

MIDDLE SCHOOL COURSE DESCRIPTIONS

GRADE 7

MATHEMATICS

Math 7

This course builds upon the Math 6 course and continues to address five areas of the PA Core Standards: The Number System, Ratios and Proportional Relationships, Expressions and Equations, Geometry, and Statistics and Probability. There are four major focus areas: (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 will learn the mathematical content through the application of the eight Standards for Mathematical Practice.

Pre-Algebra

This course builds upon the Math 7 course and addresses five areas of the PA Core Standards: The Number System, Expressions and Equations, Functions, Geometry, and Statistics and Probability. There are three major focus areas: (1)formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the content of a function and using functions to describe quantitative relationships; and (3)analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem. Students will learn the mathematical content through the application of the eight Standards for Mathematical Practice.

Algebra I

Basic to an understanding of the technical innovations in our society, Algebra I is the first of the math courses geared toward higher education. This course includes a systematic in-depth study of variables, rational numbers, solving equations and inequalities, relations and functions, linear equations and their graphs, systems of equations, exponents, polynomials and factoring, quadratic equations, statistics, and rational expressions. An understanding of the basic computational skills as applied to the rational numbers (whole numbers, fractions, decimals, and integers) is assumed. Problem solving and real world application are emphasized.

Geometry (Prerequisite – Algebra I)

The purpose of this course is to show the strong student of mathematics how to make the transition from intuitive to demonstrative geometry, and then transfer the procedures learned into effective patterns of thinking. Students develop effective patterns of thought through the study of logical patterns of thinking. An in depth study of the theories of geometry and their development is presented. A

mathematical system using the concepts of two- and three-dimensional geometry is developed. The scope of the course includes patterns and inductive reasoning, measurement, reasoning and proof, parallel and perpendicular lines, congruent triangles, relationships within triangles, quadrilaterals, similarity, right triangles and trigonometry, transformations, coordinate geometry, area, surface area and volume, and circles. Problem solving and real world application are emphasized. Practical problems using algebraic computations are routinely included.

READING / ENGLISH LANGUAGE ARTS

ELA 7 / ELA 7 Honors

This course integrates reading, writing, speaking and listening to develop students' literacy skills. The reading portion of this course emphasizes skill development in comprehension and reading response by applying academic vocabulary and higher level thinking through the examination of contemporary literature and authentic expository articles. Through the analysis of authentic writing, students develop listening, speaking and writing skills through a variety of writing assignments that incorporate and reflect this analysis. The writing curriculum emphasizes focus, content, organization, style and conventions.

Honors students must be self-motivated and willing to challenge themselves to engage in the units of study independently, as well as work effectively within a group dynamic. There will be extensive classroom discussion in both whole group and small group formats. Furthermore, there will be extensive reading and writing required outside of the classroom in order to extend the learning. Students will be expected to produce writing pieces that show a sophisticated and engaging use of writing components such as varied syntax, precise diction, organizational strategies, and figurative language.

SCIENCE

Science 7

This course is designed to give students a background in general science by successfully completing various scientific activities. Students are introduced to and use basic scientific apparatus. Major units of study include Diversity of Life, Heredity and Adaptation, Populations and Ecosystems, Human Systems Interactions, and Astronomy.

SOCIAL STUDIES

Social Studies 7

Students study cultures and empires which spanned the world from Asia to China, from the Americas to the Middle East, and from Medieval Europe through the Renaissance and the Scientific Revolution. Political, Economic, Religious, Social Relationships, and lasting Ideas and Arts (PERSIA) are the focal points of study for these historical periods, with additional emphasis on geography and social studies skills.

WORLD LANGUAGE (Core Courses)

Note: Students will be invited to participate in a level 1 world language course. In place of the block ELA class, they will have a single period of ELA Honors and a single period of level 1 World Language daily.

Mandarin 1

This proficiency-based course is intended for students who are beginning their study of Mandarin. This course requires active participation from each student as he/she develops written and oral communication skills and reading comprehension skills. The course introduces basic conversational vocabulary, simple grammar, and basic tenses. Students are introduced to the culture and geography of countries where Mandarin is the native language.

Spanish 1

This proficiency-based course is intended for students who are beginning their study of Spanish. This course requires active participation from each student as he/she develops written and oral communication skills and reading comprehension skills. The course introduces basic conversational vocabulary, simple grammar, and basic tenses. Students are introduced to the culture and geography of countries where Spanish is the native language.

WORLD LANGUAGE (Elective Courses)

Note: Students may choose one of the following world language electives below.

Exploring Spanish 7

In Exploring Spanish, students will study the Spanish language in preparation for full year language study. This course requires active participation from each student as he/she develops written and oral communication skills in the target language. The course reviews and expands upon basic conversational vocabulary, simple grammar, and basic tenses. Students are introduced to the culture and geography of countries where Spanish is the native language.

Exploring Mandarin 7

This course is designed for 7th graders who have minimal or no prior knowledge of the Chinese language and culture. It aims to foster students' understanding and appreciation of the target language and culture and build a solid foundation for further Mandarin studies. Students will be introduced to the basics of Mandarin with a focus on oral proficiency. Upon completion of this course, students will be able to communicate in the target language on some familiar topics and replicate several dozen Chinese characters.

ART

Art 7

Students will expand on the foundation built throughout their elementary and sixth grade art courses. They will continue developing their art skills through creating two-dimensional and three-dimensional works. Two-dimensional work may include painting, collage, drawing, digital design. Three-dimensional projects may include ceramics and various sculptural techniques. Students will develop increasingly sophisticated creative strategies and habits of mind through these artistic experiences.

BUSINESS AND INFORMATION TECHNOLOGY

Computer Literacy 7

Throughout the unit, students learn about programming for the physical world by blending hardware design and software development, allowing students to discover computer science concepts and skills by creating personally relevant, tangible, and shareable projects. The course is separated into two major units, Unit 1 JavaScript and Unit 2 Project Lead The Way Innovators and Makers. Unit 1 . As part of the middle school Related Arts experience students in 7th grade will develop skills in JavaScript programming language. Students will focus on the basic layout and shape codes to create authentic designs. These basic skills will be the foundation to developing animations and advanced coding skills. Unit 2, Project Lead The Way Innovators and Makers. by creating personally relevant, tangible, and shareable projects. Throughout the unit, students will learn about programming for the physical world by blending hardware design and software development (continuing to use JavaScript language). They will design and develop a physical computing device utilizing the Microbits, code, and any other physical materials to design real life applications.

FAMILY AND CONSUMER SCIENCE

Family and Consumer Science 7

Family and Consumer Science 7 is a course where students are challenged to improve the quality of individual, family, and community life through activity based learning. Students explore the world of nutrition and participate in foods' lab experiences to complement what they are learning. Students explore the area of child development, learning about how infants, toddlers, and preschoolers develop. This is a great way to help students prepare for caring for siblings or babysitting. In addition, students learn about careers and financial matters through a program called Junior Achievement. This learning occurs through a variety of hands-on activities.

HEALTH AND PHYSICAL EDUCATION

HPE 7

Health and Physical Education 7 focuses on the physical development of each student. A healthy body and positive attitude toward physical activity are stressed. Students engage in activities to build their decision-making skills in Drug and Alcohol Prevention, and Stages of Growth & Development. In Physical Education, students will participate in the following types of activities: invasion games, net/wall games,

cooperative games, rhythm and gymnastics, field games, and fitness activities.

MUSIC

General Music 7 (for non-band/chorus students only)

The students will experience listening to and as well as performing on a general music instrument some famous melodies from the history of music beginning with the Medieval Period up to and including the 20th Century. In this 45-day course of study, the student will become familiar with the historic period or genre, composers, styles, and the aesthetic response for each musical selection. The students will experience performing on a simple general-music instrument some historic melodies by engaging in music code, meaning the reading of notes and rhythms applied to the proper technique that is required to perform on an instrument.

Instrumental Music 7 (Band)

The focus of Symphonic Band is to further develop the skills introduced in the previous year. Students in Symphonic Band perform more advanced and challenging music and strive for a higher level of mastery of the instrumental music learning targets, especially in the areas of rhythm and technique. Symphonic Band students are eligible to audition for Jazz Band. Students will be selected for Symphonic Band through audition only, held at the end of the previous school year.

Beginning Band Instruments (Band)

Do you fall into one of these 4 categories?

1. Have never played a band instrument but want to try?
2. Played a band instrument 1 or more year(s) ago (elementary school) and stopped, but want to try again?
3. Switched to a new band instrument coming into 7th grade?
4. Want to learn a secondary instrument?

This class will help brand new band students to learn or re-learn a band instrument with the goal of auditioning into one of Strayer's three bands the next school year. This is a year-long class that meets every other day. Students must already own or rent their own band instrument if choosing flute, clarinet, alto saxophone, trumpet, or trombone. Oboes, bassoons, tenor saxophones, baritone saxophones, french horns, euphoniums, and tubas will be provided by the school and will be capped based on instrument availability. Zero musical background required!

Vocal Music 1 (Chorus)

This course is for students who have not taken chorus at Strayer yet and this would be their first time in Chorus at Strayer. The course provides students the opportunity to study vocal skills and techniques in an organized group instruction format. Sacred and secular music of all historical periods and styles are studied and performed during winter and spring concerts. Students learn many phases and techniques of singing which will aid each chorus member to make the most expressive use of his/her voice in a performance format. Basic conducting skills, sight singing, part singing, ear training, exercises and

proper vocal techniques are applied to a rehearsed and performed repertoire.

Orchestra Level 1

This class will help brand new orchestra students learn an orchestra instrument (violin, viola, cello, or bass) with the goal of joining Level 2 Orchestra next school year. The Level 1 Orchestra class may also be ideal for those already with experience but who may need a review and reinforcement of music reading, playing fundamentals and technique that are vital for lasting musical development. This is a year-long class that meets every other day. Students must already own or rent their own orchestra instrument. Students learning cello and bass are not required to transport the instrument to school for orchestra class. Cellos and string basses will be provided for use in class by the school and will be capped based on instrument availability. Cello and bass students are required to bring their instrument from home for concert performances.

Orchestra Level 2

Level 2 Orchestra is offered to students who play an orchestra instrument (violin, viola, cello, or bass) that participated in Orchestra (Strings) last school year. This is a year-long class that meets every other day. Students will advance on their instrument and learn how to be an ensemble player in a String Orchestra setting in order to perform in the Winter and Spring Concerts. Students are afforded additional instruction on their instruments through regularly scheduled sectional rehearsals several times per marking period. Students must already own or rent their own orchestra instrument. Students learning cello and bass are not required to transport the instrument to school for orchestra class. Cellos and string basses will be provided for use in class by the school and will be capped based on instrument availability. Cello and bass students are required to bring their instrument from home for concert performances.

TECHNOLOGY EDUCATION

Design and Modeling 7

Design and Modeling 7 is the first of two foundational courses in the Project Lead the Way Gateway program. Students will apply the engineering design process to solve problems and understand the influence of creativity and innovation in their lives. Students will learn measuring, sketching, and dimensioning skills to help design individual projects. They will work in a design team to transfer a simple hand sketch of a design into a three-dimensional model to turn a 2 dimensional designs into a 3 dimensional projects. Students will learn to design in multiple vector based programs. Students will also learn the XYZ coordinate systems that our machines run off of. Machines used may include Laser Engraver, 3D printer, and/or CNC router.