

2018 MSMS Middle School Summer Camp Classes

CAD FOR 3-D PRINTING

Have you ever had an idea for something but did not know where to start to create it? Learn how to start with an idea and transform that idea into a real life object through the use of 3D printing and CAD (Computer Aided Design).

CHANGE YOUR THOUGHTS, IMPROVE YOUR LIFE

In a world where our value is measured in “likes”, followers, and retweets, it is important to understand the science behind social inclusion and our ability to cope with stress. Today, many view the news as the ultimate reality TV show and we will discuss how our thoughts and how we define our surroundings have a direct impact on our actions. Additionally, we will address the myth that stress is 100% negative and how to use less than favorable situations to benefit us.

ENGINEERING AND TEAMWORK

Discover the engineering process and foster your team work skills through hands-on activities. Students will work with new partners each day to create cargo containers, a mountainous road, a payload mover, and bore through Mount MSMS.

Day 1: Students will build an index card tower and bore through Mount MSMS. Activities are designed to encourage teamwork and work on communication skills.

Day 2: Students will work together to create a balloon powered car.

Day 3: Students will work together to create a cargo container.

Day 4: Students will work together to create a mountainous road.

Day 5: Activities with parents.

I'M WITH THE BAND!

A course for absolute beginners who want to rock, roll or hip hop.

Prerequisites: None

If you play a traditional band/orchestra instrument but have never played guitar, bass, drums or keyboards in a contemporary setting, you may take this course. You are encouraged to bring any traditional band/orchestra instrument to camp.

Ever want to play in a modern band? Students will learn the basics of guitar, bass, keyboards, bass and vocals in this fun and creative setting. Genres include rock, pop, hip hop, rhythm and blues, etc. If you already play a traditional band or orchestra instrument, bring it! Today's artists are incorporating a wide variety of instruments. With the aid of technology, we can do in a few days what once took weeks or months to accomplish. Class activities include learning contemporary songs, writing songs, recording and performing. Have fun forming groups, naming them, and creating music!

Materials provided by MSMS: Instruments, iPad®, song charts

*Students should bring any wind or string instrument they currently play. You will not be made to play it; however, it would be great to have on hand if you choose to play it.

I'M WITH THE BAND, TWO!

A course for students who have done a little rocking, rolling or hip hopping.

Prerequisites: Able to play basic chords, rhythms and/or vocal experience. Experience composing lyrics or music a plus but not required. Students who play an instrument other than drums and keyboards should bring their instrument to camp.

If you play a traditional band/orchestra instrument and also have some experience playing guitar, bass, drums or keyboards in a contemporary setting, you may take this course.

In this course, students will form bands within the class based on interest and experience. Genres include rock, pop, hip hop, rhythm and blues, etc. Bands will then learn, compose, record and perform! If you currently play a traditional band or orchestra instrument, bring it! Today's artists are performing and recording with a wide variety of instruments. With the aid of technology, we can do in a few days what once took weeks or months to accomplish. Class activities include learning contemporary songs, writing songs, recording and performing. Have fun forming groups, naming them, and creating music!

Materials provided by MSMS: Instruments, iPad®, song charts

*Student should bring guitar, bass or any other wind/string instrument they currently play.

JUNKYARD WARS

Use simple, (mostly) recycled or reused materials to meet design challenges from simple rockets to Rube Goldberg machines. You will work in teams to solve each challenge.

MAGIC IN CHEMISTRY IN HARRY POTTER'S WORLD

In this course students will enter the world magic (via the Hogwarts School) to uncover chemical concepts and principles while exploring and understanding the “magic” of science. Students will participate in inquiry-based activities for hands-on discovery of basic principles of chemistry and the relevance of these principles to daily life in the world of Muggles.

MUSIC, MATH, AND SCIENCE

Prerequisites: None

Counting, patterns, rhythms, fractions, volume, mass and numbers are common to science, mathematics and music. In this course, students will find connections between these subjects through fun and interactive activities. They will participate in dynamic projects that illustrate how math, science and music are linked. Using science and math, students will build instruments from found objects, learn songs, and perform them on the instruments they create! In the culminating activity, students will use critical thinking skills to “mash up” their songs with rhythm tracks and record them songs using garage band©.

Materials used and provided: iPad©, tools, safety gear, found objects

NO EXPERIENCE NEEDED CODING

Looking for all students who are interested in computer programming or playing with Robots but have little to no experience. Learn how to program the Sphero Robot and challenge yourself to guide the Sphero through 5 challenging courses/obstacles.

Day 1: Students will bore through Mount MSMS. Students will drive Sphero from A to B.

Day 2: Students will drive Sphero through a turn and jump a ramp.

Day 3: Students will drive Sphero through multiple turns and multiple jumps.

Day 4: Students will create an obstacle course.

Day 5: Students will teach their parents how to drive the Sphero.

POSITIVELY MEDIEVAL MEDICINE

Medieval medicine wasn't always leeches! This class will explore many of the advancements...and missteps... made in medicine during the middle ages. Herbal remedies, Curing Stones, Leechcraft, Leonardo Da Vinci, and more will be investigated in this positively medieval class.

PUZZLED

Work puzzles independently and in teams- no experience needed. Each day we will do a logic puzzle, a Breakout box (it's an escape room in a box!), and get puzzled by visual, numeric and word puzzles from around the world.

UNRAVELING THE MYSTERY WITH FORENSICS SCIENCE

Have you ever wondered how evidence is collected to help bring criminals to justice? Does learning about different techniques and skills used by forensic scientists and crime scene investigators sound interesting to you? Join us as we perform ink chromatography, gel electrophoresis and forensic entomology to solve a few cases of our own!