several strands are presented, including graphing, statistics, probability, measurement, geometry, and pre-algebra concepts. Problem-solving and critical thinking strategies continue from earlier levels and are stressed throughout the course. Higher order applications of mathematics and connections to other subject areas are integrated throughout the course.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-ALGEBRA **3011N**
Credit(s): 0
Prerequisite(s): Meet selection criteria
Grade level(s): 6

Pre-Algebra is the beginning course in the Accelerated Mathematics Program. Students will meet the Virginia Math 7 Standards of Learning by completing this course. Also, this course enables an AMP student to be prepared for Pre-AP Algebra I in the 7th grade. Topics include algebraic tools, integers, equations, factors and fractions, rational numbers, ratio, proportion, percent, inequalities, functions, graphing, real numbers, two and three-dimensional figures, statistics, and probability. Students will be engaged in problem-solving and critical thinking mathematical activities.

School(s) offering course: CSM, GM, HVM, NM, WBM

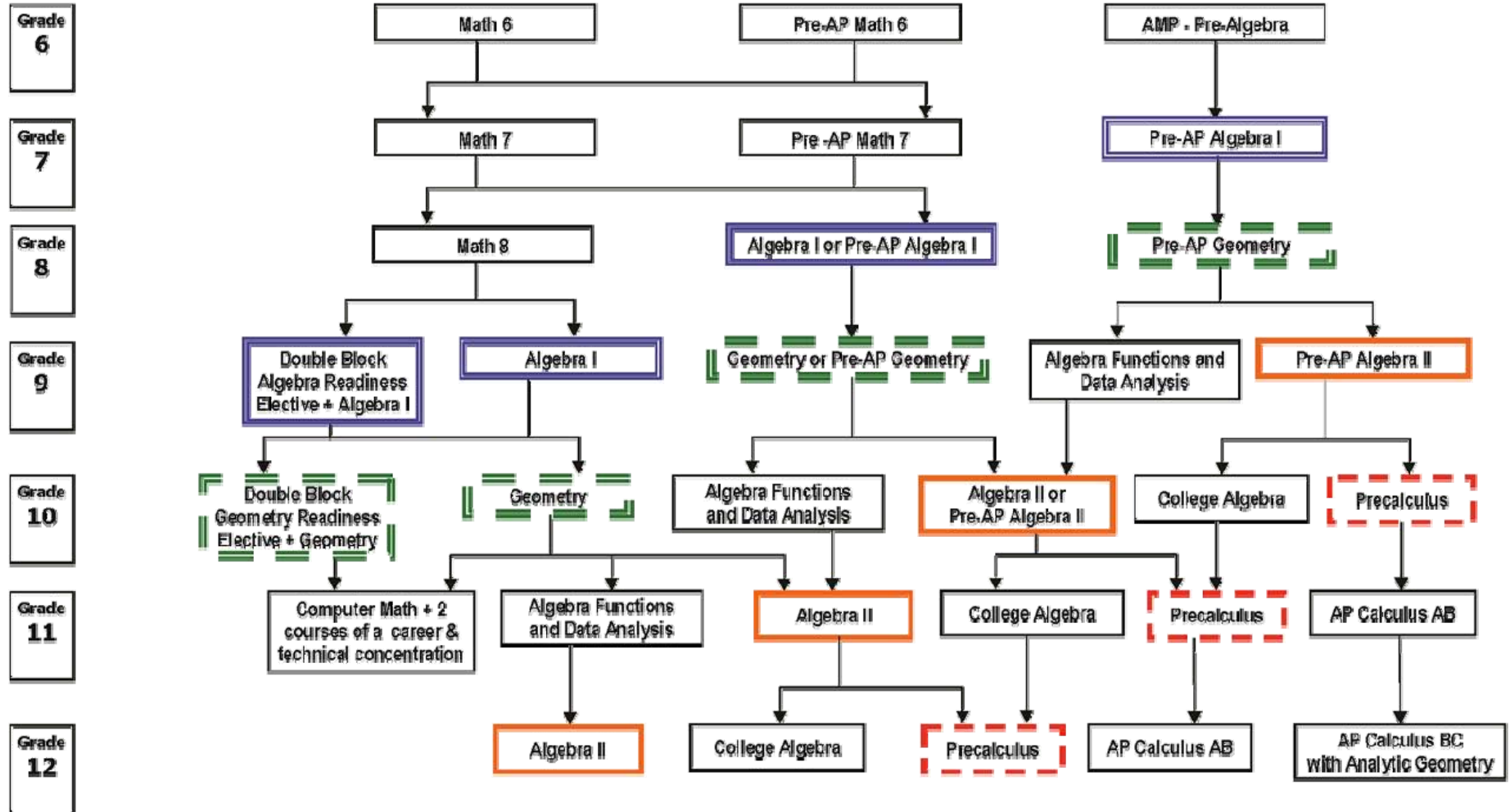
MATHEMATICS 7 **3015**
Credit(s): 0
Prerequisite(s): Mathematics 6
Grade level(s): 7

Mathematics 7 continues the review of basic skills—addition, subtraction, multiplication, and division of positive rational numbers and integers. Problem-solving strategies are used and stressed throughout the course. There is an introduction to ratio, proportion, probability, statistics, percent, algebra, geometry, and measurement in the metric system and the English system. Practical applications of mathematics and connections to other subject areas are integrated throughout the course.

School(s) offering course: CSM, GM, HVM, NM, WBM

Mathematics

Mathematics Sequence of Courses



Other available high school Math courses are:

- AP Statistics - taken anytime after Algebra II
- Pre-AP Computer Programming Elective
- AP Computer Science A

PRE-AP MATH 7 3020
Credit(s): 0
Prerequisite(s): "C" in Pre-AP Math 6 or written recommendation of Math 6 teacher
Grade level(s): 7

Pre-AP Math 7 continues the review of basic operations with rational numbers. There is an introduction to ratio, proportion, percent, probability, statistics, integers, algebra, and geometry. The study of graphs and multi-step equation-solving is introduced in this course. Problem-solving and critical thinking strategies are developed and used throughout the course.

School(s) offering course: CSM, GM, HVM, NM, WBM

MATHEMATICS 8 3025
Credit(s): 0
Prerequisite(s): Mathematics 7
Grade level(s): 8

This course continues the review of fundamental operations with rational numbers. Also included is the study of percent, exponents, scientific notation, ratio and proportion, geometry, solution of open sentences, graphing, and an introduction to skills for everyday living. This course provides the necessary background for the student entering Algebra I. See Algebra I prerequisites.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP ALGEBRA I Grade 7-1 3078P
ALGEBRA I Grade 8-11 3075
Credit(s): 1
Prerequisite(s): Gr 7-8: Meet recommendation criteria.
 Gr 9-10: Math 8 and recommendation of Math 8 teacher.
Grade level(s): 7-10

Algebra I is the beginning of the academic mathematics sequence. Students are encouraged to develop self-reliance, a questioning attitude, and verbal precision relating to mathematical problems. Topics to be studied include fundamental algebraic language, the real number system, equations and inequalities, polynomials, factoring, coordinate graphing, relations and functions, systems of linear equations and inequalities, rational and radical expressions, quadratics, and data set analysis. Manipulatives and graphing calculators will be used in this course. Pre-AP Algebra I will provide more critical thinking and higher order problem solving and

application of information.
School(s) offering course: CSM, GM, HVM, NM, WBM
 CSH, GH, HVH, NH, WBH

DOUBLE BLOCK ALGEBRA 3075ARE
READINESS ELECTIVE + ALGEBRA 1 3075DB
Credit(s): 1 Math + 1 Elective = 2
Prerequisite(s): Math 8 and recommendation of Math 8 teacher.
Grade level(s): 9-10

Algebra I is the beginning of the academic mathematics sequence. The purpose of the Algebra Readiness elective is to prepare students for success in Algebra I by reinforcing critical pre-algebraic skills and concepts. Students will take this course along with Algebra I in a double-block structure. Students are encouraged to develop self-reliance, a questioning attitude, and verbal precision relating to mathematical problems. Topics to be studied include fundamental algebraic language, the real number system, equations and inequalities, polynomials, factoring, coordinate graphing, relations and functions, systems of linear equations and inequalities, rational and radical expressions, quadratics, and data set analysis. Manipulatives and graphing calculators will be used in this course.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRE-AP GEOMETRY Gr 8-9 3089P
GEOMETRY Gr 9-11 3085
Credit(s): 1
Prerequisite(s): Algebra I and teacher recommendation
Grade level(s): 8-11

Geometry follows Algebra I in the sequence of college preparatory courses. This course deals with the geometry of points, lines, and planes enriched throughout with fundamental concepts of solid geometry. Logical reasoning, the nucleus of the course, is used in developing the concepts of inductive and deductive proofs. Algebra, coordinate and transformational geometry are integral parts of the course. Problem-solving strategies and real-world connections are integrated throughout the course. Pre-AP Geometry will provide more critical thinking and higher order problem solving and application of information.

School(s) offering course: CSM, GM, HVM, NM, WBM
 CSH, GH, HVH, NH, WBH

DOUBLE BLOCK GEOMETRY 3085GRE
READINESS ELECTIVE + GEOMETRY 3085DB
Credit(s): 1 Math + 1 Elective = 2
Prerequisite(s): Algebra I and recommendation of teacher.
Grade level(s): 9-11

Geometry follows Algebra I in the sequence of college preparatory courses. The purpose of the Geometry Readiness elective is to prepare students for success in Geometry by reinforcing critical pre-geometric skills and concepts. Students will take this course along with Geometry in a double-block structure. Geometry deals with the study of points, lines, and planes enriched throughout with fundamental concepts of solid geometry. Logical reasoning, the nucleus of the course, is used in developing the concept of inductive and deductive proofs. Algebra, coordinate and transformational geometry are integral parts of the course. Problem-solving strategies and real-world connections are integrated throughout the course.

School(s) offering course: CSH, GH, HVH, NH, WBH

COMPUTER MATHEMATICS 3184N
 (plus 2 courses of a career and technical concentration)
Credit(s): 1
Prerequisite(s): Geometry
Grade level(s): 11-12

This course will utilize the TI-83+ graphing calculator to explore mathematical problem-solving through computer programming. Students will analyze data in charts, graphs, and tables; design, write, and test computer programs that define constraints of a given problem; design algorithms to solve a given problem; design and implement input/output phases of a program; define simple variable data types; translate mathematical expressions into a computer statement; implement conditional statements (if/then/else); and implement loops and iterative loops. Choosing this course in place of Geometry or Algebra II will eliminate a student's ability to enroll in Chemistry or Physics.

School(s) offering course: CSH, GH, HVH, NH, WBH

ALGEBRA, FUNCTIONS, AND DATA ANALYSIS 3134
Credit(s): 1
Prerequisite(s): Algebra I and Geometry
Grade level(s): 9-12

This course is designed for students who have successfully completed the standards for Algebra I and Geometry. Within the context of mathematical modeling and data analysis, students will study functions and their behaviors, systems of inequalities, probability, experimental design and implementation,

and analysis of data. Data will be generated by practical applications arising from science, business, and finance. Students will solve problems that require the formulation of linear, quadratic, exponential, or logarithmic equations or a system of equations.

Through the investigation of mathematical models and interpretation/analysis of data from real life situations, students will strengthen conceptual understandings in mathematics and further develop connections between algebra and statistics. Students should use the language and symbols of mathematics in representations and communication throughout the course.

The infusion of technology (graphing calculator and/or computer software) in this course will assist in modeling and investigating functions and data analysis.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRE-AP ALGEBRA II Grade 9-10 3109P
ALGEBRA II Grade 11-12 3105
Credit(s): 1
Prerequisite(s): Geometry with a grade of "C" or above.
Grade level(s): 9-12

Algebra II is designed to be an extension of Algebra I. Students enrolled in Algebra II are assumed to have mastered basic Algebra I concepts. New concepts that broaden algebraic reasoning are introduced. Some of the topics studied include polynomials, factoring, quadratics, systems of linear and nonlinear equations and inequalities, rational expressions, radicals, relations/functions and their graphs, matrices and determinants, exponential and logarithmic functions, sequences and series, conic sections, and analysis of collected data. Graphing calculators will be an integral part of this course. Pre-AP Algebra II will provide more critical thinking and higher order problem solving and application of information.

School(s) offering course: CSH, GH, HVH, NH, WBH

APPLIED GEOMETRY 3096N
Credit(s): 1
Prerequisite(s): Algebra Readiness
Grade level(s): 10-12

This course is designed for students interested in earning a Modified Standard Diploma. Students will discover, learn, and apply geometry as they are challenged to make connections from concrete examples to abstract concepts. The practical applications in this course will help students see geometry in the real world, as well as explore examples of how mathematics is used in many types of careers.

School(s) offering course: CSH, GH, HVH, NH, WBH

PERSONAL LIVING AND FINANCE 3032N

Credit(s): 1

Prerequisite(s): Algebra Readiness

Grade level(s): 10-12

This course is designed for students interested in earning a Modified Standard Diploma. Students will learn the basic skills needed as a consumer in today's economy. Practical applications of managing money to dealing with merchants will be emphasized throughout the curriculum.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRE-AP COMPUTER PROGRAMMING ELECTIVE 3116N

Credit(s): 1

Prerequisite(s): Geometry or concurrent enrollment in Geometry

Grade level(s): 9-12

This course is designed to develop the students' understanding of computer technology, equipment, operating methods, and appropriate vocabulary of the computer system using programming languages. Emphasis will be placed on the use of a disk operating system, programming design by analysis, coding, and documentation of the problems as encountered in mathematics, science, and business applications. This course is a prerequisite for AP Computer ScienceA.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP COMPUTER SCIENCE A 3135NCredit(s): 1^W

Prerequisite(s): "B" or better in Pre-AP Computer Programming Elective or recommendation of Computer Programming teacher. Completed or currently enrolled in Algebra II.

Grade level(s): 10-12

The major emphasis in an AP computer science course is on programming methodology, algorithms, and data structures. Applications of computing provide the context in which these subjects are treated. Applications are used to develop student awareness of the need for particular algorithms and data structures, as well as to provide topics for programming assignments to which students can apply their knowledge. A particular programming language constitutes the vehicle for implementing computer-based solutions to particular problems. Treatments of computer systems and the social implications of computing are integrated into the course and not isolated as separate units.

School(s) offering course: CSH, GH, HVH, NH, WBH

COLLEGE ALGEBRA 3150

Credit(s): 1

Prerequisite(s): Algebra II (for 12th grade students; students who have passed Precalculus may not enroll in this course.)

Grade level(s): 10-12

This is a college preparatory course that extends topics from Algebra II and introduces additional ones. One quarter of the course deals with trigonometry topics. The remainder of the course concentrates on the study of functions, matrices, and probability. This course is recommended for college-bound seniors who do not have the background or interest to take the more in-depth course of Precalculus.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRECALCULUS 3108N

Credit(s): 1

Prerequisite(s): Algebra II with a grade of "C" or above

Grade level(s): 10-12

This course is designed to prepare students who plan to pursue college studies in mathematics, engineering, or the sciences. The central theme of this course is functions as models of change. Each family of functions is represented symbolically, numerically, graphically, and verbally. Emphasis is placed on problem solving and real-world applications. Topics include an introduction to functions; linear functions; exponential and logarithmic functions; transformations of functions; trigonometric functions; composite, inverse, and combination functions; polynomial and rational functions; trigonometry of vectors; and related topics, including geometric series, parametric equations, implicitly defined curves, and complex numbers. The TI-83, 84 graphing calculators will be used throughout the course.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP STATISTICS 3192NCredit(s): 1^W

Prerequisite(s): "B" in Algebra II

Grade level(s): 10-12

This course is equivalent to an introductory, non-calculus based, college course in statistics which is typically required for college majors such as engineering, psychology, sociology, health science, and business. The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Graphing calculators will be used throughout the course.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP CALCULUS AB 3209N

Dual enrollment 113209

Credit(s): 1^W

Prerequisite(s): Precalculus with a grade of "C" or better or recommendation of Precalculus teacher.

Grade level(s): 10-12

Advanced Placement Calculus AB consists of a full year of work in calculus and related topics. This course is intended for students who have a thorough knowledge of analytic geometry and elementary functions in addition to college preparatory algebra, geometry, and trigonometry. The purpose of the course is to prepare the student for advanced placement in college calculus. Dual enrollment may not be available at all schools

School(s) offering course: CSH, GH, HVH, NH, WBH

COLLEGE BOARD EXAMINATION 1540**SUMMER PREPARATION FOR S.A.T**

Credit(s): .5

Prerequisite(s): None

Grade level(s): 10-12

This is a one-semester summer course designed to help students prepare for the S.A.T. examination. Both English and math will be emphasized. **Rising eleventh and twelfth grade students will be given priority**

School(s) offering course: CSH, GH, HVH, NH, WBH

AP CALCULUS BC WITH ANALYTIC GEOMETRY 3210N

Dual enrollment 113210

Credit(s): 1^W

Prerequisite(s): AP Calculus AB

Grade level(s): 12

AP Calculus BC with Analytic Geometry is a course designed to build on the concepts learned in AP Calculus AB and to prepare students for the higher levels of mathematics. The diversity of topics and versatility of the knowledge gained in this course will enable students to solve problems in many fields of study, including physics, engineering, biology, and chemistry. The course includes vectors and dynamical systems, series and approximation, advanced integration techniques, parametric and polar functions, multiple variable functions, differential equations, and real-world modeling examples. The students will extend the applications of calculus to a wider arena of physical phenomena through the use of graphing calculators and computer software.

School(s) offering course: BCAT, CSH, GH, HVH, NH, WBH

Music**CHORUS 6 9285**

Credit(s): 0

Prerequisite(s): None

Grade level(s): 6

The 6th Grade Chorus class provides instruction in ensemble techniques, vocal techniques, and music-reading fundamentals through the use of unison and two part songs. Both sacred and secular music are performed. A minimal number of outside-of-school rehearsals and performances are required unless excused by the director.

School(s) offering course: CSM, GM, HVM, NM, WBM

CHORUS 7 9315

Credit(s): 0

Prerequisite(s): None

Grade level(s): 7

The 7th Grade Chorus class provides instruction in ensemble techniques, vocal techniques, and music-reading fundamentals through the use of unison and two part songs. Both sacred and secular music are performed. A minimal number of outside-of-school rehearsals and performances are required unless excused by the director.

School(s) offering course: CSM, GM, HVM, NM, WBM

CHORUS 8 9376N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 8

The 8th Grade Chorus class provides instruction in ensemble techniques, vocal techniques, and music-reading fundamentals through the use of unison, 2, 3, and 4 part songs. Both sacred and secular music are performed. A minimal number of outside-of-school rehearsals and performances are required unless excused by the director.

School(s) offering course: CSM, GM, HVM, NM, WBM

MIXED CHORUS 9435

9436

9437

9438

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

This course is open to all grade levels. Correct singing and good musicianship are stressed. Development of musical skills and understanding are emphasized. Both sacred and secular music are

performed. Outside-of-school rehearsals and performances are required unless excused by the director.

School(s) offering course: CSH, GH, HVH, NH, WBH

CHORALE 9445
9446
9447
9448

Credit(s): 1

Prerequisite(s): Audition

Grade level(s): 9-12

This course requires the highest degree of performance from each member while further developing individual vocal skills and musical understanding. Previous training in one of the other choral ensembles is helpful but not necessary. Emphasis is placed on individual vocal production, sight-reading, music fundamentals, and vocal techniques. Both sacred and secular music are performed. Strict requirements are placed on each member. Outside-of-school rehearsals and performances are required unless excused by the director.

School(s) offering course: WBH

VOCAL ENSEMBLE 9455
9456
9457
9458

Credit(s): 1

Prerequisite(s): Recommendation of instructor

Grade level(s): 9-12

Emphasis is on the art of small ensemble singing, individual vocal production, and a cappella singing techniques. Both sacred and secular music are performed. Outside-of-school rehearsals and performances are required unless excused by the director.

School(s) offering course: CSH, GH, HVH, NH, WBH

BAND 6 9275N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 6

The 6th Grade Beginning Band class provides instrumental group instruction. The class introduces and develops techniques of instrument playing and music reading. Students are responsible for providing their own instruments. A minimal number of outside-of-school rehearsals and performances are required unless excused by the director.

School(s) offering course: CSM, GM, HVM, NM, WBM

BAND 7 9305N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 7

The 7th Grade Band class may have various experience levels and will provide instrumental group instruction at an intermediate level. The class is a continuation of playing techniques and Grade I and II levels of band music. Students are responsible for providing their own instruments. A minimal number of outside-of-school rehearsals and performances are required unless excused by the director. Those students who desire to begin band in the 7th grade should register for this course.

School(s) offering course: CSM, GM, HVM, NM, WBM

BAND 8 9344N

Credit(s): 0

Prerequisite(s): Band 7 or permission of instructor

Grade level(s): 8

The 8th Grade Band class may have various experience levels and will provide instrumental group instruction at an intermediate to advanced level. The class is a continuation of playing techniques and Grade I, II, III levels of band music. Students are responsible for providing their own instruments. A minimal number of outside-of-school rehearsals and performances are required unless excused by the director. Those students who desire to begin band in the 8th grade should register for this course with permission given by the director.

School(s) offering course: CSM, GM, HVM, NM, WBM

CONCERT BAND 9595
(with Marching Band) 9596
9597
9598

Credit(s): 1.5

Prerequisite(s): Recommendation of instructor

Grade level(s): 9-12

This group consists of students who have the ability to play music from Grade I to Grade V. This course stresses performance skills development, sight-reading, and musical understanding; students will perform in several programs throughout the year. Some members may be selected to play with the Symphonic Band as their skills develop to the level of that band. **Members of this organization will participate in the Marching Band with members of the Symphonic Band.** Outside-of-school rehearsals and performances are required unless excused by the instructor.

School(s) offering course: CSH, GH, HVH, NH, WBH

CONCERT BAND 9395A
(without Marching Band) 9396A
9397A
9398A

Credit(s): 1

Prerequisite(s): Recommendation of instructor

Grade level(s): 9-12

This group consists of students who have the ability to play music from Grade I to Grade V. This course stresses performance skills development, sight-reading, and musical understanding; students will perform in several programs throughout the year. Some members may be selected to play with the Symphonic Band as their skills develop to the level of that band. Outside-of-school rehearsals and performances are required unless excused by the instructor.

School(s) offering course: CSH, GH, HVH, NH, WBH

SYMPHONIC BAND 9605
(with Marching Band) 9606
9607
9608

Credit(s): 1.5

Prerequisite(s): Recommendation of instructor

Grade level(s): 9-12

This course requires the highest degree of performance from each member while further developing individual instrumental skills and musical understanding. **This class requires the student to participate in the Marching Band.** Outside-of-school rehearsals and performances are required unless excused by the instructor.

School(s) offering course: CSH, GH, HVH, NH, WBH

SYMPHONIC BAND 9405A
(without Marching Band) 9406A
9407A
9408A

Credit(s): 1

Prerequisite(s): Recommendation of instructor

Grade level(s): 9-12

This course requires the highest degree of performance from each member while further developing individual instrumental skills and musical understanding. Outside-of-school rehearsals and performances are required unless excused by the instructor.

School(s) offering course: CSH, GH, HVH, NH, WBH

INSTRUMENTAL ENSEMBLE 9461
9462
9463
9464

CSM No. 9420N

Credit(s): 1 for HS Only

Prerequisite(s): Recommendation of instructor

Grade level(s): 9-12

This course is open to students who are interested in advancing their abilities through small ensemble playing and enlarging their knowledge of the literature and styles of music for their particular instruments. Students must be members of band classes. Outside-of-school rehearsals and performances are required unless excused by director.

School(s) offering course: CSH, GH, HVH, NH, WBH, CSM

STAGE BAND 9515N

Credit(s): 0

Prerequisite(s): Recommendation of instructor

Grade level(s): 7-8

Stage Band is a course for students with an interest in learning about and performing all styles of "pop" music from Dixieland to the present with the emphasis on the "big band" style. Wind and percussion players must be members of band classes; rhythm (guitar and piano) may come from the general school population. Outside-of-school rehearsals and performances are required unless excused by director.

School(s) offering course: CSM, GM, HVM, NM, WBM

STAGE BAND 9425
9426
9427
9428

Credit(s): 1

Prerequisite(s): Recommendation of instructor

Grade level(s): 9-12

This course is for students with an interest in learning about and performing all styles of "pop" music from Dixieland to the present with an emphasis on the "big band" style. Instrumentation for this group could be a combination of the following: saxophones (alto, tenor, baritone); trumpets; trombones; guitar; bass; piano; and traps (with additional instruments as required by the music). Outside-of-school rehearsals and performances are required unless excused by the director.

School(s) offering course: CSH, GH, HVH, NH, WBH

MUSIC THEORY & COMPOSITION 2946

Credit(s): 1

Prerequisite(s): Previous music experience and recommendation of instructor

Grade level(s): 9-12

This course is the study of the components of music, melody, rhythm, form, and harmony. Emphasis is placed on ear training, sight-reading, and part writing.

School(s) offering course: CSH, GH, HVH, NH, WBM

Science

The Roanoke County Public Schools in compliance with the Code of Virginia 22.1-200.01 provides alternatives to animal dissection techniques within relevant public school curriculum or courses.

SCIENCE 6 4005

Credit(s):0

Prerequisite(s):None

Grade level(s):6

Sixth grade science continues to emphasize data analysis and experimentation. Methods are studied for testing the validity of predictions and conclusions. Scientific methodology, focusing on precision in stating hypotheses and defining dependent and independent variables, is strongly reinforced. The concept of change is explored through the study of transformations of energy and matter, both in living things and in the physical sciences. A more detailed understanding of the solar system becomes a focus of instruction. Natural resource management and its relation to public policy and cost/benefit tradeoffs are introduced.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP SCIENCE 6 4008N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 6

Pre-AP Science 6 requires advanced intellectual skills such as problem solving, sharp reasoning, and analytical investigation. Advanced writing and research, as well as laboratory work and the use of technology, are key factors in this course. Mathematics applications and research of literary sources require the higher-level math and English emphasis. Science 6 reinforces experimentation, focusing on dependent and independent variables, predictions and their validity, collection and analysis of

data, and conclusions. This program will explore sources of energy and its transformation and use in living things, and in the physical sciences, the role of solar energy, matter, properties of water and its role, the structure and dynamics of the air and the Earth's atmosphere, watershed systems and their unique characteristics, the solar system's organization and interrelationships, and management of renewable and nonrenewable resources, including related public policy issues. A major project will be required.

School(s) offering course: CSM, GM, HVM, NM, WBM
LIFE SCIENCE 4015

Credit(s): 0

Prerequisite(s): Successful completion of Science 6

Grade level(s): 7

Life Science continues to emphasize a more complex understanding of change, cycles, patterns, and relationships in the living world. Students build on basic principles related to these concepts by exploring the cellular organization and the classification of organisms, the dynamic relationships among organisms, populations, communities and ecosystems, and change as a result of the transmission of genetic information from generation to generation. Inquiry skills at this level include organization and analysis of data and manipulating variables in experimentation.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP LIFE SCIENCE 4018N

Credit(s): 0

Prerequisite(s): Successful completion of Science 6

Grade level(s): 7

Pre-AP Life Science emphasizes a more in-depth understanding of change, cycles, patterns, and relationships in the living world in populations, communities, and ecosystems. Students will explore change as a result of the transmission of genetic information from generation to generation. Pre-AP Life Science requires higher level critical thinking skills. Independent out-of-class assignments are an integral part of this advanced level work. Research projects requiring strong writing skills are emphasized. Pre-AP Life Science builds on skills of systematic investigation with a clear focus on variables and repeated trials. Validating conclusions through analysis of data is increasingly important at this level. Students will plan and conduct research involving both classroom experimentation and literature reviews from written and electronic resources. Student will propose practical solutions to real-life problems. Work will be shared through written reports and class presentations.

School(s) offering course: CSM, GM, HVM, NM, WBM

PHYSICAL SCIENCE 4025

Credit(s): 0

Prerequisite(s): Successful completion of Life Science

Grade level(s): 8

Physical Science continues to build on skills of systematic investigation with concentration on variables and repeated trials. Drawing valid conclusions is emphasized using observations and data. Research methods and process skills are utilized to solve practical problems and questions. Physical science stresses an understanding of the nature and structure of matter and the characteristics of energy forms. The course places emphasis on the technological application of physical science principles. Major areas covered include the periodic table, physical and chemical changes, nuclear reactions, temperature and heat, sound, light, electricity and magnetism, and work, force, and motion.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP PHYSICAL SCIENCE 4028N

Credit(s): 0

Prerequisite(s): Successful completion of Life Science

Grade level(s): 8

Pre-AP Physical Science requires higher level critical thinking skills. Independent out-of-class assignments are an integral part of this advanced level work. Research projects requiring strong writing skills are emphasized. Pre-AP Physical Science builds on skills of systematic investigation with a clear focus on variables and repeated trials. Validating conclusions through analysis of data is increasingly important at this level. Students will plan and conduct research involving both classroom experimentation and literature reviews from written and electronic resources. Students will propose practical solutions to real-life problems requiring higher mathematics applications. Work will be shared through written reports and class presentations.

Pre-AP Physical Science stresses a more in-depth understanding of the nature and structure of matter and energy forms. This course places considerable emphasis on the technological application of physical science principles.

School(s) offering course: CSM, GM, HVM, NM, WBM

EARTH SCIENCE 4035

Credit(s): 1

Prerequisite(s): Successful completion of Physical Science

Grade level(s): 9

Major topics of study in Earth Science include plate

tectonics, the rock cycle, Earth history, the oceans, the atmosphere, weather and climate, and the solar system and the universe. Emphasis is on the interpretation of maps, charts, tables, and profiles; the use of technology to collect, analyze, and report data; and science skills in systematic investigation. Problem solving and decision making are an integral part of the course, especially as they relate to the costs and benefits of utilizing the Earth's resources.

School(s) offering course: CSH, GH, HVH, NH, WBM

PRE-AP EARTH SCIENCE 4039N

Credit(s): 1

Prerequisite(s): "A" or "B" in Physical Science

Grade level(s): 9

Advanced Earth Science requires higher level critical thinking skills. Independent out-of-class assignments are an integral part of the advanced level work. A research project is required. Skills will be demonstrated in analyzing data-forming hypotheses, designing research, and developing conclusions to scientific inquiry. Emphasis is on the interpretation of maps, charts, tables, and profiles, as well as the use of technology to collect, analyze, and report data and science skills in systematic investigation. Major topics of study include plate tectonics, the rock cycle, Earth history, the oceans, the atmosphere, weather and climate, and the solar system and the universe.

School(s) offering course: CSH, GH, HVH, NH, WBM

BIOLOGY 4042

Credit(s): 1

Prerequisite(s): Successful completion of Earth Science

Grade level(s): 10-12

Biology is designed to provide students with an understanding of living systems. Emphasis is placed on the skills necessary to examine scientific explanations, actively conduct controlled experiments, and analyze and communicate information. The history of biological thought and the evidence that supports it are explored and provide the foundation for investigating biochemical life processes, cellular organization, mechanisms of inheritance, dynamic relationships among organisms, and the change in organisms through time. Emphasis is placed on student-centered learning, whereby concepts, rather than facts, are taught in an active learning environment with application of these concepts to current technology.

School(s) offering course: CSH, GH, HVH, NH, WBM

Science Sequence of Courses

Grade 6

Grade 7

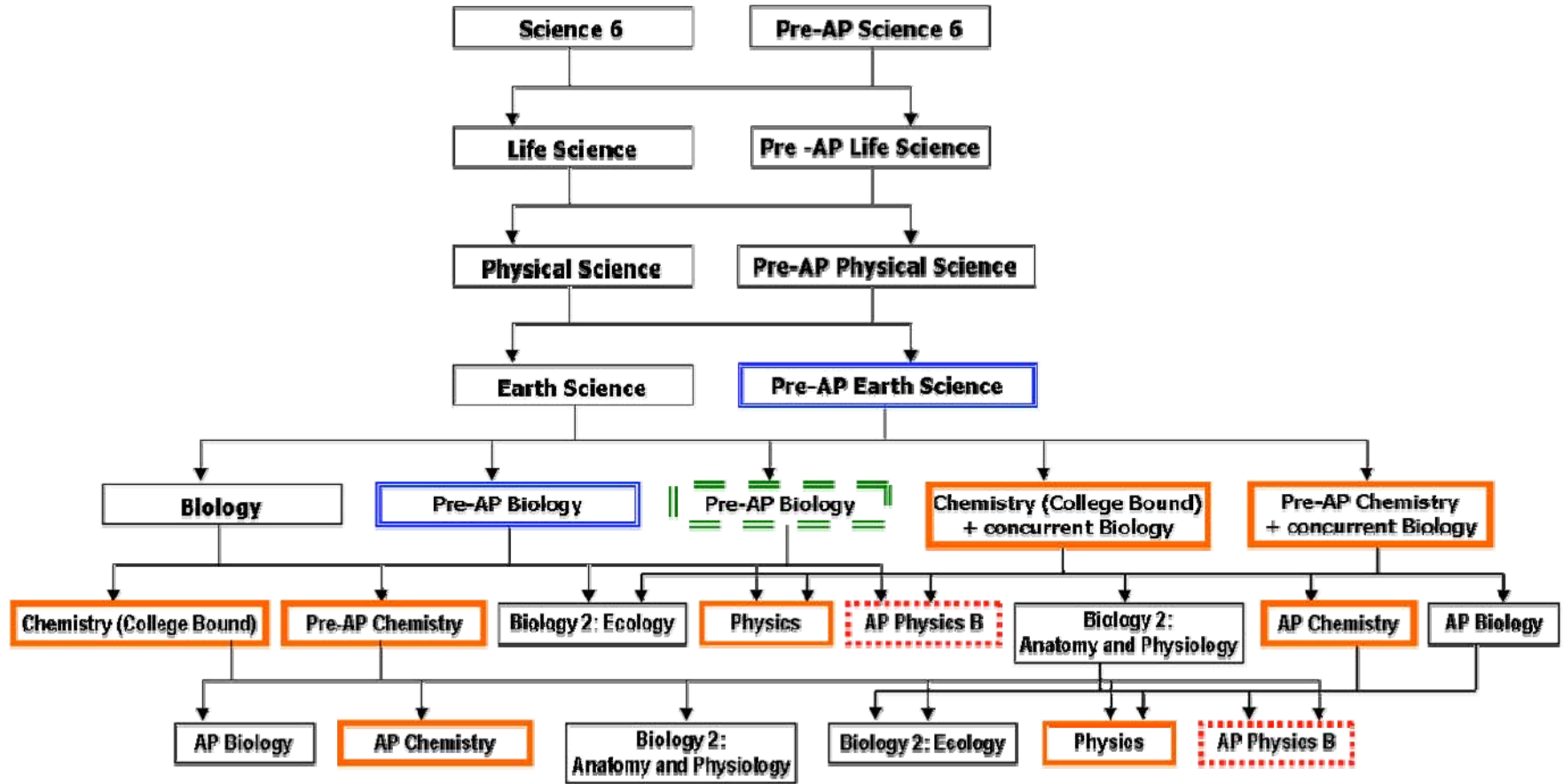
Grade 8

Grade 9

Grade 10

Grade 11

Grade 12



Math Prerequisites



PRE-AP BIOLOGY 4049N

Credit(s): 1

Prerequisite(s): "A" or "B" in Earth Science

Grade level(s): 10-12

Pre-AP Biology requires advanced intellectual engagement, sharp problem-solving skills, reasoning and analyzing, sophisticated research experience, broad intellectual horizons, and a devotion to a rigorous, intensive, fast paced level of learning. The laboratory component, technology, and extensive writing are key factors in this course. This course will cover living systems, history of biological thought, evidence that supports it, foundation for investigating biochemical life processes, cellular organization, relationships among organisms and change in organisms through time. Students will also examine alternative scientific explanations, conduct experiments, analyze information, and use scientific literature. Students are required outside of class completing research, extensive reading, and independent assignments and projects.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP BIOLOGY 4109NDual enrollment available 114109
CSH, GH, HVH, NHCredit(s): 2^WPrerequisite(s): 11th or 12th grade students who have successfully completed biology and chemistry.

Grade level(s): 11-12

Advanced Placement Biology is a second-year, laboratory-centered biology course designed to help students develop an understanding of how biological information is collected, how it is interpreted, and how hypotheses are formulated to make further predictions. Students focus on three broad content areas: the molecular and cellular, the organismal, and the populational. In this college-level course, which may require two periods, the major emphasis is on laboratory observations and experimentation; standard biology laboratories as well as the Life Sciences and Biotechnology Laboratories are used. Students work individually or in small groups, pursuing experimental investigations with a minimum of dependence upon the teacher. Careful planning of research, record keeping, and the analysis and the interpretation of experimental results are required. Students are prepared to take the advanced placement biology examination.

School(s) offering course: CSH, GH, HVH, NH, WBH

CHEMISTRY (College Bound) 4055

Credit(s): 1

Prerequisite(s): Biology; "C" or above in Algebra I and Geometry; enrolled in Algebra II. May take Biology concurrently.

Grade level(s): 10-12

Chemistry is designed to provide students with a detailed understanding of the interaction of matter and energy. Chemistry is a math-intensive course. This interaction is investigated through the use of laboratory techniques, manipulation of chemical quantities, and problem-solving applications. Scientific methodology will be employed in experimental and analytical investigations, and concepts will be illustrated with practical applications. Technology, including graphing calculators and computers, will be employed where feasible. Students will understand and use safety precautions. The course emphasizes qualitative and quantitative study of substances. Students will be encouraged to share their ideas, use the language of chemistry, discuss problem-solving techniques, and communicate effectively.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRE-AP CHEMISTRY 4059N

Credit(s): 1

Prerequisite(s): Biology; "B" or above in Algebra I and Geometry; enrolled in Algebra II or higher. May take Biology concurrently.

Grade level(s): 10-12

Advanced Chemistry is a challenging, math-intensive, fast-paced course which requires competence and depth in solving chemical problems, sharp reasoning and analyzing skills, advanced intellectual engagement, rigorous laboratory work, and intensive and independent out of class writing and problem-solving assignments. This course will cover interaction of matter and energy, quantitative and qualitative studies of substance changes, experimental and analytical investigations, manipulation of chemical quantities, extensive research, language of chemistry, chemical calculations, and formulation of principles. The use of technology, including calculators and computers with scientific probes and sensors, will be employed where feasible.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP CHEMISTRY 4085NCredit(s): 2^W

Prerequisite(s): Chemistry; Algebra II

Grade level(s): 11-12

Advanced Placement Chemistry is a second-year,

laboratory-centered chemistry course. Students should attain a depth of fundamental understanding and reasonable competence in dealing with chemical problems. AP Chemistry should enhance the students' abilities to think clearly and to express ideas. This course differs qualitatively with respect to the kind of textbook used, the topics covered, the emphasis on chemical calculations, and the mathematical formulation of principles. Extensive laboratory time is required.

School(s) offering course: CSH, GH, HVH, NH, WBH

BIOLOGY 2: ECOLOGY 4074

Credit(s): 1

Prerequisite(s): Successful completion of Earth Science and Biology

Grade level(s): 11-12

This course is designed as a survey of the basic principles of ecology. Technology, earth science, biology, physics, and chemistry principles are developed where applicable. Laboratory investigations develop inquiry skills and processes in observing, classifying, identifying, interpreting, and predicting results. Emphasis is on the nature of science and the role it plays in society. This course will stress technology and environmental issues.

School(s) offering course: CSH, GH, HVH, NH, WBH

BIOLOGY 2: ANATOMY AND PHYSIOLOGY 4075N

Credit(s): 1

Prerequisite(s): "C" or above in Biology and Chemistry

Grade level(s): 11-12

Anatomy and Physiology is an advanced course designed to stimulate interest in the structure and function of the human body, and to promote inquiry into what scientific developments are taking place today in the fields of medicine, health, and disease. Emphasis is placed on common medical terms and classroom and laboratory experiences that prepare students to enter scientific professions such as nursing, pharmacy, medical technology, dentistry, medicine, veterinary medicine, etc.

School(s) offering course: CSH, GH, HVH, NH, WBH

PHYSICS 4065

Credit(s): 1

Prerequisite(s): "C" in Algebra II; 11th and 12th graders only

Grade level(s): 11-12

Physics emphasizes a more complex understanding of experimentation, the analysis of data, and the use of

reasoning and logic to evaluate evidence. The use of mathematics, including algebra, inferential statistics, and trigonometry is important, but conceptual understanding of physical systems remains a primary concern. Students build on basic physical science principles. Key areas covered include force and motion, kinetic molecular theory, energy transformations, wave phenomena and the electromagnetic spectrum, light, electricity, magnetic fields, and non-Newtonian physics. Technology, including graphing calculators and computers, will be employed where feasible. The course stresses the practical application of physics in other areas of science and technology.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP PHYSICS B 4570NCredit(s): 2^WPrerequisite(s): 11th and 12th grade and enrolled in Precalculus or higher

Grade level(s): 11-12

The Advanced Placement Physics B course is designed for the student who wishes to take an intensive two period, laboratory-centered college course. Knowledge of algebra and basic trigonometry is required for the course. Five general areas are studied: Newtonian mechanics, fluid mechanics and thermal physics, electricity and magnetism, waves and optics, and atomic and nuclear physics. Physics knowledge, problem-solving with qualitative and quantitative reasoning and by experimental reasoning are key components to the AP Physics B course. Extensive laboratory time is required.

School(s) offering course: CSH, GH, HVH, NH, WBH

Social Studies**UNITED STATES HISTORY TO 1865 (Part I)** 2012N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 6

U.S. History to 1865 is an introductory course in the history of the United States from early Native American settlement through the Civil War. This course is the first of a two-year focus on U.S. History designed to give students a solid American history foundation. The course will focus on fundamental concepts in civics, economics, and geography in the context of United States history through simulations, class debates, projects, or other innovative techniques to make the students' learning experiences lively and

memorable. Students will review and strengthen map and globe skills, skills in interpreting and using information, and historical thinking skills.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP UNITED STATES HISTORY TO 1865 (Part I) 2018N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 6

Pre-AP U.S. History to 1865 is an advanced course in the history of the United States from early Native American settlement through the Civil War. The course will focus on fundamental concepts in civics, economics, and geography in the context of United States history through simulations, class debates, projects, or other innovative techniques to make the students' learning experiences lively and memorable. Students will review and strengthen map and globe skills, skills interpreting and using information, and historical thinking skills. This will be students' first exposure to Pre-AP social studies techniques designed to equip students with the skills necessary to be successful in high school AP courses. Techniques for technical essay writing and use of document-based questions are a focus in this challenging course.

School(s) offering course: CSM, GM, HVM, NM, WBM

UNITED STATES HISTORY 1865 TO THE PRESENT (Part II) 2002N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 7

The seventh grade social studies curriculum will focus on the history of the United States from the end of the Civil War to the present day. Students will continue to learn fundamental concepts in civics, economics, and geography in the context of United States history through simulations, class debates, projects, or other innovative techniques to make the students' learning experiences lively and memorable. Students will review and strengthen map and globe skills, skills in interpreting and using information, and historical thinking skills.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP UNITED STATES HISTORY 1865 TO THE PRESENT (Part II) 2008N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 7

Pre-AP U.S. History from 1865 is an advanced course in the study of the United States from the end of the Civil War to the present time. The course will focus on

fundamental concepts in civics, economics, and geography in the context of United States history through simulations, class debates, projects, or other innovative techniques to make the students' learning experiences lively and memorable. Students will review and strengthen map and globe skills, skills in interpreting and using information, and historical thinking skills. Students will be exposed to Pre-AP social studies techniques designed to equip them with the skills necessary to be successful in high school AP courses. Techniques for technical essay writing and use of document based questions are a focus in this challenging course.

School(s) offering course: CSM, GM, HVM, NM, WBM

CIVICS AND ECONOMICS 2025

Credit(s): 0

Prerequisite(s): None

Grade level(s): 8

The eighth grade social studies curriculum focuses on the role of the citizen in the American political and economic systems. The emphasis is on gaining essential knowledge of the U. S. and Virginia Constitutions and the structure and functions of government institutions at the national, state, and local levels. Students also learn the basic principles, structure, and operation of the American economy. These standards are intended to foster patriotism, respect for the law, a sense of civic duty, and informed economic decision making. Social science skill development extends into quantitative data organization, interpretation, and the use of technology in presenting information.

School(s) offering course: CSM, GM, HVM, NM, WBM

PRE-AP CIVICS AND ECONOMICS 2028N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 8

Pre-AP Civics and Economics is an advanced course which will provide an in-depth focus on the role of the citizen in the American political and economic systems. Students will master and go beyond essential knowledge regarding the structure of the various levels of government as well as the principles, structure, and operation of the American economy. The standards of this course are intended to foster patriotism, respect for the law, a sense of civic duty, and informed decision making. In this rigorous course students will begin to develop the skills necessary to succeed in high school AP courses. Higher level thinking skills and essay writing techniques will be extensively practiced.

School(s) offering course: CSM, GM, HVM, NM, WBM

WORLD GEOGRAPHY 2035

Credit(s): 1

Prerequisite(s): None

Grade Level(s): 9

The World Geography curriculum focuses on the world's people, places, and environments. The knowledge, skills, and perspectives of the course are centered on the world's population and cultural characteristics, its countries and regions, landforms and climates, natural resources and natural hazards, economic and political systems, and migration and settlement patterns. Spatial concepts of geography will be linked to chronological concepts of history to set a framework for studying human interactions. The course will emphasize how people in various cultures influence and are influenced by their physical and ecological environments. Using texts, maps, globes, graphs, pictures, stories, diagrams, charts, a variety of geographic inquiry/research skills, and technology skills, students consider the relationships between people and places while asking and answering geographic questions. The students will develop a mastery of the five themes of geography.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRE-AP WORLD GEOGRAPHY 2038N

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9

The Pre-AP World Geography curriculum will provide an in-depth focus on the world's people, places, and environments. Students will develop a mastery of the five themes of geography as they learn about the world's population and cultural characteristics, its countries and regions, landforms and climates, natural resources and natural hazards, economic and political systems, and migration and settlement patterns. The course will emphasize how people in various cultures interact with each other and their environments. Extensive use of maps, globes, graphs, pictures, stories, diagrams, charts, and technology will be a highlight of this course. In this rigorous course students will begin to develop the skills necessary to succeed in high school AP courses. Higher level thinking skills and essay writing techniques will be extensively practiced.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRE-AP WORLD HISTORY AND GEOGRAPHY TO 1500 A.D. (Part I) 2048N

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9

Pre-AP World History and Geography to 1500 A.D. is an advanced course in world history from pre-history to

1500 A.D. Students will explore the historical development of people, places, and patterns of life from ancient times until 1500 A.D. in terms of the impact on Western Civilization. Students will review and strengthen map and globe skills, skills in interpreting and using information, and historical thinking skills. This class will be a continuation of the development of Pre-AP social studies techniques designed to equip students with the skills necessary to be successful in high school AP courses. Techniques for technical essay writing and use of document-based questions are a focus in this challenging course.

School(s) offering course: CSH, GH, HVH, NH, WBH

PRE-AP WORLD HISTORY II 2050

Credit(s): 1

Prerequisite(s): None

Grade level(s): 10

Pre-AP World History and Geography to 1500 A.D. to the Present is an advanced course in world history from 1500 A.D. to present, with an emphasis on Western Europe. Geographic influences on history continue to be explored, but increasing attention is given to political boundaries that developed with the evolution of nations. Students will continue to strengthen map and globe skills as well as analysis and interpretation of primary source material and other historical documents. Higher order thinking, historical thinking, and inquiry/research methods will be emphasized through technical essay writing. This class will be a continuation of the development of Pre-AP social studies techniques designed to equip students with the skills necessary to be successful in high school AP courses.

School(s) offering course: CSH, GH, HVH, NH, WBH

WORLD HISTORY AND GEOGRAPHY 1500 A.D. TO THE PRESENT (Part II) 2046N

Credit(s): 1

Prerequisite(s): None

Grade level(s): 10

World History and Geography: 1500 A.D. to the Present will enable students to cover history and geography from 1500 A.D. to the present, with an emphasis on Western Europe. Geographic influences on history continue to be explored, but increasing attention is given to political boundaries that developed with the evolution of nations. Significant attention will be given to the ways in which scientific and technological revolutions created new economic conditions that in turn produced social and political changes. Noteworthy people and events of the nineteenth and twentieth centuries will be emphasized for their strong connections to contemporary issues.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP WORLD HISTORY 2049N
Credit(s): 1^W
Prerequisite(s): None
Grade level(s): 10-12

AP World History is designed to provide students with the analytic skills and factual knowledge necessary to critically study global historical events. In this rigorous course, students will study history from prehistory to the present according to both the AP curriculum and Virginia Standards of Learning for World History. This course is the equivalent to a full-year introductory college course and will prepare students for intermediate college courses. College credit may be earned by taking the AP World History exam.

School(s) offering course: CSH, GH, HVH, NH, WBH

UNITED STATES AND VIRGINIA HISTORY 2055
Credit(s): 1
Prerequisite(s): None
Grade level(s): 11

The eleventh grade social studies curriculum focuses on the historical development of American ideals and institutions from the Age of Exploration to the present. While focusing on political and economic history, the standards provide students with a basic knowledge of American culture through a chronological survey of major issues, movements, people, and events in United States and Virginia history. Multicultural themes are studied throughout the year.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP UNITED STATES AND VIRGINIA HISTORY 2059N
Credit(s): 1^W
Prerequisite(s): None
Grade level(s): 11

Advanced Placement U.S. and Virginia History is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in American history. The program should prepare students for intermediate college courses by offering a course which is equivalent to a full-year introductory college course. Students should learn to assess historical materials by determining their relevance, their reliability, and their importance. This course fulfills the United States and Virginia history requirement for graduation. College credit may be earned by taking the AP U.S. History Exam.

School(s) offering course: CSH, GH, HVH, NH, WBH

UNITED STATES AND VIRGINIA HISTORY 112055N
Credit(s): 1^W (Dual enrollment)
Prerequisite(s): None
Grade level(s): 11

This course is equivalent to a full-year introductory college course with college credit awarded upon successful completion of the course. The instructors will be adjunct faculty members at Virginia Western Community College. The exam exemption will not apply in this course. Students taking this course may take the AP History exam if they wish. This course fulfills the United States and Virginia History requirement for graduation.

School(s) offering course: CSH, GH, HVH, NH, WBH

UNITED STATES AND VIRGINIA GOVERNMENT 2065
Credit(s): 1
Prerequisite(s): None
Grade level(s): 12

The twelfth grade social studies curriculum focus on United States and Virginia government will ensure that graduates of Virginia's public schools understand the origins and workings of the American and Virginia political systems. The students will develop knowledge of the United States and Virginia Constitutions; the structure and operation of United States and Virginia governments; the process of policy-making, with emphasis on economics, foreign affairs, and civil rights issues; and the impact of the general public, political parties, interest groups, and the media on policy decisions. United States political and economic systems are compared to those of other nations, with emphasis on the relationships between economic and political freedoms.

School(s) offering course: CSH, GH, HVH, NH, WBH

UNITED STATES AND VIRGINIA GOVERNMENT 112069N
Credit(s): 1^W (Dual enrollment)
Prerequisite(s): None
Grade level(s): 12

This course is equivalent to a full-year introductory college level course with college credit awarded upon successful completion of the course. The instructors will be adjunct faculty members at Virginia Western Community College. The exam exemption will not apply in this course. Students taking this course may take the AP United States Government and Politics exam if they wish. This course fulfills the United States and Virginia Government requirement for graduation.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP UNITED STATES GOVERNMENT & POLITICS 2445N
Credit(s): 1^W
Prerequisite(s): None
Grade level(s): 12

AP US Government and Politics will give students an analytical perspective on government and politics in the United States. The course includes both the study of general concepts used to interpret U.S. politics and the analysis of specific examples. Students will become acquainted with the various institutions, groups, beliefs, and ideas that constitute United States politics. Students will also become acquainted with the variety of theoretical perspectives and explanations for various behaviors and outcomes as they pertain to the following topics: constitutional underpinnings of the United States government, political beliefs and behaviors, political parties, interest groups, mass media, institutions of national government, public policy, and civil rights and liberties.

School(s) offering course: CSH, GH, HVH, NH, WBH

Psychology/Sociology 2094
Credit(s): 1
Prerequisite(s): None
Grade level(s): 11-12

Psychology is the science and profession concerned with human behavior. Sociology is the study of society and culture and human social interaction. Through the presentation of the content of a combined survey course, students will have a background for the study of postsecondary psychology and sociology. Topics in the psychology semester of the course include historical development in the field, physiological and social psychology, sensation and perception, learning and intelligence, growth and development, and personality and motivation. The sociology semester of the course includes the study of groups and group interaction, institutions, race, ethnicity, as well as contemporary issues. Students who have taken the 0.5 Psychology I (2095) will be permitted to enroll in the combined Psychology and Sociology course for 1 credit. Students who have taken 0.5 credit Psychology II (2096) or the 0.5 Sociology (2105) course may not enroll in the combined Psychology and Sociology course.

School(s) offering course: CSH, GH, HVH, NH, WBH

CRIMINAL JUSTICE I B8702
(Dual enrollment available)^W
Credit(s): 2
Prerequisite(s): College preparatory courses in social studies and English are recommended.
Grade level(s): 9-12

Criminal Justice I is the first of a three-year sequence of classes designed to prepare students for further study and eventual employment in the field of law enforcement, and courts and corrections. The course includes classroom study of the various aspects of law enforcement, experience using the various law enforcement implements in simulated laboratory situations, and physical training. Guest speakers from the profession will be included. Students planning to work for local police departments, the state police, the park service, the department of forestry, or any other type of law enforcement agency are encouraged to consider this program.

School(s) offering course: BCAT

CRIMINAL JUSTICE II B8703
(Dual enrollment available)^W
Credit(s): 2
Prerequisite(s): "C" average in Criminal Justice I
Grade level(s): 10-12

Criminal Justice II provides more in-depth study of the concepts introduced in Criminal Justice I. Students will have the opportunity to explore aspects of law enforcement, courts and corrections: and procedures and techniques through simulated experiences. Business casual attire is required for certain class activities.

School(s) offering course: BCAT

CRIMINAL JUSTICE III B8704
(Dual enrollment may be available)^W
Credit(s): 2
Prerequisite(s): Criminal Justice II
Grade level(s): 11-12

Criminal Justice III will include selected research topics related to furthering the knowledge base obtained during Criminal Justice I and II. An emphasis will be placed on reading and writing skills that will be essential in undergraduate college work and the students' chosen field of criminal justice. This class may continue the study of such topics as criminal and traffic crash investigations, crime scene investigation, court preparation, corrections and punishments, and career related issues. Hands-on activities will enhance and further the development of work related skills in the field. Studies such as comparative criminal justice systems, repeat offenders, serial offenders, and use of force issues will be expanded. Business casual attire is required for certain class activities.

School(s) offering course: BCAT

World Languages

WORLD LANGUAGES EXPLORATORY 6 (Interest Block Program)

Credit(s): 0
Prerequisite(s): None
Grade level(s): 6

The World Languages Exploratory program offers a brief introduction to a specific country, its language, and people. These languages may include French, German, Latin, and Spanish.

School(s) offering course: CSM, GM, HVM, NM, WBM

WORLD LANGUAGES EXPLORATORY 7 (Interest Block Program)

Credit(s): 0
Prerequisite(s): None
Grade level(s): 7

The World Languages exploratory program is designed to introduce languages taught in Roanoke County Public Schools. These languages may include French, German, Latin, and Spanish.

School(s) offering course: CSM, GM, HVM, NM, WBM

FRENCH I 5015

Credit(s): 1
Prerequisite(s): None
Grade level(s): 9-12 (available to 8th graders)

French I provides the beginning-level student with immediately useful language skills in French. It allows maximum conversational interaction both among students and between teacher and student. Speaking, reading, listening, and writing activities, based on real-life situations, are incorporated throughout the program. The student explores culture through authentic readings and video tapings. The program is designed to enable the students to function as accurately as possible in the situations that they are most likely to encounter.

School(s) offering course: CSM, GM, HVM, NM, WBM, CSH, GH, HVH, NH, WBH

FRENCH II 5025

Credit(s): 1
Prerequisite(s): "C" average in French I
Grade level(s): 9-12

French II further develops and advances the skills of speaking, listening, writing, and reading. These skills are incorporated with cultural units. The program continues to provide for the student practice in real-life

situations encountered in Francophone cultures.

School(s) offering course: CSH, GH, HVH, NH, WBH

FRENCH III 5035

Credit(s): 1
Prerequisite(s): "C" average in French II
Grade level(s): 10-12

French III is designed to increase the student's ability to understand and speak functional French as effectively as possible. The student reads longer, authentic selections which are used to generate more meaningful writing. Listening comprehension focuses on real-life experiences, and cultural knowledge will include France and the Francophone world with their varied customs and points of interest.

School(s) offering course: CSH, GH, HVH, NH, WBH

FRENCH IV 5045

Credit(s): 1
Prerequisite(s): "C" average in French III
Grade level(s): 11-12

The focus of French IV integrates listening, speaking, reading, writing, and culture to develop increased proficiency in all skills, to promote cultural awareness, and to enhance the ability to discuss important topics and write more complex material which may include activities that follow the format of the Advanced Placement French Language Examination.

School(s) offering course: CSH, GH, HVH, NH, WBH

AP FRENCH LANGUAGE 5056

Credit(s): 1^W
Prerequisite(s): French I, II, III, IV
Grade level(s): 12

The Advanced Placement Program in French Language is intended for those who have chosen to develop their proficiency in all four language skills: listening, speaking, reading, and writing. The course covers the equivalent of a third-year college course in advanced French writing and conversation. It encompasses aural/oral skills, reading comprehension, grammar, and composition. Course content might include intellectual interests shared by the students and teacher (the arts, history, current events, literature, culture, sports, etc.). Materials may include recordings, films, newspapers, and magazines. The course seeks to develop language skills that are useful in themselves and that can be applied to various activities and disciplines rather than to the mastery of any specific subject matter. Extensive training in the organization and writing of compositions must be an integral part of the Advanced Placement French Language Course. Students who choose this program should have a

basic knowledge of the language and culture of French-speaking peoples and should have attained a reasonable proficiency in listening comprehension, speaking, reading, and writing.

School(s) offering course: CSH, GH, HVH, NH, WBH

GERMAN I 5065

Credit(s): 1
Prerequisite(s): None
Grade level(s): 9-12 (available to 8th graders)

German I covers the basic vocabulary, grammar, speaking, and listening skills necessary for simple, functional communication. The student also reads and writes simple texts, and explores culture and contemporary life through a multicultural based program providing creative activities within authentic contexts.

School(s) offering course: HVM, NM, WBM, HVH, NH, WBH

GERMAN II 5075

Credit(s): 1
Prerequisite(s): "C" average in German I
Grade level(s): 9-12

German II continues the program from Level I of vocabulary, grammar, speaking, and listening skills. The content encourages proficiency in conversational skills. The student reads and writes more material than in Level I and continues to explore culture and contemporary life.

School(s) offering course: HVH, NH, WBH

GERMAN III 5085

Credit(s): 1
Prerequisite(s): "C" average in German II
Grade level(s): 10-12

German III is designed to increase the student's knowledge of vocabulary and to complete most of the grammar study. The student becomes more at ease with understanding and speaking the normal speech of everyday German. He/she reads longer, more advanced selections and writes short creative and/or expository themes. The student will study the cultural patterns of daily living, as well as topics concerning arts and sciences.

School(s) offering course: HVH, NH, WBH

GERMAN IV 5095

Credit(s): 1
Prerequisite(s): "C" average in German III
Grade level(s): 11-12

This course continues to stress vocabulary and idioms

with emphasis on listening and conversation. The student completes the grammatical content of the language and reviews important grammatical items taught in Levels I through III. The student reads and writes more complicated material using cultural topics as sources.

School(s) offering course: HVH, NH, WBH

AP GERMAN LANGUAGE 5106

Credit(s): 1^W
Prerequisite(s): German I, II, III, IV
Grade level(s): 12

The Advanced Placement Program in German Language is intended for those who have chosen to develop their proficiency in all four language skills: listening, speaking, reading, and writing. The course covers the equivalent of a third-year college course in advanced German writing and conversation. It encompasses aural/oral skills, reading comprehension, grammar, and composition. Course content might include intellectual interests shared by the students and teacher (the arts, history, current events, literature, culture, sports, etc.). Materials may include recordings, films, newspapers, and magazines. The course seeks to develop language skills that are useful in themselves and that can be applied to various activities and disciplines rather than to the mastery of any specific subject matter. Extensive training in the organization and writing of compositions must be an integral part of the Advanced Placement German Language Course. Students who choose this program should have a basic knowledge of the language and culture of German-speaking peoples and should have attained a reasonable proficiency in listening comprehension, speaking, reading, and writing.

School(s) offering course: HVH, NH, WBH

LATIN I 5115

Credit(s): 1
Prerequisite(s): None
Grade level(s): 9-12 (available to 8th graders)

First year Latin provides the student with an opportunity to learn the vocabulary and grammar of Latin, while emphasizing its influence and its relationship to English. In addition to basic language skills, there is a strong emphasis on ancient Roman culture, history, and civilization.

A Latin student will develop reasoning skills, study habits, concentration, and increase his or her English vocabulary and writing skills.

School(s) offering course: CSM, GM, HVM, NM, WBM, CSH, GH, HVH, NH, WBH

LATIN II 5125**Credit(s):** 1**Prerequisite(s):** "C" average in Latin I**Grade level(s):** 9-12

The study of Latin II increases the student's knowledge of vocabulary and grammar. The student progresses from simple constructed stories about Roman life to more complicated readings. The student continues to develop an awareness and appreciation of the contributions of Greek and Roman culture to our modern Western Civilization. The student will develop an awareness of background information on Julius Caesar and Caesar's Gallic War campaign.

School(s) offering course: CSH, GH, HVH, NH, WBH**LATIN III** 5135N**Credit(s):** 1**Prerequisite(s):** "C" average in Latin II**Grade level(s):** 10-12

By studying the works of Caesar and Cicero, the student will learn about the life and times of the Roman Republic. Opportunity to study selected passages of Latin literature will be given. Grammar reinforcement will be included with each reading selection as needed.

School(s) offering course: CSH, GH, HVH, NH, WBH**SURVEY OF LATIN LITERATURE** 5152**Credit(s):** 1**Prerequisite(s):** Latin I, II, III**Grade level(s):** 10-12

Through selections of Latin history and literature spanning from Plautus in the 3rd century B.C. to Apuleius in the 2nd century, students will practice reading syntax in context. The historical and cultural context of the chosen selections is emphasized.

School(s) offering course: CSH, GH, HVH, NH, WBH**AP LATIN** 5153**Credit(s):** 1^W**Prerequisite(s):** Latin I, II, III, Survey of Latin Literature**Grade level(s):** 11-12

The AP Latin course promotes reading Latin poetry and prose with historical and literary sensitivity. Students are encouraged to develop linguistic skills by engaging in multiple activities, including translating poetry and prose from the required reading list, precisely and literally; reading passages of poetry and prose with comprehension; and analyzing literary texts in clear, coherent written arguments, supported by

textual examples. The readings will be from Vergil's *Aeneid* and Caesar's *Gallic War*.

School(s) offering course: CSH, GH, HVH, NH, WBH**SPANISH I** 5165**Credit(s):** 1**Prerequisite(s):** None**Grade level(s):** 9-12 (available to 8th graders)

Spanish I provides the beginning-level student with immediately useful language skills in Spanish. It allows maximum conversational interaction both among students and between teacher and student. Speaking, reading, listening, and writing activities, based on real-life situations, are incorporated throughout the program. The student explores culture through authentic readings and video tapings. The program is designed to enable the students to function as accurately as possible in the situations that they are most likely to encounter.

School(s) offering course: CSM, GM, HVM, NM, WBM
CSH, GH, HVH, NH, WBH**SPANISH II** 5175**Credit(s):** 1**Prerequisite(s):** "C" average in Spanish I**Grade level(s):** 9-12

Spanish II further develops and advances the skills of speaking, listening, writing, and reading. These skills are incorporated with cultural units. The program continues to provide for the student practice in real-life situations encountered in Hispanic cultures.

School(s) offering course: CSH, GH, HVH, NH, WBH**SPANISH III** 5185**Credit(s):** 1**Prerequisite(s):** "C" average in Spanish II**Grade level(s):** 10-12

Spanish III is designed to increase the student's ability to understand and speak functional Spanish as effectively as possible. The student reads longer, authentic selections that are used to generate more meaningful writing. Listening comprehension focuses on real-life experiences, and cultural knowledge will include the Hispanic world with their varied customs and points of interest.

School(s) offering course: CSH, GH, HVH, NH, WBH**SPANISH IV** 5195**Credit(s):** 1**Prerequisite(s):** "C" average in Spanish III**Grade level(s):** 11-12

The focus of Spanish IV is to continue the

development of proficiency in speaking, listening, writing, and reading skills. The student will communicate ideas more effectively by linking together the four skills and integrating culture into everyday situations, study authentic readings, and write more complex material which may include activities that follow the format of the Advanced Placement Spanish Language Examination.

School(s) offering course: CSH, GH, HVH, NH, WBH**AP SPANISH LANGUAGE** 5207**Credit(s):** 1^W**Prerequisite(s):** Spanish I, II, III, IV**Grade level(s):** 12

The Advanced Placement Program in Spanish Language is intended for those who have chosen to develop their proficiency in all four language skills: listening, speaking, reading, and writing. The course covers the equivalent of a third-year college course in advanced Spanish writing and conversation. It encompasses aural/oral skills, reading comprehension, grammar, and composition. Course content might include intellectual interests shared by the students and teacher (the arts, history, current events, literature, culture, sports, etc.). Materials may include recordings, films, newspapers, and magazines. The course seeks to develop language skills that are useful in themselves and that can be applied to various activities and disciplines rather than to the mastery of any specific subject matter. Extensive training in the organization and writing of compositions must be an integral part of the Advanced Placement Spanish Language Course. Students who choose this program should have a basic knowledge of the language and culture of Spanish-speaking peoples and should have attained a reasonable proficiency in listening comprehension, speaking, reading, and writing.

School(s) offering course: CSH, GH, HVH, NH, WBH

Career and Technical Education (CTE) Courses

Business and Information Technology

SEQUENCE OF COURSES

Foundation Course

Computer Solutions 18 weeks

Occupational Courses

Accounting* 36 weeks
 Advanced Accounting* 36 weeks
 Business Law 36 weeks
 Digital and Web Design I
 (BCAT)* 36 weeks
 Digital and Web Design II
 (BCAT)* 36 weeks
 Economics and Personal Finance..... 36 weeks
 Information Technology (IT)
 Fundamentals* 36 weeks
 Game Design and Programming
 (BCAT)* 36 weeks
 Keyboarding 18 weeks
 MS Office and Beyond* 36 weeks
 Personal Finance 18 weeks
 Principles of Business 36 weeks
 Using Digital Input Technologies* 36 weeks

The business student may select courses from both the foundation course group and the occupational course group to achieve his/her career objective. To be a business completer, the student must have a keyboarding prerequisite and any two 36-week or semester equivalents that equal two 36-week courses from the occupational courses.

*Cooperative Office Education (COE) may be provided through Accounting, Advanced Accounting, Digital and Web Design I, Digital and Web Design II, Game Design and Programming, MS Office and Beyond, and Using Digital Input Technologies.

EXPLORATORY COMPUTER SKILLS 6

(Interest Block Program)

Credit(s): 0
 Prerequisite(s): None
 Grade level(s): 6

Students will become familiar with Roanoke County

Public School's policy for the acceptable use of the Internet. Students will better understand the uses and safety precautions needed when using the WWW. Topics will include the safety issues relating to: Cyber-bullying, Cyber-predators, Surfing, Email Use, Social networking, Texting, Chat rooms, Blogs, Gaming, Copyrights, Anti-virus software and firewalls
School(s) offering course: CSM, GM, HVM, NM, WBM

EXPLORATORY COMPUTER SKILLS 7

(Interest Block Program)

Credit(s): 0
 Prerequisite(s): None
 Grade level(s): 7

Students are introduced to the computer skills needed for high school and the 21st Century. Students will learn how to use the WWW as a teaching tool, format WORD documents and develop presentations skills for classroom success. Students will explore the skills need for success in industry and higher education.

School(s) offering course: CSM, GM, HVM, NM, WBM

COMPUTER SOLUTIONS 6609

Credit(s): 0
 Prerequisite(s): None
 Grade level(s): 8

Students use the computer as a problem-solving tool to complete a variety of projects. Students are introduced to a variety of software applications such as Microsoft Excel, Word, PowerPoint, Access, and Publisher. Student participate in team-building activities that include both academic and business competencies. Students will participate in FBLA activities.

School(s) offering course: CSM, GM, HVM, NM, WBM

KEYBOARDING Grade 8 6151

Credit(s): .5
 Prerequisite(s): None
 Grade level(s): 8

Students develop a touch keyboarding skill as they learn to key accurately and efficiently. In addition, they will learn to produce a variety of documents which include personal business letters, business letters, reports, tables, and employment documents. Students will participate in FBLA activities.

School(s) offering course: CSM, GM, HVM, NM, WBM

USING DIGITAL INPUT TECHNOLOGIES/COE 1 6161 2 6161C

Credit(s): 1 or 2
 Prerequisite(s): Keyboarding proficiency
 Grade level(s): 9-12

Students develop proficiency using Personal Digital Assistants (PDAs), speech recognition software, writing tablets, and other input tools. A variety of equipment and software packages will be used. Students may participate in Cooperative Office Education and earn an additional unit of credit. Students will participate in FBLA activities.

School(s) offering course: CSH, GH, HVH, NH

PRINCIPLES OF BUSINESS 6115N

Credit(s): 1
 Prerequisite(s): None
 Grade level(s): 9-12

Students learn basic business procedures and how to apply these to their everyday lives, empowering them to make educated decisions as consumers, wage earners, and citizens. Students will participate in FBLA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

INFORMATION TECHNOLOGY (IT) FUNDAMENTALS 1 6670

Credit(s): 1
 Prerequisite(s): Keyboarding proficiency
 Grade level(s): 9-10

Students are introduced to a broad range of computer technology including web page design, programming, graphics, computer applications, networking, internet fundamentals and computer maintenance/upgrading/troubleshooting. Teamwork and communication skills are emphasized. This course covers the competencies needed to take the associated certification exam. By passing the exam a student will obtain a verified credit. Students will participate in FBLA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

ACCOUNTING 1 6320 ACCOUNTING/COE 2 6320C

Credit(s): 1 or 2
 Prerequisite(s): None
 Grade level(s): 10-12

This course is designed for the student who might be

considering a business or finance major in college or wants to one day operate his or her own business. This course covers the competencies needed to take the associated certification exam. By passing the exam a student will obtain a verified credit. Students may participate in Cooperative Office Education and earn an additional unit of credit. Students will participate in FBLA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

ADVANCED ACCOUNTING 1 6321 ADVANCED ACCOUNTING/COE 2 6321C

Credit(s): 1 or 2
 Prerequisite(s): Accounting and
 Keyboarding proficiency
 Grade level(s): 11-12

Students utilize automated accounting software to automate, analyze, and interpret accounting applications including payroll, inventory, accounts payable, and accounts receivable. This course covers the competencies needed to take the associated certification exam. By passing the exam a student will obtain a verified credit. Students may participate in Cooperative Office Education and earn an additional unit of credit. Students will participate in FBLA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

BUSINESS LAW 6131

Credit(s): 1 or 2 6131C
 Prerequisite(s): None
 Grade level(s): 10-12

Students focus on the individual's legal rights and responsibilities that govern their conduct. Practical guidelines are provided for becoming an effective citizen, both now and in the future. They examine the foundations of the American legal system. Students will participate in FBLA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

MS OFFICE AND BEYOND 1 6612 MS OFFICE AND BEYOND/COE 2 6612C

(Dual enrollment) 116612
 Credit(s): 1 or 2
 Prerequisite(s): Keyboarding proficiency
 Grade level(s): 9-12

Students apply problem-solving skills to real-life situations through MS Office basic and advanced

word processing, spreadsheet, database, and multimedia presentation software, and through integrated software activities. This course covers the competencies needed to take MOS certification exams. By passing an exam a student will obtain a verified credit. Students may participate in Cooperative Office Education and earn an additional unit of credit. Students will participate in FBLA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

ECONOMICS AND PERSONAL FINANCE 6120

(Dual enrollment available)^W 116120

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

Students learn how to navigate the financial decisions they must face and to make informed decisions related to career exploration, budgeting, banking, credit insurance, spending taxes, saving, investing, buying/leasing a vehicle, living independently, and inheritance. This finance course is required for graduation beginning with the class of 2014.

School(s) offering course: CSH, GH, HVH, NH, WBH

PERSONAL FINANCE 6120S

Credit(s): .5

Prerequisite(s): None

Grade level(s): 10-12

Students learn how to navigate the financial decisions they must face and to make informed decisions related to career exploration, budgeting, banking, credit insurance, spending taxes, saving, investing, buying/leasing a vehicle, living independently, and inheritance. Development of financial literacy skills and an understanding of economic principles will provide the basis for responsible citizenship and career success. This finance course satisfies the graduation requirements for the classes of 2012 & 2013.

School(s) offering course: CSH, GH, HVH, NH, WBH

DIGITAL AND WEB DESIGN I B6630

Credit(s): 2

See Computer Science/Technology section.

DIGITAL AND WEB DESIGN II B6631

Credit(s): 2

See Computer Science/Technology section.

GAME DESIGN AND PROGRAMMING/COE B6640

Credit(s): 2 or 3

See Computer Science/Technology section.

Computer Science and Technology

PRE-AP COMPUTER PROGRAMMING ELECTIVE 3116N

Credit(s): 1

See Mathematics section.

AP COMPUTER SCIENCE A 3135N

Credit(s): 1

See Mathematics section.

MS OFFICE AND BEYOND/COE 1 6612
2 6612C

Credit(s): 1 or 2

See Business and Information Technology section.

INFORMATION TECHNOLOGY (IT) FUNDAMENTALS 6670

Credit(s): 1

See Business and Information Technology section.

USING DIGITAL INPUT TECHNOLOGIES/COE 6161

Credit(s): 1

See Business and Information Technology section.

COMPUTER INFORMATION TECHNOLOGY I B8622

(Dual enrollment available)^W

Credit(s): 2

Prerequisite(s): None

Grade level(s): 9-12

Computer Information Technology I is the first class of a comprehensive course covering all knowledge needed to set up, service, and maintain a PC under a Windows environment. Students will use a hands-on approach, diagnostic software, and electronic test equipment in preparation to take the Comp TIA A+ Essentials exam (220-601). This test validates knowledge of basic computer hardware and operating systems, covering skills such as PC and Operating System troubleshooting, building, upgrading, repairing, configuring, and optimizing, with additional emphasis on security and soft skills. The nationally recognized A+ Essentials exam validates the basic skills needed by any entry-level PC Technician regardless of job environment. An exam cost may be required.

By passing the Essentials exam and any one of three subsequent tests offered in CIT II, a student will be "A+ Certified" with an IT Technician designation and can obtain up to 2 verified credits. Participation in the SkillsUSA student organization and activities is required.

School(s) offering course: BCAT

COMPUTER INFORMATION TECHNOLOGY II B8623

(Dual enrollment available)^W

Credit(s): 2

Prerequisite(s): "C" average in

Computer Information Technology I

Grade level(s): 10-12

Computer Information Technology II will cover the material needed to pass the IT Technician exam (220-602), the Help Desk Technician exam (220-603), and the Depot Technician exam (220-604). Passing any one of these three exams, after passing the A+ Certified Technician status. The course focuses on troubleshooting various aspects of computer components including CPUs, RAM, BIOS and CMOS, hard drives, motherboards, removable media, portable computing, printers, and windows. Security and soft skills are also taught. Along with the A+ Certified Technician designation, a student can also obtain up to 2 verified credits. An exam cost may be required. Participation in the SkillsUSA student organization and activities is required.

School(s) offering course: BCAT

COMPUTER INFORMATION TECHNOLOGY III B8624

(Dual enrollment may be available)^W

Credit(s): 2

Prerequisite(s): Computer Information Technology I and II

Grade level(s): 11-12

Computer Information Technology III will cover the material needed to pass the CompTIA Network+ (N10-003) exam. An A+ Certified Technician who passes this exam can add the Network+ designation to his or her current A+ Certified status. This course focuses on networks including network topology, protocols and standards, implementation, support, security, and troubleshooting. Along with the Network+ designation, a student can also obtain up to 2 verified credits. An exam cost may be required. Participation in the SkillsUSA student organization and activities is required.

School(s) offering course: BCAT

DIGITAL AND WEB DESIGN I B6630
(Dual enrollment available)^W B116630

Credit(s): 2

Prerequisite(s): None

Grade level(s): 9-12

Students will develop a foundation for layout and design in both print and web. Students will use a variety of software packages including industry-standard desktop publishing and web design software. Students will also learn how to use Photoshop along with digital photography. The culminating project will be an electronic portfolio where students will showcase their work. The students will also be taking an industry standard certification CIW-(Certified Internet Webmaster)-Internet Business. The two high school credits will be weighted 0.5 + 1.5 credits un-weighted. By passing this exam the student will receive 3 college credits.

School(s) offering course: BCAT

DIGITAL AND WEB DESIGN II B6631
(Dual enrollment available)^W

Credit(s): 2

Prerequisite(s): Digital and Web Design I and Keyboarding proficiency

Grade level(s): 10-12

Students will take their skills to another level with projects for print and web. This course is for the student that is willing to work independently on projects, including designing with industry professionals. Students will learn more advanced programs such as Macromedia Dreamweaver, Flash and Fireworks programs. The students will also be taking an industry standard certification CIW-(Certified Internet Webmaster)-Site Development. By passing this exam the student will receive 3 college credits.

School(s) offering course: BCAT

GAME DESIGN AND PROGRAMMING B6640
(Dual enrollment available)

Credit(s): 2

Prerequisite(s): None

Grade level(s): 9-12

This course will introduce students to the game industry as well as information technology and programming concepts. Students will learn how to create and test their own games. The occupational objectives are for careers in the Game Level Tween Designer, Game Tester, and Entry Level Programmer. The students will also be taking an industry standard certification CIW-(Certified Internet Webmaster)-Site Development. By passing this exam the student will receive 3 college credits.

School(s) offering course: BCAT

Family and Consumer Sciences

FACS 6

(Interest Block Program)

Credit(s): 0

Prerequisite(s): None

Grade level(s): 6

Students will explore the skills needed for successful transition to the middle school environment. Topics will include: time management, goal setting; personal safety; completing tasks; getting along with others; taking care of personal space and possessions; personal grooming; saving money; making good food choices, and using problem-solving and decision-making skills.

School(s) offering course: CSM, GM, NM, WBM

FACS 7

(Interest Block Program)

Credit(s): 0

Prerequisite(s): None

Grade level(s): 7

Students are introduced to Career Pathways as they develop personal plans of study that will be used to help map out their middle and high school curriculum. Students will complete interest surveys to learn more about themselves as they assess their role in society and the future job market.

School(s) offering course: CSM, GM, NM, WBM

TEEN LIVING 8

8245

Credit(s): 0

Prerequisite(s): None

Grade level(s): 8

This course allows students to learn skills that will make them more independent, and to develop skills needed for caring, respectful and responsible relationships. Students will explore personal values, leadership skills, setting and achieving goals, develop good spending habits, and become better food and retail consumers. Lab work in nutrition and textiles will be included.

School(s) offering course: CSM, GM, NM, WBM

NUTRITION AND WELLNESS

8229

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

This course helps students develop the skills needed to be their own personal life coach, while

promoting a healthy body image. Students will explore the relationship of good nutritional decision making, lifestyle choices and resource management to make beneficial decisions about their well-being. Skills that promote wholesome activities that nourish the body and soul will be explored including food preparation, stress relief activities and meditation.

School(s) offering course: CSH, GH, HVH, NH, WBH

INTRODUCTION TO CULINARY ARTS 8250

Credit(s): 1

Prerequisite(s): Recommended Nutrition & Wellness

Grade level(s): 10-12

Introduction to Culinary Arts focuses on food and nutrition issues and guidelines, meal management, food preparation and service skills, and careers related to food and nutrition. Students explore food service careers while experiencing international and gourmet culinary techniques and classic preparation of foods. Teachers highlight the basic skills of math, science, and communication when appropriate in the content. Students participate in FCCLA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

CHILD DEVELOPMENT 8232

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

(Not offered 2012-13)

(Offered 2013-14)

FASHIONS AND INTERIOR DESIGN 8248

Credits: 1

Prerequisite(s): None

Grade level(s): 9-12

(Offered 2012-13)

(Not offered 2013-14)

This course offers an opportunity to explore the fashion industry and to study interior architectural styles and principles of design. Fashion industry components include wardrobe planning and coordination, purchasing practices, and proper care and storage of clothing and accessories. Interior design components include appropriate selection and construction of furnishings and accessories, as well as development of cost estimates. Students will participate in FCCLA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

EARLY CHILDHOOD EDUCATION I B8285

Credit(s): 2

Prerequisite(s): Child Development

course recommended. Pass TB screening test; no criminal history related to substance abuse or violence; must adhere to the dress code of the placement center—this may include no visible tattoos, no facial or tongue piercing, appropriate clothing and shoes; hair color and make up must be considered "natural" in appearance.

Grade level(s): 9-12

Students prepare to be primary providers of home-, family-, or institution-based child care services by focusing on the planning, organizing, and conducting of meaningful play and learning activities; child monitoring and supervision; record keeping; and referral procedures. Critical thinking, practical problem solving and entrepreneurship opportunities within the field of early childhood education are emphasized. Practical experiences (e.g., on-site lab, local daycare centers, elementary schools, other institutions) under the supervision of the instructor are required. Students also prepare for continuing education leading to careers in early childhood fields (e.g., medical, social services, and education). Participation in FCCLA co-curricular activities is expected. The cooperative education option may be available for this course. Students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year.

School(s) offering course: BCAT

EARLY CHILDHOOD EDUCATION II B8286

Credit(s): 2

Prerequisite(s): "C" average in Early

Childhood Education I; no criminal history related to substance abuse or violence; must adhere to the dress code of the placement center—this may include no visible tattoos, no facial or tongue piercing, appropriate clothing and shoes; hair color and make up must be considered "natural" in appearance.

Grade level(s): 10-12

Students extend and expand their skill development begun in Early Childhood Education I through advance studies of employment information, basic child development of the infant and school-age child, the exceptional child, functions of workers in child care centers, types of learning centers, and selection of equipment.

Students focus on occupational skills needed by personnel employed in early childhood-related fields, such as education, medical/health care, social services, counseling, psychology, and

entrepreneurship. Work-based learning experiences (e.g., on-site lab, local daycare centers, elementary schools, other institutions) under the supervision of the instructor are required. Critical thinking, practical problem solving, and entrepreneurship opportunities within the field of early childhood education are emphasized. The cooperative education option may be available for juniors & seniors in this course. Students combine classroom instruction and supervised on-the-job training in an approved position with continuing supervision throughout the school year.

NOTE: If required by a cooperative education or internship agency, students may have to have a tuberculin skin test or submit proof of the test within the past year. Students may also be required to have a state background search. Participation in FCCLA co-curricular activities is expected. Students will complete an Industry Certification exam.

School(s) offering course: BCAT

TEACHERS FOR TOMORROW 9062

(Dual enrollment available)^W

Credit(s): 1

Prerequisite(s): Application process and approval of instructor.

Grade level(s): 11-12

Teachers for Tomorrow provides introductory instruction and training for prospective teachers. Students enrolled will receive instruction in human cognitive and psychological development, learning styles, diversity, and self-respect. Successful students will learn and practice effective teaching strategies, lesson planning, and lesson delivery. The course includes a classroom practicum. Students must abide by any dress code in effect at their practicum placement. Students planning to enroll in the Teaching Internship as seniors are strongly encouraged to enroll in the Teachers for Tomorrow program in the 11th grade.

School(s) offering course: CSH, GH, HVH, NH, WBH

TEACHING INTERNSHIP B8285T

(Dual enrollment recommended)^W

Credit(s): 2 or 3

Prerequisite(s): Senior, College Bound, must provide own transportation, excellent attendance, should plan on majoring in Education in college with a career goal of becoming a public school teacher. Must be able to meet the college admissions requirements for Education majors.

Grade level(s): 12

The student will observe and participate in a Pre-K-8th

grade internship in a public school setting. The student will work with the elementary classroom teacher during the regular school day. Students will work closely with their coordinating teacher, mentoring teacher, and the school principal. Students are required to take the NOCTI certification test. Students will be responsible for independent study activities through a combination of distance learning and classroom interaction. Students will work to develop activities and lesson plans suitable for their placement and will work on their implementation. Student access to a home computer with Internet connection will be helpful. Students may participate in cooperative education with the permission of the instructor. Students are required to participate in FCCLA activities.

School(s) offering course: BCAT

SERVICE LEARNING LEADERSHIP I 9907

SERVICE LEARNING LEADERSHIP II 9907N

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

These courses, open to ALL students in any grade level, combine the development of morally responsible leadership skills with the creation and implementation of service learning projects. Students will interact with non-profit and profit organizations on projects to benefit needs of their community and will enhance their skills in the areas of creativity, information analysis, speech, writing, organization budgeting, marketing and labor. Students will leave the course with a working portfolio of projects they have helped to create and implement.

School(s) offering course: WBH

Marketing

Co-op definition—the marketing coordinator visits the work station and works cooperatively with the student's employer to evaluate job performance.

INTRODUCTION TO MARKETING 8110

Credit(s): 1.0

Prerequisite(s): None

Grade level(s): 9-12

Introduction to Marketing is the basic elective course offered in the three-year Marketing Program. The course is designed to provide students with the competencies needed for successful entry-level employment in marketing occupations. It equips students with the social, economic, marketing, and job

search competencies necessary for successful employment in retail, wholesale, and service businesses. Manager, assistant manager, supermarket jobs, waitress, hotel/motel manager, cashier, fashion coordinator, salesperson, buyer, and many more jobs will be explored. Students will participate in DECA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

MARKETING (Non-Co-op) 8120
(Co-op) 8120C

Credit(s): 1 (Non-Co-op)
2 (Co-op)

Prerequisite(s): If the student enrolls in

Co-op, he/she must have instructor approval and be willing to accept employment in a marketing occupation; student must be 16 by November 1.

Grade level(s): 11-12

Marketing is designed for students pursuing a career in marketing. The course provides students with instruction that enables them to obtain and succeed in their chosen marketing occupation. Students may elect to combine classroom instruction with continuous, on-the-job training during the school year supervised by the marketing coordinator. On-the-job training during summer months also may be counted if supervised by the marketing coordinator with a training agreement and plan. Students concentrate on marketing competencies in the areas of economics, market planning, self-development, marketing math, employment and advancement, human relations, communications, physical distribution, personal selling, and sales promotion. Students will participate in DECA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

FASHION MARKETING (Non Co-op) 8140
(Co-op) 8140C

Credit(s): 1 (Non-Co-op)
2 (Co-op)

Prerequisite(s): If the student wants to

co-op, he/she must have instructor approval and be willing to accept employment in apparel and accessory industry; student must be 16 by November 1.

Grade level(s): 11-12

This course introduces students to the world of fashion and the many career opportunities available. The curriculum will concentrate on developing competencies needed by apparel marketing employees in the areas of selling, advertising, display

operations, product/ service technology, human relations, economics, market planning, and communications. Students may elect to combine classroom instruction with continuous, on-the-job training during the school year supervised by the marketing coordinator. On-the-job training during summer months also may be counted if supervised by the marketing coordinator with a training agreement and plan. Students will participate in DECA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

ADVANCED MARKETING (Non-co-op) 8130
(Co-op) 8130C

Credit(s): 1 (Non-Co-op)
2 (Co-op)

Prerequisite(s): Completion of

Marketing, Fashion Marketing, or Sports, Entertainment, and Recreation Marketing. If the student enrolls in Co-op, he/she must have instructor approval and be willing to accept employment in a marketing occupation; student must be 16 by November 1.

Grade level(s): 12

Advanced Marketing enables students to develop competencies needed to advance in full-time employment in marketing. Students develop advanced competencies in several of the same areas studied in Marketing and, in addition, develop competencies in the areas of supervision, merchandising, market research, and management. Students combine classroom instruction with continuous, on-the-job training during the school year supervised by the marketing coordinator. On-the-job training during summer months also may be counted if supervised by the marketing coordinator with a training agreement and plan. Students will participate in DECA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

SPORTS, ENTERTAINMENT, AND RECREATION MARKETING

(Non-Co-op) 8176
(Co-op) 8175C

Credit(s): 1 (Non-Co-op)
2 (Co-op)

Prerequisite(s): If the student wants to

co-op, he/she must have instructor approval and be willing to accept employment in the sports or entertainment or recreation industry; student must be 16 by November 1.

Grade level(s): 11-12

This Marketing Cooperative Education course is designed to develop skills in the areas of marketing analysis, event marketing, communications, and human relations along with a thorough understanding

of the sports, entertainment, and recreation industry, and career options available. Students combine classroom instruction with continuous, on-the-job training during the school year supervised by the marketing coordinator. On-the-job training during summer months also may be counted if supervised by the marketing coordinator with a training agreement and plan. Students will participate in DECA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

ADVERTISING 6400N

Credit(s): .5

Prerequisite(s): None

Grade level(s): 9-12

Advertising is big business. It is really about what motivates people to buy a product, use a service, or support a cause. This course will introduce the student to advertising principles and practices that contribute to business success. Students will learn about the process of creating, executing, and evaluating commercial messages. The wide range of careers available in advertising, new electronic media, public perception, advertising history, and methods of production in advertising will be explored. Students will find the world of advertising fascinating.

School(s) offering course: WBH

MARKETING MANAGEMENT: 8132
A Virtual Enterprise Simulation

Credit(s): 1

Prerequisite(s): None (knowledge of WORD recommended)

Grade level(s): 11-12

Students develop skills that are essential to their success in corporate America. Basic knowledge and skills necessary for supervision and management will be emphasized using the **Virtual Enterprise VA** method of instruction. Students will plan and manage their own virtual business. The daily operations of the student-run, web-based businesses provide authentic experiences and real-world applications of principles used in marketing in the business world.

School(s) offering course: WBH

Technology Education

INTRODUCTION TO TECHNOLOGY (Interest Block Program)

Credit(s): 0

Prerequisite(s): None

Grade level(s): 6

As a part of the interest block program, this curriculum is not only hands-on and fun, but highly relevant to students' everyday lives. The goal is to give students a thorough and practical understanding of the importance of technology in both today's and tomorrow's world. Introduction to Technology is offered as the first Technology Education experience for middle school students. Students will study the basic elements of all technology, including processes, energy, information, and people. The four primary systems of technology provide the context for the study of technological systems (i.e., communication, construction, manufacturing, and transportation). Students will be introduced to the modular Synergistics program offered in the seventh and eighth grades.

School(s) offering course: CSM, GM, HVM, NM, WBM

TECHNOLOGICAL SYSTEMS 7 EXPLORATORY (Interest Block Program)

Credit(s): 0

Prerequisite(s): None

Grade level(s): 7

Technological Systems 7 is an exploratory course designed to further students' knowledge of the world of technology around them. This experience builds upon what they have learned in the interest block program; however, it is not mandatory that they have had that class. Students will rotate through several 7-day modules which may include applied physics, audio broadcasting, computer graphics and animation, digital design, digital manufacturing, electronics, energy, power and mechanics, engineering bridges, engineering towers, flight technology, graphic communications, robotics, research and design, rocketry and space technology.

School(s) offering course: CSM, GM, HVM, NM, WBM

TECHNOLOGICAL SYSTEMS 8

semester 8463N
year 8462

Credit(s): 0

Prerequisite(s): None

Grade level(s): 8

Semester: Students will use synergistic modules for applied practical applications to math, science and

technology concepts. Supplementary activities will be woven throughout the modules giving the students additional hands-on exposure to solving problems, engineering, and design.

Year: Students will use synergistic modules and basic robotic programming to combine resources and techniques to create systems, attaining comprehension of how technological systems work. Students will explore, design, analyze, and evaluate technological systems. By simulating systems and assessing their impacts, students gain insight into how to approach the problems and opportunities of a technological world. They also explore technology-oriented careers.

School(s) offering course: CSM, GM, HVM, NM, WBM

INVENTIONS AND INNOVATIONS 8464

Credit(s): 0

Prerequisite(s): None

Grade level(s): 8

After experiencing several technology modules in Introduction to Technology and Technological Systems, students in Inventions and Innovations learn how all these technologies in our world work together and relate to each other. Students will select a major technological advancement and, with knowledge previously learned and equipment available, they will build models and displays and carry out experiments in order to learn more about the technological world around them. This class will be taught in a synergistics laboratory.

School(s) offering course: CSM, GM, HVM, NM, WBM

INTRODUCTION TO PHOTOGRAPHY 8464N

Credit(s): 0

Prerequisite(s): None

Grade level(s): 8

Is a beginner's look at how the invention of the camera has advanced society. This exciting hands-on class will allow students to learn camera basics along with how computers are used in the field of photography to create innovative changes, and alter perceptions. Students will practice systematic procedures to manipulate digital images, maintain equipment, explore architectural design concepts and create photos suitable for a digital portfolio. Students may choose to bring personal digital cameras so that they may develop advanced technical skills with equipment they may have after the course ends. Students will learn about safe web-based storage sites designed so that images can be preserved and accessed in the future.

School(s) offering course: CSM, GM, HVM, NM, WBM

DIGITAL PHOTOGRAPHY & 3D ANIMATION 8415

Credit(s): 1

Prerequisite(s): Digital Photography

Grade level(s): 10-12

This course provides students with the opportunity to work with digital cameras, 3D animation software, video equipment, web page editors, and presentation software to create original projects. An overview of past and present technologies relating to the transfer of information is provided. Students will participate in TSA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

COMPUTER-AIDED DRAFTING & TECHNICAL DRAWING 8435

(Dual enrollment available)^W 118435

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

This laboratory-oriented course provides a basic background of skills and an understanding of the broad scope of technical drawing (drafting). Students will use both traditional and computerized equipment. The latest CAD software will be used. This course is recommended for students planning careers in engineering, architecture, drafting, or technology. Students will participate in TSA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

ENGINEERING DRAWING 8436

Dual enrollment ^W 118436

Credit(s): 1

Prerequisite(s): Computer-Aided
Drafting and Technical Drawing

Grade level(s): 10-12

Engineering Drawing provides students with the opportunity to experience the graphic language of industry for engineers, manufacturers, and technicians. It provides experiences with greater depth in drawing problems, skills, and techniques. Emphasis is placed on interpretation of industrial prints, ability to use handbooks and other resource materials, and adherence to established standards for drafting. An important aspect of this course is the application of drafting principles to typical engineering drawing and design problems. Students will participate in TSA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

ARCHITECTURAL DRAWING 8437

Dual enrollment ^W 118437

Credit(s): 1

Prerequisite(s): Computer-Aided
Drafting and Technical
Drawing

Grade level(s): 10-12

Architectural Drawing is offered as a personal use class to students who wish to further their knowledge in the field of architecture. This laboratory-oriented course provides students with the opportunity to learn more about financing, designing, drawing plans, dimensioning, and making prints for a home of the student's choice. It provides information helpful for the homeowner and is especially beneficial to the future architect, interior designer, or home builder. Students will participate in TSA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

WOODS TECHNOLOGY I 8433A

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

Woods Technology I is the study of the technologies in the construction of industrial wood products. Students design, plan, and construct projects as they study the woodworking industry. Emphasis is placed on the development of skills in the safe use of both hand and machine woodworking tools. Activities may include laboratory involvement in personnel organizations, mass production, research in areas of career opportunities, and individual projects. Students will participate in TSA activities.

School(s) offering course: CSH, WBH

WOODS TECHNOLOGY II 8433B

Credit(s): 1

Prerequisite(s): Woods Technology I

Grade level(s): 10-12

Woods Technology II is an advanced study of the technologies in the construction of industrial wood products. Students design, plan, and construct furniture or recreational products, safely using machine tools, processes, and wood technology. Creativity is emphasized as students further develop their interests, talents, and abilities in woodworking. Students will participate in TSA activities.

School(s) offering course: CSH, WBH

DIGITAL PHOTOGRAPHY 8455

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

Photography students will become acquainted with the process of transforming an idea or a scene into a finished photograph. Students will learn how to select, use, and care for photography equipment. They will become familiar with careers in the field of photography. They will also learn photographic techniques to enable them to produce and display their own photographs. Topics such as formal portraits, silhouettes, close-up photography, and photo-essay will be presented. Students will participate in TSA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

ELECTRICITY/ELECTRONICS I 8416

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

Students experiment with simple electrical devices and circuits, and build projects using DC and AC devices and circuits. Students will participate in TSA activities.

School(s) offering course: WBH

MATERIALS AND PROCESSES TECHNOLOGY 8433

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

Students focus on industrial/technical materials and processes as they fabricate usable products and conduct experiments. Learning experiences include career analysis, as well as use of tools and equipment related to analysis, testing, and processing of metals, plastics, woods, ceramics, and composite materials. The course is recommended for students interested in technical careers and others wishing to improve their consumer knowledge and technological literacy. Students will participate in TSA activities.

School(s) offering course: CSH, GH, WBH

GEOSPATIAL TECHNOLOGY 8423

Dual enrollment^W 118423

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

Geospatial Technology provides an introduction to the growing field of global information systems. It is an excellent course for students planning careers in information technology, science, social studies, and engineering. Students will examine the past, present, and future of the geospatial industry and geospatial technology. Using hand-held receivers and ESRI software, they will learn to use Global Positioning Systems. Creating and using maps, remote sensing, and manipulation of geographic data are included in

the course objectives. Students will also learn to manage geospatial projects. Students will participate in TSA activities.

School(s) offering course: CSH, GH, HVH, NH, WBH

Trade and Industrial

AUTO SERVICE TECHNOLOGY I B8506

(Due to the popularity of this program, 9th and 10th graders are preferred. However, 11th and 12th graders may be considered based on space availability.)

(Dual enrollment available)^W

Credit(s): 2

Prerequisite(s): None

Grade level(s): 9-12

Auto Service Technology I is designed to develop mental and manipulative skills relating to basic auto repair operations and the safety procedures for this field of work. Included in this course of study are auto servicing, brake systems, and electrical systems. Training in Auto Service Technology I includes studying theory from text as well as the study and disassembly of nonfunctional and functional automotive assemblies. Text and activities are designed to prepare the student for the ASE certification test. A certification test registration cost is required. By passing the test, a student can obtain up to 2 verified credits. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

AUTO SERVICE TECHNOLOGY II B8507

(Dual enrollment available)^W

Credit(s): 2

Prerequisite(s): "C" average in Auto Service Technology I

Grade level(s): 10-12

Auto Service Technology II provides training in theory and hands-on experience in the repair of the modern automobile. Using up-to-date equipment, students are taught to use diagnostic equipment to find problems that have occurred in automobiles with on-board computers and electronic fuel injection. The course provides a concentration in the following areas of preparation for the ASE certification test: brake systems, electrical systems, engine performance, and suspension and steering systems. The AYES, Automotive Youth Education System, is available to students who qualify, allowing students to work at a dealership as part of the class. Students are encouraged to take ASE certification test. A

certification test registration cost is required. By passing the test, a student can obtain up to 2 verified credits. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

AUTO SERVICE TECHNOLOGY III B8508

Credit(s): 2

Prerequisite(s): "C" average in Auto Service Technology II

Grade level(s): 11-12

Auto Service Technology III provides students with the opportunity to complete their ASE certification in the four basic areas. For those students who progress sufficiently, training may be provided in one or more additional ASE certification categories. Students are provided with an opportunity to gain work experience through cooperative education. AYES, Automotive Youth Education System, allows students who qualify to work at a dealership as part of the class. Students are encouraged to take ASE certification test. A certification test registration cost is required. By passing the test, a student can obtain up to 2 verified credits. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

CAREER COOPERATIVE EDUCATION B8902

Credit(s): 2

Prerequisite(s): Interest in vocational training not presently offered through Roanoke County programs.

Grade level(s): 11-12

The Career Cooperative Education program offers a concept in career technical training new to Roanoke County. Students who are unable to obtain training in specific job and career areas work with local professionals in these occupations to develop the necessary entry-level skills. Using existing Student Competency Records, the coordinator works with participating employers to develop the curriculum, schedule, and evaluation tools necessary to assure quality training.

The classroom portion of the program provides emphasis in developing personal employability skills, such as portfolio development, applying and interviewing, employee relations, money management, and career planning. Behavioral traits in the areas of attitude, work habits, communication skills, self-discipline, and problem solving are explored.

Students generally attend school for a half-day and work on the job the other half day.

School(s) offering course: BCAT

BUILDING TRADES I B8515

Credit(s): 2

Prerequisite(s): Basic math; ability to follow written and oral instructions; good attendance record; desire to learn about and/or work in a building trade.

Grade level(s): 9-12

The introduction to Building Trades course is designed to introduce the student to the basics of the carpentry, electrical, and plumbing trades. Emphasis is placed on enabling the student to identify and use various hand tools and materials used in each of the trade areas. Field trips will be used when possible to give the student a close-up look at jobs under construction. The course is designed to help the student decide which area to specialize in. Job appropriate clothing, as determined by the student organization, is required. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

BUILDING TRADES II B8516

(Dual enrollment available)^W

Credit(s): 2

Prerequisite(s): None

Grade level(s): 10-12

The three areas of carpentry, electrical wiring, and plumbing comprise the course of study in Building Trades I and II. (Masonry is a stand-alone course.) Students further their studies in each of these fields and begin to specialize in their highest area of interest. Actual hands-on practice gives the students valuable experience as they develop their skills. As part of their work, students will assemble a floor, wall, and roof section from plans as well as install electrical and plumbing systems typically found in residential structures. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

BUILDING TRADES III B8517

(Dual enrollment available)^W

Credit(s): 2

Prerequisite(s): Grade of C in Building Trades I

Grade level(s): 11-12

The description is the same as Building Trades I except that students will have the opportunity to CO-OP with builders in the Roanoke area. This course covers the competencies needed to take the associated certification test. A certification test registration cost may be required. By passing the test, a student can obtain up to 2 verified credits. Participation in SkillsUSA student organization

activities is required.

School(s) offering course: BCAT

COSMETOLOGY I B8527

Credit(s): 2
Prerequisite(s): None
Grade level(s): 9-12

Cosmetology I is designed to develop skills in permanent waving, chemical hair relaxing, hair cutting, cleaning and styling of wigs and hairpieces, hair pressing, and hair color. Additional skills taught are manicures/pedicures, facials, make-up, hairstyling, and finger waving. Students practice skills on mannequins. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

COSMETOLOGY II B8528

Credit(s): 2
Prerequisite(s): "C" average in Cosmetology I
Grade level(s): 10-12

Cosmetology II students develop advanced skills in tinting hair, lightening hair, salon planning and management, chemistry, and anatomy. Students practice skills on patrons. Students must take the Cosmetology License Exam in order to receive program completer certification. An exam registration cost may be required. By passing the exams, a student can obtain a verified credit. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

COSMETOLOGY III B8529

Credit(s): 2
Prerequisite(s): "C" average in Cosmetology II
Grade level(s): 11-12

Cosmetology III students refine and enhance the skills learned during the first two years of the program. Emphasis is placed on preparing for both the written and practical parts of the Virginia State Board of Cosmetology Licensure Examination. Students who progress satisfactorily will have the opportunity to participate in a cooperative program which provides work experience in a salon. Students must take the cosmetology licensure exam in order to receive completer certification. An exam registration cost may be required. By passing the exams, a student can obtain a verified credit. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

FLORAL DESIGN/ GREENHOUSE PRODUCTION B8055

(Dual enrollment available)
Credit(s): 2
Prerequisite(s): Good color discrimination, manual dexterity, creative and artistic interests
Grade level(s): 9-12

Course content covers career opportunities, floral design foundations, design applications, and marketing of floral products. Styles to be examined include mass, line mass, vase, wedding, holiday, and personal-adornment. Students also learn plant production of foliage and flowering plants and operating procedures for a greenhouse. Leadership opportunities and activities are offered through participation in the FFA student organization.

School(s) offering course: BCAT

ADVANCED FLORAL DESIGN/ GREENHOUSE PRODUCTION B8056

(Dual enrollment available)
Credit(s): 2
Prerequisite(s): "C" average in Floral Design/Greenhouse Production
Grade level(s): 10-12

Advanced Floral Design/Greenhouse Production is designed to enhance, refine, and improve the skills the students acquire during the first year of the program. Students who demonstrate appropriate progress will be provided with a cooperative work experience program. Participation in FFA student organization activities is required. This course covers the competencies needed to take the associated certification test. Students must take and pass the NOCTI certification test in order to receive program completer certification. A certification test registration cost may be required. By passing the test, a student can obtain up to 2 verified credits.

School(s) offering course: BCAT

INDUSTRIAL COOPERATIVE TRAINING B8902N

Credit(s): 2
Prerequisite(s): Successful completion of the first year of a career and technical program; instructor approval required.
Grade level(s): 12

The basic purpose of cooperative vocational education is to provide the student with occupational training through the use of business and industrial establishments and to help bridge the gap between school and employment. Co-op education takes the

school curriculum beyond the four walls of the high school and uses the community as the student's classroom.

In school, instruction is given in job search and personal employability skills, such as applying for employment, interviewing, employee relations, money management, and career planning. Behavioral traits in the areas of attitude, work habits, speech, self-discipline, and effective study techniques are explored. A student may take this as a standalone course provided they have a job in their field of study they are pursuing. The vocation completer is provided independent study in the field of his training. Students generally attend school for half a day and work on-the-job the other half-day. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

LANDSCAPING/TURF MANAGEMENT B8036

(Dual enrollment available)
Credit(s): 2
Prerequisite(s): Interest in outdoor work, manual dexterity, creative and artistic interests
Grade level(s): 9-12

In this course students prepare for employment in such areas as landscape design, landscape construction, and landscape maintenance. They receive instruction in sketching and drawing, analyzing a site, designing for function and aesthetics, identifying and selecting landscape plants, purchasing and installing plants, and maintaining the landscape by watering, mulching, pruning, and controlling pests. Turf topics include duties of professionals who design, establish, and maintain turf in public areas such as golf courses, parks, athletic fields, and residential lawns. Leadership opportunities and activities are offered through participation in the FFA student organization.

School(s) offering course: BCAT

LANDSCAPING II B8037

(Dual enrollment available)
Credit(s): 2
Prerequisite(s): Landscaping/Turf Management
Grade level(s): 10-12

This course is a continuation of Landscaping I. Students will continue to learn and develop the necessary skills, knowledge, habits, and attitudes for employment and advancement in areas such as landscape design, construction, and maintenance. Students will continue analyzing sites, designing for function and aesthetics, identifying and selecting

landscape plants, purchasing and installing plants, and maintaining landscapes. Students will also continue to learn the duties of professionals who design, establish, and maintain turf in public areas such as golf courses, parks, athletic fields, schools, industrial and institutional campuses, and residential lawns. Leadership opportunities and activities are offered through participation in the FFA student organization. NOCTI certification test available. A certification test registration cost may be required. By passing the test, a student can obtain up to 2 verified credits.

School(s) offering course: BCAT

MASONRY I B8512

Credit(s): 2
Prerequisite(s): None
Grade level(s): 9-12

Instruction is given to develop skills and technical knowledge for laying block and brick, reading blueprint and building specifications, performing straight wall work, and practicing basic record keeping procedures. Instruction is also given on the identification and use of the tools used by masons' helpers. Safety practices are emphasized constantly. All brick bonds are included in the instructional process. Students will start the Masonry Apprenticeship Vol. I classroom training required by the Virginia Apprenticeship program. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

MASONRY II B8513

Credit(s): 2
Prerequisite(s): "C" average in Masonry I
Grade level(s): 10-12

Students are given instruction in manipulative skills and technical knowledge for mixing and pouring concrete, designing and building fireplaces and chimneys, and other required competencies for masonry workers. Safety practices are emphasized constantly. Students will do the Masonry Apprenticeship Vol. II classroom training required by the Virginia Apprenticeship program. Participation in SkillsUSA student organization activities is required. This course covers the competencies needed to take the associated certification test. NOCTI certification test available. A certification test registration cost may be required. By passing the test, a student can obtain up to 2 verified credits.

School(s) offering course: BCAT

MOTORSPORTS TECHNOLOGY I B8509
II B8510
III B8511

Credit(s): 2

Prerequisite(s): Computer-Aided Drafting
& Technical Drawing highly recommended

Grade level(s): 9-12

Instruction will be provided in the principles of race car fabrication and all facets of the racing industry. The course will also include chassis preparation, racing protocol, and regulatory compliance. Business aspects of the motorsports industry will also be taught. The class will build some type of drag car. Students will also get to work on the school drag car which is a 1928 Roadster Super Comp Car. Students will learn to use metal shaping equipment such as the English wheel, bead roller tubing bender, and sheet metal brake. Some types of welding such as GMAW & GTAW are taught. Chassis fabrication is the most useful part of building a car. Participation in SkillsUSA student organization activities is required. Students are required to purchase 24-hour accident insurance and to purchase proper clothing and safety attire. Students will need to buy a class work shirt, welding helmet, and welding gloves at a cost of \$70. Students must also have work gloves, steel-toed boots, blue jeans (no frayed edges), cotton t-shirt, long sleeve cotton work shirt, and other materials. Participation in SkillsUSA student organization activities is required.

School(s) offering course: BCAT

WELDING I B8672

(Dual enrollment available)^w

Credit(s): 2

Prerequisite(s): None

Grade level(s): 9-12

Emphasis is placed on SMAW and GMAW – Oxy Fuel cutting and safety in the shop. This is the first 360 hours of the 1,000 hours that must be completed to take the American Welding Society Entry Level Certification. This course covers the competencies needed to take the associated certification test. Students must take and pass the AWS certification test in order to receive program completion certification. A certification test registration cost may be required. By passing the test, a student can obtain up to 2 verified credits. Participation in SkillsUSA student organization activities is required. Students must purchase the following: welding helmet and lens, welding gloves, work gloves, steel-toed boots, blue jeans—no frayed edges, cotton t-shirt, long sleeve cotton work shirt, and other materials.

School(s) offering course: BCAT

WELDING II B8673

(Dual enrollment available)^w

Credit(s): 2

Prerequisite(s): "C" average in
Welding I

Grade level(s): 10-12

In addition to an overview of what was learned in Welding I, the second (360 hours) of the required 1,000 hours will be completed. Students will take the SMAW and GMAW Certification Tests. The students will also be introduced to fluxed core arc welding, plasma cutting, and carbon arc cutting. Participation in SkillsUSA student organization activities is required. This course covers the competencies needed to take the associated certification test. Students must take and pass the AWS certification test in order to receive program completion certification. A certification test registration cost may be required. By passing the test, a student can obtain up to 2 verified credits.

School(s) offering course: BCAT

WELDING III B8674

(Dual enrollment available)^w

Credit(s): 2

Prerequisite(s): "C" Average in
Welding II

Grade level(s): 11-12

Welding III is designed to enhance and refine the skills students learn during the first two years of the program. The final 360 hours of the American Welding Society Certification training will be completed. Students will study track burning and gas tungsten arc welding. Blueprint reading will be covered, and the final skills and written test for certification will be taken. Participation in SkillsUSA student organization activities is required. This course covers the competencies needed to take the associated certification test. Students must take and pass the AWS certification test in order to receive program completion certification. A certification test registration cost may be required. By passing the test, a student can obtain up to 2 verified credits.

School(s) offering course: BCAT

Air Force Junior ROTC

The Air Force Junior ROTC program is available to all high school students in Roanoke County, but all course work occurs at William Byrd High School. If a student is interested in participating in the AFJROTC program, then they must discuss the details of transportation and scheduling with their home school guidance counselor.

AEROSPACE SCIENCE 100 9522N

Credit(s): 1

Prerequisite(s): None

Grade level(s): 9-12

AS 100, *A Journey Into Aviation History*, is a study of man's desire to fly, starting with the first known imaginings of flight and ending with manned space flight and beyond. Students learn about key developments in aviation throughout history, as well as the contributions of flying pioneers. The course includes an introduction to the heritage, organization, and traditions of the United States Air Force. Students also learn the importance of character, citizenship, and fitness.

School(s) offering course: WBH

AEROSPACE SCIENCE 300 9524N

Credit(s): 1

Prerequisite(s): AS 100

Grade level(s): 10-12

AS 300, *The Exploration of Space*, introduces students to the exploration of space, from its beginning to present day space operations. Students learn about the operations and uses of spacecraft and launch vehicles, as well as the orbital mechanics involved in achieving space flight. Hands-on experiments, such as constructing water bottle rockets, help reinforce understanding of these concepts. Students also learn life skills, such as finances, and how to pursue post-graduation opportunities, including searching for a career and enrolling in college.

School(s) offering course: WBH

AEROSPACE SCIENCE 400 9525N

Credit(s): 1

Prerequisite(s): AS 300

Grade level(s): 12

AS 400, *Management of the Cadet Corps*, gives students a chance to apply lessons learned in AS 100 through AS 300 by placing them in key leadership positions in the cadet corps. Students are responsible

for day-to-day operations, as well as planning, organizing, and executing small and large events. Acting as mentors, they guide the new cadets in the basics of drill, wear of the uniform, and customs and courtesies.

School(s) offering course: WBH

AEROSPACE SCIENCE 600 9526N

Credit(s): 1

Prerequisite(s): None

Co-requisite(s): AS 100, AS 300, or AS
400

Grade level(s): 9-12

AS 600, *Advanced Drill and Ceremonies*, provides an opportunity for cadets to build on the basic drill skills learned in AS 100. Cadets learn ceremonial drill, including color guard and flag details, as well as regulation and exhibition marching skills. Armed regulation drill includes manual of arms using M1903 facsimile rifles, while armed exhibition introduces cadets to intricate rifle spins and other maneuvers. Cadets have the opportunity to compete in area, regional, and state drill competitions.

School(s) offering course: WBH

DEVELOPING YOUR CAREER PLAN

DEVELOPING YOUR CAREER PLAN means successfully completing the requirements of the high school curriculum for entry into the world of work AND for post-secondary education.

CAREER PLANNING FOR ALL STUDENTS is a natural and vital part of the Roanoke County Public Schools Comprehensive School Counseling Program. Career awareness activities begin in the elementary years followed by career exploration during the middle school and high school years. It is designed to provide students with a wide range of career opportunities such as: meeting with their counselors to discuss future plans, research projects, career fairs and other exploration experiences.

THE ACADEMIC AND CAREER PLAN (ACP) is a record of academic and career information for each student. Since it is a document that can be used to trace major decisions a student makes, it is a useful tool for educational and career planning. Students complete the portfolio with the guidance and assistance of their parents, teachers and school counselors. The ACP is begun in grades 6 and 7, completed in grade 8 and is updated if needed in grades 9 and 11. Parent(s) and or guardian(s) must sign the plan. Students will take a copy of the completed plan when they graduate. Copies of career information will be retained in the permanent record.

MOST OCCUPATIONS REQUIRE SOME POST-SECONDARY EDUCATION OR TRAINING. There are many opportunities available to the successful high school graduate who has developed a concise career plan for the future. Several factors are considered by colleges and universities when making placement decisions. Priority is given to students with the most outstanding academic credentials and consideration is given to those students who demonstrate the greatest potential for academic success.

ADMISSION COMMITTEES CONSIDER THE FOLLOWING CRITERIA WHEN EVALUATING CANDIDATES FOR ADMISSION

Nature and rigor of course load
Grades in all courses
Progress in grades over time
Performance compared to peers
Involvement in community activities
Volunteerism
Extracurricular activities
Awards and accomplishments

ACADEMIC POTENTIAL IS TYPICALLY ASSESSED, in part, through either the Scholastic Aptitude Test I (SAT I) or the American College Testing (ACT) Assessment. **We recommend that these tests be taken in the junior year and in the fall of the senior year.**

GRADE 6

Take all tests very seriously, particularly the Standards of Learning Tests required for high school graduation.

Talk with parents, teachers and counselors about required courses and electives and, if appropriate, discuss the possibility of Pre-AP courses in English, social studies and science. Make sure the criteria for selection is clear. If continued, these courses enable you to move to more advanced instruction in high school.

Begin to place examples of work and evidence of activities in your Academic and Career Plan.

Take advantage of opportunities to volunteer or work in your neighborhood.

GRADE 7

Take all tests very seriously, particularly the Standards of Learning Tests required for high school graduation.

Talk with parents, teachers and counselors about course requirements. Begin to explore areas of interest through elective courses.

Some students may be eligible to enroll in Algebra I and foreign language in the eighth grade. When successfully completed in grade 8, these courses enable you to move to more advanced instruction in high school. High school credit will be awarded for these courses if they are passed in eighth grade. Grades received in these courses figure into quality point average for high school rank.

Continue to update and add appropriate items to your Academic and Career Plan.

Continue to volunteer and keep a record of your experiences.

GRADE 8

Take all tests very seriously, including the Standards of Learning Tests required for graduation.

When you register for high school, listen to the advice of your teachers, parents and counselors. Make sure your four-year plan for your high school years is up to date. Explore post-secondary education opportunities, investigate several careers and determine entrance/training requirements to help you with your four-year plan for high school.

During the summer, before your ninth grade year, investigate available post-secondary education institutions in your home state and in other states that you visit. Each visit will give you a better idea of the type of school that best meets your goals and the requirements necessary for entrance.

During the summer, before your ninth grade year, investigate volunteer opportunities.

Read! You'll gather valuable information, as well as improve your vocabulary for college entrance exams. Newspapers, books and magazines

provide a wealth of important data and an opportunity to acquire new knowledge and to develop essential skills.

Continue to update your Academic and Career Plan.

Visit Burton Center for Arts and Technology

GRADE 9

Review your four-year plan.

Explore enrichment opportunities.

Volunteer

Get to know your counselor.

Update your Academic and Career Plan

Visit your Career Center.

Read, Read, Read!

Take advantage of opportunities to volunteer.

Visit colleges, postsecondary institutions, and/or places of future employment.

Consider investigating opportunities for

Job Shadowing.

(Job Shadowing means volunteering to spend some time in a workplace of interest.)

GRADE 10

Review and update your four-year plan.

Visit your Career Center.

Attend College Day in the fall.

PSAT testing is available.

Practice completing applications for employment.

Visit colleges, postsecondary institutions, and/or places of future employment.

Stay involved in school and community activities.

Volunteer

Keep a detailed list of accomplishments and activities.

Update your Academic and Career Plan

The tenth grade is the final year to begin a foreign language if you are considering an Advanced Studies Diploma.

Consider Advanced Placement/Dual Enrollment opportunities.

Attend the Roanoke County Financial Aid Meeting.

Attend the College Seminar for parents and students held in the spring.

Consider Burton Center for Arts and Technology

Practice interviewing.

Develop a list of realistic postsecondary choices.

Meet with representatives of post-secondary institutions.

GRADE 11

Attend College Day in the fall.

Take PSAT (this score qualifies for National Merit competition) if planning to take SAT. (October)

Continue to maintain good grades; it is extremely important to do your best.

Attend Ethics in the Workplace Seminar

Take SAT I & II and/or ACT if planning to apply to college.

Volunteer

Become aware of scholarship opportunities.

Update your Academic and Career Plan

Attend the Roanoke County Financial Aid Meeting.

Take the ASVAB when available in your school.

Narrow the list of postsecondary choices.

Visit colleges and postsecondary institutions.

Continue to take Advanced Placement and Dual Enrollment classes

Begin a list of contact persons for future employment.

Consider Burton Center for Arts and Technology and Cooperative Education programs.

GRADE 12

Attend College Day in the fall.

Do job searches. Check your Career Center for assistance.

Volunteer

Attend Ethics in the Workplace Seminar

Narrow your list of postsecondary choices.

Apply to colleges and/or postsecondary programs.

Be aware of deadlines. Meeting deadlines is

YOUR responsibility, not the sole responsibility of your parents or counselor.

Attend the Roanoke County Financial Aid Meeting.

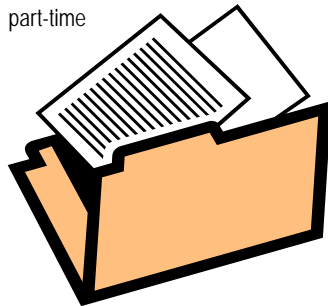
Complete financial aid forms as needed.

Register with the NCAA Clearinghouse if applying for an athletic scholarship.

Visit colleges on your list of final choices; schedule visits through the college admissions office.

Take SAT I & II and/or ACT as required by the colleges of which you plan to apply.

Apply for part-time employment.



NOTE TO PARENTS AND STUDENTS

A half credit of Personal Finance is a graduation requirement for students in grades 11 - 12.

A full credit of Personal Finance is a graduation requirement for students in grades 9 - 10.



