



2024-2025
GMS Course Descriptions

A School for the Mind; a Home for the Heart

Welcome to Grand Mountain School for the 2024-2025 School Year!

We are very excited that your child will be a Grand Mountain Maverick in the fall! The human growth and character development of students, along with their academic achievement, will always be our focus. We recognize the importance of providing students with experiences to develop other interests outside of the required core subjects. Every student will take computer science/coding instruction as it is the focus of the innovation status of our school. In addition to our core program and computer science offerings, we also offer a variety of electives and extracurricular activities available to all students.

All middle students will have 7 instructional classes per day: 4 core courses (math, science, language arts, and social studies), 2-4 electives (depending on length of course), and 2 computer science courses (per semester) with a 30 minute lunch. Sixth grade students will be enrolled in 2 semester-long computer science foundation courses (CS Express and Web Design). All students will receive an advisory class (35 minutes) at the end of each day. If the spring data shows your child with a deficit in reading or math, they may be required to participate in a reading and/or math intervention class which may require schedule changes.

The GMS staff and administrators work hard to ensure students are able to participate in courses they have chosen. Unfortunately, not all classes chosen will be scheduled due to course scheduling conflicts, class and/or seating availability. In addition, we would like to remind you:

- Schedule change requests will be available for the first two days of school. Any schedule change requests after this week will require very specific reasons and approval by the administration. Please understand all schedule change requests may not be granted due to scheduling conflicts, class and/or seating availability.
- All GMS students are required to take two semester-long computer science classes annually. GMS is “a school of computer science integration & innovation” and is focused on creating 21st century learners.
- Students are offered four elective classes during a school year. Electives are semester- and/or year-long courses. Year-long electives, such as orchestra, choir, and band take two semester-long elective spots. *Year-long electives will not be changed at semester.*
- Students can take a choir class and an instrument class (both are year-long courses) for an academic year. However, students will not be able to take two instrument classes during the academic year UNLESS AUTHORIZED BY THE TEACHER AND ASST. PRINCIPAL OR PRINCIPAL.
- Course descriptions are available below.

We appreciate you allowing us the opportunities to teach and support your children with their academic and personal growth. We look forward to the beginning of a new academic year.

Sincerely,

GMS Administration

The Course Description Booklet was developed to assist in planning for a successful middle school experience. It provides brief descriptions of the courses offered and information regarding student expectations at Grand Mountain Middle School (GMS). Students should read the requirements and course descriptions carefully with parents /guardians before selecting courses. Course choices should be based upon, teacher recommendations, interests and abilities, post high school plans and areas of strengths.

Courses listed in this guide may not be offered depending upon the availability of the course. If the number of students requesting a course is insufficient, or if the class has reached full capacity before the student applies, the next available course will be selected.



Core Course Descriptions

ENGLISH LANGUAGE ARTS

6th Grade English Language Arts

The 6th grade English/Language Arts course provides a balance of reading, writing, speaking, listening, and language skills. This year we will read and analyze a variety of texts covering a multitude of genres. These novels and genres include but are not limited to: *Bud, Not Buddy*, *Where the Red Fern Grows*, *A Wrinkle In Time*, short stories, fiction texts and non-fiction texts. Students will progress through the writing process by planning, revising, editing, and publishing specific types of writing. Our writing focus includes: informative/explanatory essays, argumentative essays, narrative essays, journal writing and timed responses. Throughout the year, the students will work independently, in small groups, and in whole group settings. The students will also be expected to present information to their peers.

7th Grade English Language Arts

In this course, students will delve into a variety of literary genres, including fiction, non-fiction, poetry, and drama to strengthen their reading comprehension and critical thinking skills. Through close reading, analysis, and discussion, students will explore themes, characters, and literary devices in both classic and contemporary texts. Additionally, students will hone their writing abilities through structured lessons focusing on grammar, vocabulary, and composition, culminating in creative and analytical writing assignments.

8th Grade English Language Arts

You are about to embark on an adventure. In this class you will explore the human experience through literature, gain skills to tackle complex texts, discover ways to communicate through writing, and have some fun along the way.

MATH

6th Grade Math

In this course, instructional time will focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking. Students will use reasoning about multiplication and division to solve ratio and rate problems about quantities.

7th Grade Math

In this course, instructional time will focus on four critical 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.

8th Grade Math

This course is designed to provide students with the continued opportunity to develop an understanding of algebraic concepts, leading to taking Algebra I in high school. Students will develop the ability to explore and solve real-world application problems. Emphasis is placed on operations with rational numbers, solving algebraic equations, and understanding linear, exponential, and quadratic relationships through tables, graphs, and equations. Within the designation of the Colorado State Standards the course will also address focal points in expressions and equations, functions, geometry, and statistics and probability, with the application of these skills and concepts in a problem-solving context.

7th Grade Advanced Math

This course is designed to provide students with the continued opportunity to develop an understanding of algebraic concepts, leading to taking Algebra I in high school. Students will develop the ability to explore and solve real-world application problems. Emphasis is placed on operations with rational numbers, solving algebraic equations, and understanding linear, exponential, and quadratic relationships through tables, graphs, and equations. Within the designation of the Colorado State Standards the course will also address focal points in expressions and equations, functions, geometry, and statistics and probability, with the application of these skills and concepts in a problem-solving context.

Algebra 1

Grade: 8

This course is designed to provide students with the opportunity to develop an understanding of algebraic concepts, leading to taking Algebra 2 in high school. Emphasis will be placed on solving for variables, algebraic expressions, equations, inequalities, functions, and all their multiple representations. In this class, students will develop the ability to explore and solve real-world application problems, demonstrate the appropriate use of graphing calculators, and communicate mathematical ideas clearly within the designation of the Colorado State Standards. This course lays the foundation for mathematical literacy that will help students be successful in every subsequent course in mathematics.

SCIENCE

6th Grade Science

The 6th grade science curriculum follows the Next Generation Science Standards (NGSS). Six graders will explore the following topics: ecosystems, food webs/cycles, classification, living and non-living cells, properties of matter, physical/chemical changes, kinetic/potential energy, sun, earth, moon, water cycle, oceans, rocks, minerals, erosion, deposition, and Earth's Atmosphere.

7th Grade Science

The 7th Grade Science Curriculum follows the Colorado Department of Education Science Standards. Seventh grade students will explore the following topics: the scientific method, Matter: atoms and elements, force and motion, waves, cells, tissue, organs and body systems, DNA, mutations, adaptations, evolution, plate tectonics, weather, the solar system, natural resources, and global warming.

8th Grade Science

The 8th grade science curriculum follows the Colorado Academic Science Standards. Science and Engineering practices are used and we explore the following topics: chemical reactions, deep space, geologic time, heredity, human impacts on the environment, light and sound waves, forces at a distance, climate, photosynthesis and respiration and populations.

SOCIAL STUDIES

6th Grade Social Studies

Explore diverse cultures, landscapes, and landmarks as we delve into continents, countries, and climates. Through interactive lessons, maps, and discussions, students will develop a deeper understanding of our interconnected world and their place within it.

7th Grade Geography

In this seventh-grade world geography course, students will explore the diverse cultures, landscapes, and ecosystems of our planet. Through interactive lessons, engaging activities, and thought-provoking discussions, students will develop a deeper understanding of global geography and its significance in our interconnected world.

8th Grade Early American History

Eighth grade U.S. history is a comprehensive study of the key events, themes, and figures that shaped the nation from colonization through the Civil War and Reconstruction. We study U.S. history in order to know the past, engage in the present, and impact the future.

GMS Course Descriptions Year-Long Electives

Advanced 2D Art (*Portfolio application and/or teacher recommendation only*) **Grades: 7, 8**

Digital or physical artist portfolios consist of 3+ quality original works completed within the last calendar year. Upon portfolio review and/or teacher recommendation, students will be enrolled in a year-long Art elective, focusing on primarily 2D techniques to build skill and discipline during the first semester and participate in an independent study in the second semester to add 5+ quality works to add to their existing portfolio. Artists will participate in the District Art Fair, visit district high school art programs, and learn how to create, label, and display their work consistent with industry standards.

Advanced Band

Grade: 7, 8

Students work on advanced skills as an extension of what they learned in previous years of band class. This is a year-long course that is performance-based. Students are expected to participate in scheduled evening concerts as part of the requirements for advanced band. There is also a financial obligation to rent/purchase an instrument. Participation as a 7th grader requires teacher recommendation. **Students must have successfully completed Beginning/Intermediate Band or have approval from the teacher to register for this course.**

Advanced String Orchestra

Grade: 7, 8

The Advanced Orchestra is for students who would like to expand their skills on the violin, viola, cello, or bass. Students will learn more challenging music and techniques than in Intermediate Orchestra. Practice time is expected to be completed. Musicianship skills learned in previous years of orchestra class will be built upon and expanded to a much higher level. Practice time is a must. This course is performance-based and students are expected to participate in scheduled evening concerts as part of the requirements for the course. There is also a financial obligation to rent/purchase an instrument, concert uniform, method book, and all necessary additional supplies. Participation as a 7th grader requires teacher recommendation. **Students must have successfully completed Beginning/Intermediate Orchestra or have approval from the orchestra teacher to register for this course.**

Beginning Band

Grade: 6, 7, 8

Beginning band is for students who want to learn a band instrument for the first time, as well as those who have already played a band instrument in elementary school. The focus is on basic musicianship skills such as note reading, tone, embouchure, dynamics and specific instrument technique. This is a year-long course that is performance-based. Students are expected to participate in scheduled evening concerts as part of the requirements for the course. There is also a financial obligation to rent/purchase an instrument. Please specify on your schedule request if you are interested in brass/percussion or woodwinds.

Beginning Choir

Grade: 6, 7, 8

Students will be exposed to varied choral literature geared toward the ability levels of the students. Emphasis will be placed on basic musicianship and reading skills. A variety of styles of music will be used in Beginning Choir. This course is performance-based and students are expected to participate in scheduled evening concerts as part of the requirements for the course.

Beginning Orchestra

Grade: 6, 7, 8

Beginning Orchestra is for students who want to learn violin, viola, cello, or string bass for the first time, as well as those who have already played one of these string instruments in elementary school. The focus of Beginning String Orchestra is on musicianship skills such as note reading, tone, position, dynamics and specific instrument technique. This is a year-long course that is performance-based. Students are expected to participate in scheduled evening concerts as part of the requirements for the course. There is also a financial obligation to rent/purchase an instrument, concert uniform, method book, and all necessary additional supplies. Please specify if you are interested in low strings or upper strings on your schedule request form.

Beginning Spanish (7th grade only)

Grade: 7

This class is for 7th grade students who have taken Exploring Spanish I and will be on track to take Spanish I in 8th grade and Spanish II their first year of high school. Students will learn the four basic skills of Spanish; reading, writing, speaking and listening, as well as the cultural aspects of the Spanish speaking world. This is a more language intense class focused on building conversational Spanish and grammar structures. This is the first part of the high school "Spanish I" credit.

Drama

Grades: 6, 7, 8

This Theatre/Drama course is designed to introduce young learners to the world of theater in a holistic manner that encourages all students to learn and grow in diverse areas including performance, design and technical fields. The class is a year-long course that is meant to establish a foundation for students to build on as they pursue the craft in later years or to expand their thinking as they move through other classes. ***Students will be required to participate in a play performance at the end of the school year.***

Intermediate Band

Grades: 7, 8

Students work on intermediate skills that build upon what they learned in Beginning Band and/or sixth grade band. This is a year-long course that is performance-based.. *Students are expected to participate in scheduled evening concerts as part of the requirements for intermediate band. There is also a financial obligation to rent/purchase an instrument.* ***Students must have completed Beginning Band to register for this course***

Intermediate Orchestra

Grades: 7, 8

The intermediate string orchestra is for students who would like to expand their skills on the violin, viola, cello, or bass. Students will learn more challenging music and techniques than in Beginning Orchestra. Practice time is expected to be completed. *This course is performance-based and students are expected to participate in scheduled evening concerts as part of the requirements for the course. There is also a financial obligation to rent/purchase an instrument, concert uniform, method book, and all necessary additional supplies.* ***Students must have completed Beginning Orchestra to register for this course.***

Jazz Band

Grades: 7, 8

In Jazz Band students will be exposed to the jazz styles of rock, swing and Latin. Improvisation and combo technique will also be taught. The student must be a part of the intermediate or advanced band in order to take Jazz Band. *This course is performance-based and students are expected to participate in scheduled evening concerts as part of the requirements for the course. There is also a financial obligation to rent/purchase an instrument.* ***Students will need to have at least one year experience on their instrument and Teacher recommendation.***

KGMS-Maverick Minutes

Grades: 7, 8

Students must complete an application for this course. All decisions are made by the teacher.

This year-long course will produce the news for Grand Mountain School. Among other things, students will learn skills in interviewing, scriptwriting, public speaking, photography, design and layout, video editing, post news production technology, digital citizenship, and student press and copyright laws. This course may require students to work on projects outside of the regular class period. Average typing skills, fundamental computer knowledge, and basic photography and design skills are desired. Because the news will be broadcast publicly, students will need to apply and have permission to be published online.

Mixed Choir**Grades: 6, 7, 8**

Mixed choir offers the opportunity for students to concentrate on vocal skills learned in previous choirs and music classes, but to a higher degree. A variety of styles will be used at a level of difficulty designed to challenge the students. This course is performance based. Students are expected to participate in scheduled evening concerts as part of the requirements for the course. **Students must have completed Beginning Choir to register for this course. Sixth Grade students can be recommended to this choir only by the director.**

Publication and Design**Grades: 7, 8**

Students must complete an application for this course. All decisions are made by the teacher.

Students work to complete the GMS yearbook which includes: interviewing students, investigating, reporting, and capturing images. We learn online software through InterState Studio and also market and advertise its sale. We track sales and talk about the "business" of selling the yearbook. We also learn how to properly layout pages, spacing, creating headlines and sticking with a theme. The yearbook is a student produced, 80 page book that brings memories back to all Grand Mountain students in future years.

Reading Workshop (recommended placement)**Grades: 6, 7, 8**

In a specialized course designed to support struggling readers, students will learn to break words down into smaller components, including prefixes, root words, and suffixes to enhance fluency and comprehension. Through targeted instruction and practice exercises, students will develop decoding strategies to decipher unfamiliar words and improve their overall reading skills. With a focus on building vocabulary and understanding word structure, students will gain confidence in tackling complex texts across various subjects.

Skills In Leadership (advisory class)**Grades: 7, 8**

Students must complete an application for this course. All decisions are made by the teacher.

Students will learn leadership skills through community service projects, running the student concessions, and leading Grand Mountain events. Skills such as public speaking, counting money, advertising, and planning are all a part of this program. Students will increase their self-confidence and become role models for their peers. Integrity, initiative, and a strong work ethic is a must for this class. After and before school activities may be required as part of this course. Students must complete an application for this course. All decisions are made by the teacher.

Spanish I (8th grade only)**Grade: 8**

(Prerequisite: successful completion of Beginning Spanish or approval from Spanish teacher)

8th grade students who have taken Beginning Spanish and will take Spanish II their first year of high school. This is a more language intense class focused on building conversational Spanish and grammar structures and the continuation of the high school "Spanish I" credit (both Beginning Spanish and Spanish I are required in junior high for a student to move on to Spanish II in high school). The four basic skills of Spanish; reading, writing, speaking and listening, as well as the cultural aspects of the Spanish speaking world will be built upon and expanded.

STEM Leadership (year-long)**Grade: 8**

Learn aviation skills and how to fly on a flight simulator. Learn how to use CAD (Computer aided design) and slicer software to make a 3D print. Students use coding to program their own digital games as well as move a robotic arm. Leadership skills, computational thinking and digital literacy are covered as well.

Treble Choir (teacher recommended)**Grades: 7, 8**

Treble choir is an all girls choir that offers the opportunity for students to concentrate on vocal skills learned in previous years' choirs and music classes, but to a higher degree. A variety of styles will be used at a level of difficulty designed to challenge the students. This course is performance based. Students are expected to participate in scheduled evening concerts as part of the requirements for the course. Participation as a 7th grader requires teacher recommendation. **Students must have successfully completed Beginning/Intermediate choir to register for this course or have approval from the choir teacher.**

Semester-Long Electives

6th Grade Art**Grade: 6**

Students will be given a basic foundation in which to gain exposure to a variety of art media including drawing, painting and sculpture. This class lays the groundwork for subsequent classes, evoking creativity and self-expression. Sixth grade art provides a strong foundation for more in depth studies and skill development for years to come. Get ready to unlock your creativity!

7th Grade Art**Grade: 7**

Students will be introduced to an assortment of 2-dimensional art techniques, such as shading, mixing colors and making their artwork look 3-dimensional using grid and perspective drawing. Students will acquire and hone their drawing and painting skills through working with a variety of media including graphite, charcoal, oil and chalk pastels, tempera and acrylic paint in order to create realistic and abstract pictures. From beginners to advanced artists, all that is needed is a desire to learn. No previous experience is necessary!

8th Grade Art**Grade: 8**

Students of all skill levels will be exposed to fine art in the 3-dimensional form. They will experiment with a variety of art media including paper, clay, paper mache, and wire. Students will be introduced to an assortment of art techniques, such as additive and subtractive sculpture, pinch pots, coil, slab, and hand building. No previous experience is required.

Outdoor Recreation & Physical Education**Grades: 7, 8**

This is an advanced Physical Education course with the purpose of participating in lifetime activities and developing lifelong skills. This course will feature various outdoor education lessons, individual sports, weight lifting, and fitness. There will also be a classroom component where students will develop knowledge and skills necessary to be an expert in recreational activities. Specific units may include weight lifting, tent building, fishing basics, orienteering, and aerobic fitness.

Bigger, Faster, Stronger (teacher recommended)**Grades: 7, 8**

This course is designed to give instruction in the area of strength development utilizing the bigger, faster, stronger core lifts along with various speed/agility and reaction fundamentals to develop dynamic strength.

Book Club (*currently not offered*)

Grade: 6, 7, 8

Book Club engages students with high interest, quality literature. Students will receive instruction in literacy key ideas and details, write in response to literature, and learn to take part in meaningful peer discussions. This course will promote a love of literature and enable students to discuss topics and readings that matter to them.

Colorado History

Grades: 6, 7, 8

This course focuses on the geography, history and people of our awesome state! Maps, primary source documents, stories, and projects will help students expand their knowledge of Colorado and its place in the United States.

Creative Writing (*currently not offered*)

Grades: 6, 7, 8

This course is an introduction to the art of creative writing and publishing. Class participants will write and revise pieces in a number of genres including personal essays, short stories, poetry, plays, and we will also dabble in emerging alternative genres.

Exploring Spanish I

Grades: 6, 7, 8

Students will be introduced to the Spanish language and the different cultures of Spanish speaking countries. Through the foundations of the Spanish language, students will learn basic communication skills and the different traditions of Spanish speaking cultures. This class should be taken before Beginning Spanish.

Film Fanatics (*currently not offered*)

Grades: 7, 8

Students will explore the history of movies, different film techniques, characterizations, the hero's journey and much more as we critically view and thoughtfully write about films. We'll explore ideas from Disney films to documentaries and examine images to discover how messages are crafted through film.

General Music

Grades: 6, 7, 8

Students will understand and apply the elements and principles of music across the core curriculum and in their daily lives. Students will build upon prior knowledge with an emphasis placed on understanding and appreciating the influence of music in our everyday lives, including how it relates to other school subjects, as well as singing, playing, moving, listening, and creative activities that build confidence and pride in their musical abilities.

Guitar (*currently not offered*)

Grades: 6, 7, 8

In guitar class, students will receive introductory classroom instruction in the art of classic guitar playing. Classic guitar is a solo style, which combines melody, bass, and chords together. Students will start at the beginning and study basic music reading, technique and tuning. At the end of this course, students will have knowledge of basic guitar chords and finger-plucking techniques. ***There is a financial obligation for this class.***

Physical Education (PE)**Grade: 6, 7, 8**

This course promotes lifelong fitness through diverse activities like team sports, individual challenges, and wellness education. Students develop skills, teamwork, and healthy habits in a supportive environment. We focus on increasing team and individual success rates through sport knowledge and physical abilities.

PE and Health (7th grade only)**Grade: 7**

This course is for 7th grader students only. Students will study the physical, mental, emotional, and social health of the human body. In addition, physiological interactions such as anatomy, body systems, and nutritional elements will be explored. This course explores a variety of team and individual sports throughout the PE section of the semester (*This will count as the **required health credit***).

Readers' Theatre (currently not offered)**Grades: 7, 8**

This class is for those who like to perform, don't mind reading, and want to explore stories. Bring your best voices to life as we read plays about a wide array of topics from tall tales to classic literature and everything in between.

Sound Production (currently not offered)**Grades: 6, 7, 8**

What does technology have to do with music? In our current society, music and technology are quickly blending together. The goal of this course is to provide the tools young musicians need to record, produce, and promote themselves as they continue through their education. Students will learn the different types of musical ensembles, how to mix music and sounds, how to use a soundboard and sound equipment, and how to put all of their skills together in the field. Students must have concurrent enrollment in band, choir or orchestra.

Team Sports**Grades: 7, 8**

Team Sports introduces students to a variety of athletic activities aimed at building teamwork, sportsmanship, and overall physical fitness. This course emphasizes cooperation and fair play within sports while also promoting individual skill development for each student.

Uncovering Ancient Egypt**Grades: 6, 7, 8**

Walk like an Egyptian back in time to learn about this amazing ancient civilization. This entry-level course will explore the secrets of the Pharaohs and their tombs, examine Egyptian culture, and decipher Hieroglyphics!

United States at War**Grades: 7, 8**

This class is an examination of the United States involvement in war from the Revolutionary War through Afghanistan. Study the rationale for our involvement in conflicts, and some major battles in these conflicts. Examine battle plans and turning points and relive major victories and defeats.

World Travels & Cultures**Grades: 6, 7, 8**

Explore countries around this world as we investigate food, travel, and culture. In this class we will "travel" around the world to a variety of countries and continents and learn about how other people live

Computer Science/Coding Electives

Semester-Long Courses

3D Design and Modeling (*currently not offered*)

Grades: 7, 8

Students discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They are then challenged and empowered to use and apply what they've learned throughout the unit to design a therapeutic toy for a child who has cerebral palsy.

App Creators

Grades: 7, 8

This unit will expose students to computer science as a means of computationally analyzing and developing solutions to authentic problems through mobile app development and will convey the positive impact of the application of computer science to other disciplines and to society.

Automation and Robotics

Grades: 7, 8

Students learn about the history and impact of automation and robotics as they explore mechanical systems, energy transfer, machine automation, and computer control systems. Using the VEX Robotics® platform, students apply what they know to design and program traffic lights, robotic arms, and more.

Competitive Robotics (*Teacher Recommended Placement*)

Grades: 7, 8

VEX competitions foster skills and capitalize on the motivational effects of competitions and robotics to help all students create an identity as a STEM learner. VEX competitions are also a great way to expose students to valuable soft skills like communication, collaboration and time-management in a fun and authentic way. Tournaments are held year-round at the regional, state, and national levels and culminate at the VEX Robotics World Championship each April.

Computer Science Express (*required course for 6th grader students*)

Grade: 6

Learn computer science by trying the lessons below at your own pace! Learn to create computer programs, develop problem-solving skills, and work through fun challenges! Make games and creative projects to share with friends, family, and teachers.

Computer Science Discoveries

Grades: 7, 8

The course takes a wide lens on computer science by covering topics such as programming, physical computing, HTML/CSS, and data. This course inspires students as they build their own websites, apps, games, and physical computing devices.

Data and Society *(currently not offered)***Grades: 7, 8**

This code.org Discoveries class asks students to look outward and explore the impact of computer science on society. Students will see how a thorough user-centered design process produces a better application, how data is used to address problems that affect large numbers of people, and how physical computing with circuit boards allows computers to collect input and return output in a variety of ways.

Design and Modeling**Grades: 7, 8**

Students discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They are then challenged and empowered to use and apply what they've learned throughout the unit to design a therapeutic toy for a child who has cerebral palsy.

Flight and Space**Grades: 7, 8**

The exciting world of aerospace comes alive through the Flight and Space (FS) unit. Students become engineers as they design, prototype, and test models to learn about the science of flight and what it takes to travel and live in space. They solve real-world aviation and space challenges and plan a mission to Mars.

Game Design**Grades: 7, 8**

Students will use Scratch and Code.org to create a variety of games involving a variety of inputs and outputs. During class, students will work collaboratively and individually to make side scroller, jumper, defender, and flier games to entertain. With the use of block coding, the class will have an entire portfolio of games at their use.

Green Architecture and Building**Grades: 7, 8**

In this unit, students learn how to apply green concepts to the fields of architecture and construction. They explore dimensioning, measuring, and architectural sustainability and apply what they have learned to design affordable housing units using Autodesk's® 3D architectural design software.

Innovators and Makers**Grades: 7, 8**

Throughout the unit, students will 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.

Web Design *(required course for 6th grader students)***Grade: 6**

This code.org Discoveries class introduces students to computer science as a vehicle for problem solving, communication, and personal expression. As a whole, this class focuses on the visible aspects of computing and computer science, and encourages students to see where computer science exists around them and how they can engage with it as a tool for exploration and expression.