

STEAM Academy @ Burke

Elective Course Descriptions

Project Lead the Way – Engineering and Design

Students will begin to learn about the design process to solve problems, and understand the influence that creative and innovative design has on our lives. Students will learn to use the Computer Assisted Design (CAD) program. Students will also learn to use a robust platform to design, build and program a robot to help solve existing problems. (Grades 7-8)

Video Game Design

Students will learn basic programming and digital literacy skills as well as learn to participate in a blended-learning class. Students will learn foundational concepts of game design and mechanics. This class will help students become proficient computer users in order to learn the fundamentals of game design and coding by creating a two-level game using HTML5, JavaScript, and Action Script, while following a real-world design and engineering process. (Grades 7-8)

Fundamentals of Studio Art

Basic principles of art in a variety of materials make this an excellent foundation to continue with formal art training and for lifetime enrichment. Basic techniques in drawing, painting, sculpture, perspective, and design and will be taught using pencil, paint, clay, ink, and watercolor. Students will be introduced to all the basic elements that make up an art studio. (Grades 6-8)

Graphic Arts and Design

This course will explore the use of the computer in the field of graphic design. Students will learn the primary skills and techniques of computer-assisted art using Adobe's Creative Cloud. Basic techniques in lettering, design, drawing, color, photo manipulation and layout will be taught. Students will create professional-quality artwork that combines images, lettering graphics and illustration that can be used to enhance classwork in all other subjects throughout the school year. Students will also develop their online researching skills. (Grades 6-8)

Google Apps for EDU

This is an introductory course in Internet Safety, Security, Organization, and Productivity via Google Apps for Education. Students will learn how to access and use their district provided Gmail account and all of the benefits that accompany it. Students will learn how to harness the power of an online, cloud based productivity tool (Drive) where they can store, organize, create, share, and collaborate. Students will create an online portfolio (website) for each class where they can demonstrate what they have learned and display their work. Throughout this course, students are encouraged to work individually and collectively to solve problems, share solutions, and make important discoveries. (Grades 6-8)

Media and Film Studies

This introductory course emphasizes study in the techniques of television, film, and/or video production. Instruction includes history of the media, its technology, and its art. Students may be asked to write, act, announce, direct, and produce to tell stories or narratives, create movies or videos (documentaries, shorts, or music) in one or various media. Concepts include camera operation, framing and composition, use of time and space, sound and lighting, editing and emotional impact. (Grade 6)

Spanish 1

Beginning students will learn how to communicate in Spanish by developing: listening, speaking, reading, and writing skills in a Project-based learning environment. Projects are centered on real-life applications designed to develop an understanding of the cultural and historical aspects of the numerous Spanish-speaking countries. (Grades 6-8)

Introductory Coding and Robotics

This is an introductory course in computer programming that begins with programming the movement of robots on a computer screen, followed by learning to program free standing robots. In this class students will learn to write their own computer programs from an object-oriented perspective. This course also provides the opportunity for the student to design and construct their own robotic vehicle, thereby enhancing both mechanical engineering principles and computer programming skills at the same time, leading to enhanced problem solving skills. Featured are STEM principles of hands-on mechanics and critical thinking. Throughout this course, students are encouraged to work individually and collectively to solve problems, share solutions, and make important discoveries. (Grade 6)

Robotics Competition Team

Students design, build and operate robots as part of the VEX competition program. Students learn principles of electrical and mechanical design, and they write programs in RobotC for autonomous and driver-controlled functions. Through hands-on projects, students develop critical thinking, problem-solving, communication and team work skills while exploring the rapidly developing world of automation and robotics. (Grades 7-8)

Digital Music Production

This course is designed to introduce students to the fundamentals of recording, editing, and composing. Through project-based learning experiences, students will be able to create a variety of projects using music technology. Students will work with a variety of computer software programs such as GarageBand, Windows Movie Maker, and iTunes. Students will also learn about the development of music technology and the role music plays in society and culture. (Grades 7-8)

Social Media and Video Production

Students will begin to understand the effects and influences social media has on our lives. In addition, they will begin to create and analyze social media themselves to display positive current events, and socially relevant topics within the community. Students will also learn the basics of video production while creating mini documentaries that are socially and culturally relevant to our lives. (Grades 6-8)

AVID

AVID is a college preparatory program for students. The AVID program favors challenging students who have had some academic difficulties, but show potential and desire for growth, and a desire to attend a 4 year university. AVID offers students access to academic support through specially developed teaching and learning strategies. Students who join AVID are placed in a daily, single-period AVID class that features a heavy emphasis on writing and inquiry supported by specialized tutoring in core academic subjects. The class is composed of several different elements, making students more successful in all their classes. Students learn note-taking and study skills, while also learning time management and goal setting.

Beginning and Advanced Mariachi

Students will learn the basic foundational skills, along with the history and cultural relevance of Mariachi music. Students must already have existing knowledge of music notes, reading sheet music, and basic instrument skills. Students will learn to perform classic Mariachi songs as a group. (Grade 7-8)

Choir

Students begin to learn the foundations of singing, vocal methods, and concert performance. Students are able to practice solo and group singing throughout the course. They will study the development of vocal techniques thru a variety of strategies and incorporate classic song study with modern song study. (Grades 6-8)

Beginning and Advanced Band

Students will learn how to read music notes, sheet music, and basic instrument skills. They will begin to play an instrument in beginning band, and after one year of intensive practice, may have the ability to move on to advance band. If students have existing knowledge of reading and playing music, they may audition for advanced band. (Grades 6-8)