

# Canonsburg Middle School

2016-2017

# Course Catalog





Canonsburg Middle School  
*Expect the Best*



## Seventh Grade Academic Program

### **Band:**

The middle school instrumental music program is an elected course that consists of three major performance ensembles: Concert Band, Symphonic Band, and Stage Band. We also have very active steel drum ensembles that are available for both seventh grade and eighth grade band members.

Students in band have multiple opportunities for enrichment including yearly adjudication trips, exposure to world re-known composers and side-by-side performances with professional musicians. Our instrumental music program also exposes our students to an active music technology program while students are scheduled for band class during their six week general music rotation.

### **CMS Concert Choir:**

The CMS Concert Choir is designed to provide students with an enjoyable and educational learning experience through the musical arts. Students will practice discipline, responsibility, and creativity in structured rehearsals. In Concert Choir, we will learn to sing together in three part harmony, while studying and applying music terms, music reading skills, and proper singing techniques. Students will be exposed to a wide variety of music appropriate for middle school singers. The concert choir will perform in two annual concerts and adjudication festivals will be planned every other year.

Concert Choir members may audition for a smaller ensemble called the CMS Singers. This group rehearses music that is more challenging and appropriate for a small ensemble. CMS Singers receive further instruction in sight-singing and vocal techniques.

### **English:**

English is a course that provides the fundamental building block skills necessary to become fluent writers. Students will build on the writing process and grammar skills learned in elementary school to prepare them for the high school. The course adheres to the Pennsylvania writing standards.

### **Introduction to Languages:**

Students are introduced to the French and Spanish cultures and languages. Through mini-conversations, grammar exercises, and other educational but exciting activities, the

students have an opportunity to decide if learning French or Spanish is the correct course for them throughout high school. The assessments are varied and include verbal, written, and listening tests, as well as various projects. Each student will complete six weeks of *Introduction to French* and *Introduction to Spanish*. The courses are designed to build upon the skills learned at the intermediate level.

### **Language Arts:**

Language Arts 7 focuses on developing a wide range of skills that contribute to literacy. The class includes reading, writing, speaking and vocabulary development opportunities. The goal for each student is to become proficient in reading, composition, listening, understanding, interpreting and researching information. Throughout the year, the students will read a variety of literary pieces. Units include the following: Short Stories (Fiction and Nonfiction), Poetry, Drama, Novels and Mythology.

### **Advanced Language Arts:**

In addition to the curriculum for Language Arts, students in Advanced Language Arts will be challenged and encouraged to use higher-order thinking skills when reading, writing and analyzing literature. They will be given advanced assignments such as including a writing portfolio project, higher-level novel, and high school level vocabulary challenges.

### Prerequisites

Advanced Language Arts is an advanced course, which is reserved for students who:

- Test in the 91<sup>st</sup> percentile on the Terra Nova reading aspect of their sixth grade school year;
- Earn a 4.0 GPA in language arts during their sixth grade school year;
- Demonstrate a strong work ethic (i.e. homework completion and strong independent study skills);
- Sixth grade teacher recommendation;
- Test in the Advanced level on their sixth grade ELA PSSA; and
- Completion the assigned summer independent project.

### **Mathematics:**

#### **Math 7:**

The Math 7 course is designed to meet the seventh grade standards (PA Assessment Anchors). Students learn a variety of skills including: numbers and operations, measurement, geometry, algebraic expressions, probability and problem solving.

## **PA Core Math 7:**

Pennsylvania Core Math 7 is designed to meet the seventh grade PA Core standards. Four critical areas are the focus of the course: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume, and (4) drawing inferences about populations based on samples.

Students who successfully complete this course with a 3.5 GPA or higher, receive teacher recommendation and demonstrate readiness on the Algebra Concepts Readiness Exam will go on to take Academic Pre-Algebra. Students who do not meet these criteria will go on to take Pre-Algebra.

## **PA Core Pre-Algebra 7**

The Pennsylvania Core Pre-Algebra 7 course content is designed to meet the seventh grade PA Common Core State Standards, which include four main areas: ratios and proportional relationships; operations with rational numbers and expressions and linear equations; geometry; and statistics and probability. In addition to all seventh grade content, the course is also designed to meet approximately half of the eighth grade PA Common Core State Standards, which progress to irrational numbers, systems of linear equations, functions; geometry; and bivariate statistics and probability. *This accelerated, or compacted, course consists of one and a half years of content taught in one year.*

Students who successfully complete this course with a 3.25 or better and have the teacher's recommendation will go on to take PA Core Algebra I in the eighth grade. Additionally, students who take PA Core Algebra I at the middle school level will also be required to take and pass a Keystone Exam, which is an end-of-course assessment to evaluate proficiency in high-school level courses. Beginning with the class of 2017, students must demonstrate proficiency on the Keystone Exams to graduate from high school.

### Prerequisites

PA Core Pre-Algebra 7 is an advanced course, which is reserved for students who:

- Test in the 91<sup>st</sup> percentile on the Terra Nova mathematics section during their sixth grade school year;
- Test in the 90<sup>th</sup> percentile on the Terra Nova "Algebra Patterns & Functions" subtest during their sixth grade school year;
- Earn a 4.0 GPA in mathematics during their sixth grade school year;
- Demonstrate a strong work ethic (i.e. homework completion and strong independent study skills);

- Demonstrate readiness for pre-algebra via the Algebra Concepts Readiness Exam (given in the spring only to students meeting each of the criteria listed above);
- Test in the Advanced level on their sixth grade PSSA mathematics section.
- Completion of the summer work packet.

### **Middle School Issues:**

Middle School Issues is a six-week course that meets on a daily basis. The course is designed to better develop the life skills of our students in the areas of effective decision-making, self-esteem, anger management and conflict resolution. The course is taught by the middle school's Guidance Department.

### **Physical Education:**

Physical Education consists of activities to improve fitness and encourage the joy of movement. Lifetime activities will be offered as well as vigorous sports activities and aquatics. Sportsmanship and the value of exercise will be important parts of the class.

### **Science:**

The seventh grade science curriculum is divided into two main units: 1. Cells, Heredity and Classification 2. Environmental Science. The course follows the Pennsylvania Academic Standards for Science. Students are exposed to the following biology, environmental and ecology concepts: cell structure, organisms, natural selection, water cycle, watersheds, wetlands, biodiversity, ecosystems, natural resources and environmental laws and regulations.

### **Social Studies/World History:**

The primary purpose of social studies is to develop the knowledge, skills and attitude necessary for students to gain an awareness of the rights and responsibilities they have as citizens of the world. The social studies program promotes a consciousness of personal, social and cultural advancement and of ethical principles.

Students will develop an understanding of themselves and others, as well as a chronology of history. Students make connections between past, present and future people and events.

Social studies teachers connect curriculum, instruction and assessment to all learners, including students with unique learning needs and identified disabilities. It is the social studies department belief that all students can be prepared to participate meaningfully in a global, interactive society.

## **Five-Week Rotation Classes:**

All seventh grade students follow a five-week rotation block of courses, which includes:

### **Visual Arts:**

In seventh grade, the focus is on developing the student's technique and skill in various mediums. Students will explore how art is defined, why it is valued and understand that art is created for a variety of purposes in numerous forms. Students will develop power of observation and artistic problem solving. The elements and principles of design are included within each lesson. Students will work with medias such as clay, watercolors, drawing tools and printmaking materials.



### **Family and Consumer Science (FACS):**

Students in seventh grade family & consumer science class will be working on three of the family and consumer science academic standards. The first standard is on food safety/sanitation and nutrition and nutrient analysis. Child development is the second standard which will focus on developmental stages and how that affects a child's health and safety. The third standard involves balancing family, work and community responsibility.

### **General Music:**

Seventh Grade General Music is designed to give students a broader understanding of music terms, notes, and symbols, while exploring different styles of music. Students learn about the structure of music and how to read basic notes and rhythms. Students learn about musical theater, opera, and the instruments of the orchestra. We also explore the time periods of music from the past until today, and explore the lives and music of significant composers. Through this course, students discover the significant impact of music on their lives, our society, and our world, and develop a greater appreciation for and understanding of music.

### **Research & Writing**

All seventh grade students will rotate through this introductory course with a focus on evaluating credible online resources and develop an understanding of report writing using citations and references.

## **Design & Analysis:**

Seventh grade students are introduced to basic multi-view drawing techniques, which incorporate the use of CADD to complete three specific drawings. Students also use the West Point Bridge Designer to build and simulate a bridge design, calculate for material use and scale reduction and finally draw a complete set of working plans to build their test bridge. During the construction phase of the bridge project, students learn about types of wood joints, tension and compression principles and team work skills. Finally students will see their final design destructively tested and will have the opportunity to analyze how the structure performed as compared to their simulated design when creating their final analysis report from video taped testing.



## **Materials Fabrication**

Students manufacture a folding stool in a manufacturing enterprise setting. They learn the difference between custom, mass and just-in-time manufacturing. They calculate material and production costs of the product. During this production run, students are introduced to a variety of machines and uses through the means of jigs and fixtures. Students learn about automated production through the use of a Computer Numeric Control (CNC) router.



## **Interactive Digital Design**

Seventh grade students are provided with an overview of several areas of technology that will affect their lives. The course begins with a discussion of Internet safety, including aspects such as disclosing personal information, netiquette, and cyberbullying. Online research is covered in regards to finding reliable resources for a specific topic. Much of the research for this class is done using the Grolier Online Encyclopedia, a service subscribed to by the school district and available at every computer in the school. The information that is gathered through the online research is summarized using Microsoft Power Point and the finished slide shows are presented to the class. The final component of this course is an introduction to programming. Students are given a basic overview of what programming is and what its applications can include. During the programming unit, students will use reverse engineering and discovery learning to analyze and program a basic video game using Game Maker 7, a video game design software package.



# **Eighth Grade Academic Program**

**Band:**

The middle school instrumental music program is an elected course that consists of three major performance ensembles: Concert Band, Symphonic Band, and Stage Band. We also have very active steel drum ensembles that are available for both seventh grade and eighth grade band members.

Students in band have multiple opportunities for enrichment including yearly adjudication trips, exposure to world re-known composers and side-by-side performances with professional musicians. Our instrumental music program also exposes our students to an active music technology program while students are scheduled for band class during their six week general music rotation.

Students who earn a “B” average in band as a seventh grader will be permitted to take this elective course in eighth grade.

**Choir:**

The CMS Concert Choir is designed to provide students with an enjoyable and educational learning experience through the musical arts. Students will practice discipline, responsibility, and creativity in structured rehearsals. In Concert Choir, students will learn to sing together in three part harmony, while studying and applying music terms, music reading skills, and proper singing techniques. Students will be exposed to a wide variety of music appropriate for middle school singers. The concert choir will perform in two annual concerts and adjudication festivals will be planned every other year.

Concert Choir members may audition for a smaller ensemble called the CMS Singers. This group rehearses music that is more challenging and appropriate for a small ensemble. CMS Singers receive further instruction in sight-singing and vocal techniques.

**English:**

Eighth grade students will build upon the skills learned in English and Language Arts 7. The course will focus on critical reading and analysis of short stories, novels, poetry, and drama. Students will also continue to use the writing process and grammar skills. An emphasis is placed on multi-paragraph writing, including narrative, persuasive and research papers.

**Advanced English:**

Advanced English 8 is a continuation of the accelerated and more challenging literature curriculum of Advanced Language Arts 7 and also builds upon the writing skills learned in novels, poetry, and drama. Students will also continue to use the writing process and grammar skills. An emphasis is placed on multi-paragraph writings, including narrative, persuasive and research papers.

### Prerequisites:

- $\geq 3.25$  in Advanced Language Arts
- $\geq 3.5$  in English 7
- $\geq 95\%$  Homework completion
- Advanced on ELA PSSA
- Teacher Recommendation
- Completion of Assigned Summer Independent Reading Project

### **Health:**

Health class consists of five standards-based units. The units include: Alcohol, Drugs, First Aid, Internet Safety and a Health-Related Research Project. Students take this course every day for a six-week period.

### **Languages:**

Students must demonstrate an above average ability in seventh grade (both in the areas of language and reading) in order to elect to take a language in eighth grade. Criteria includes: 1. Overall 3.0 GPA 2. 3.0 GPA in Language Arts. 3. "B" average in their Introduction to Language classes. 4. Advanced or Proficient on the PSSA Reading.

#### **French I:**

French I - An extension of Intro to French, students who qualify and decide to take French I will build up their knowledge of francophone (French speaking) culture and the French language. Students will participate in similar activities as Intro. to French, but they progressively become more difficult over time. Assessments include various verbal, written, and listening tests, as well as various projects. Some projects include: Family Album, French Calendar, & a Mini-Movie.

#### **Spanish I:**

Spanish I students take a proactive approach to language learning, communicating effectively through speech and writing in the target language. Basic elements are revisited and improved upon, while more complex grammar, vocabulary and cultural material are introduced. The Spanish I class gives students the strong language background necessary to continue toward bilingualism.

### **Language Arts 8**

Language Arts 8 is a continuation of Language Arts 7. The class includes reading, writing, speaking and vocabulary development opportunities. The goal for each student is to become proficient in reading, composition, listening, understanding, interpreting and

researching information. Throughout the year, the students will read a variety of literary pieces. An emphasis of differentiated instruction allows for more of a more personalized approach to assist the students in becoming proficient readers.

## **Mathematics:**

### **Pre-Algebra 8 - Academic**

Pennsylvania Core Math 8 is designed to meet the eighth grade PA Core Standards and prepare students for high school Algebra I. Students will go in-depth with four critical areas of the course: (1) formulating and reasoning about expressions and equations, including modeling and association in bivariate data with linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and –three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

Students who successfully complete the course with a 3.0 or better and teacher recommendation will be eligible to take Algebra I at the high school. Students who do not meet these criteria will go on to take Algebra IA at the high school.

### **Pre-Algebra 8**

Pre-Algebra 8 is designed to meet the eighth grade PA Core Standards. The focus of the course will cover essential areas of: (1) formulating and reasoning about expressions and equations, including modeling and association in bivariate data with linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and –three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

Students who successfully complete the course will go on to take Algebra IA at the high school.

### **PA Core Algebra I – 8**

Algebra I is available to all students who have successfully completed seventh grade PA Core Pre-Algebra 7 with a 3.00 or better. This **high school level course** includes solving equations and inequalities, ratios and proportions, linear functions and linear equations, exponents, polynomials and factoring, and radical expressions. All eighth grade Pennsylvania core standards for mathematics, not inherently within the course, will also be addressed. Such concepts as: translations, reflections, rotations, the Pythagorean Theorem, dimensional

analysis, plane geometry, and data analysis. *This accelerated, or compacted, course consists of one and a half years of content taught in one year.*

Students who successfully complete this course and have the teacher's recommendation will go on to take Algebra II in the ninth grade.

### **Physical Education:**

Physical Education consists of activities to improve fitness and encourage the joy of movement. Lifetime activities will be offered as well as vigorous sports activities and aquatics. Sportsmanship and the value of exercise will be important parts of the class.

### **Science:**

This is a general science course in which the content and procedures of instruction have been aligned to the Pennsylvania Academic Standards for Science, Environment and Ecology. The course includes selected topics in physical science and earth science to provide the student with a broad background from which they can choose high school science courses.

### **Social Studies:**

Eighth grade social studies is divided into two areas of study: Civics and Pennsylvania History. One semester of the school year is devoted to examining the meaning of citizenship. Students will also develop an understanding of our government, while recognizing the influence of historical events and documents. During the study of Pennsylvania History, focus will be placed on the physical geography and historical events associated with our state.

### **Five-Week Rotation Classes:**

All eighth grade students follow a five-week block of courses that rotate every seven weeks:

### **Visual Arts:**

In eighth grade art a more student directed approach is used where lessons will revolve around student personalities, interests, beliefs and ideas. Style, media, inspiration will be explored and students will have the benefit of more choices and decision making so as to begin to discover their own particular style as an artist.



### **Family and Consumer Science (FACS):**

Students in the eighth grade will be developing their skills in the area of financial and consumer education. This will include consumer rights and responsibilities, resource management and being a wise and informed shopper.

### **General Music:**

Eighth Grade General Music is designed to give students a broader understanding of music terms, notes, and symbols, while exploring different styles of music. Students learn about the structure of music and how to read and notate music on the staff. Students study Jazz music and related forms, such as the Blues and Ragtime, and the unique techniques used in these styles, as well as famous musicians. We also explore various music careers and the many ways that music impacts our lives, our society, and our world. Through this course, students develop a greater appreciation for and understanding of music.

### **Speech & Debate:**

*New to 2016-2017!* This five-week course will focus on essential skills needed to present information to a group audience, as well as, acquire argumentative research and debating skills.

### **Automation and Robotics:**

The automation class will be utilized to introduce eighth grade students to the basics of robotics movement including radio control and autonomous behavior. The course will apply science and physics concepts including calculating gear ratios, speed, torque and power. Once students understand basic robotic movement and structure, they will then begin programming using Robot C programming language. Students will use Robot C to program the robots to behave autonomously using feedback signals from various types of sensors. Students will then program these robots to perform different tasks. The second form of automation students will explore is CNC (Computer Numeric Control). Students will begin the CAM (Computer Aided Manufacturing) curriculum by first creating the CADD (Computer Aided Drafting and Design) drawings and then toolpathing them, a process in which the lines of the drawing are converted to the cutting path that the machine will follow. All students get the opportunity to see the process through the completion of an engraved clock face on the CNC router.



### **Digital Systems and Electronics:**

Eighth grade students begin their 30-day rotation with an introduction to web design and HTML coding. Students develop graphics, animations and embed music to create personal interest web sites. The second part of the class introduces students to a brief history of computers and the technology that makes them work. Students move on to parts of the computer, their purpose and how they work together. Finally students construct an entire machine from parts and install an operating system. This portion of the class is based on the A+ technician's certification.



### **Creative Design:**

In eighth grade, students learn about scanning and editing digital photographs using Adobe Photoshop Elements 3. Students then use Microsoft Publisher to complete a variety of desktop publishing projects, including flyers and brochures. Students learn how to incorporate digital images into their projects. The communication process is discussed as it relates to graphic communication as well as other forms of communication familiar to middle school students. The elements and principles of design are discussed as they relate to the projects that the students complete. Students are encouraged to help each other with design and technical issues throughout the course.



### **Team Oriented Problem Solving (T.O.P.S.):**

Team Oriented Problem Solving (T.O.P.S.) is a mathematics-based course directed to expose students to logic-building skills. All students are required to complete this six-week course in eighth grade. Students are active learners in TOPS by demonstrating meaningful work in class that can be applied to real-life situations. Students are exposed to a variety of open-ended problems and discovery learning (inquiry) is the key instructional approach. Students work in cooperative groups and demonstrate proficiency through a number of proven problem-solving strategies. Students also explore the relationship between mathematics and computational thinking by going through a series of coding-type exercises. *The TOPS course and concept was acknowledged by the Pennsylvania Association of Elementary and Secondary School Principals for its creative approach in preparing students to "think out of the box."*



**Courses identified with  are part of our Innovation Studios suite of courses where students are exposed to a variety of courses based on Science, Technology, Engineering, Art and Mathematics (STEAM) learning opportunities.**