2019 MOSAIC COURSES

(ALPHA LISTING)

Algebra – It's a Balancing Act (Carol Raymond, EA Young)
June: 4th-6th grades
While Algebra has been viewed as the "gatekeeper" for higher math, once mastered it exponentially increases the mathematician's problem-solving abilities. Your child will gain foundational skills through hands-on, digital, and traditional methods. Taught by an expert in differentiation, your child is guaranteed to sharpen math skills while having fun in the process! *Note: For differentiation purposes, a brief pre-test will be sent out prior to camp.*

The Art of Illusions (Kristin Huckle, Pinkerton)
June and July: 4th-6th grades
Play a prank! Trick a friend! Artists will practice the art of creating optical illusions and explore the French artistic term "trompe l'oeil" which means "trick the eye." Our works of art will use color and value to make works of art that look so tricky or real that you won't believe your eyes! Come create and connect with the illusions of famous artists like M.C. Escher, Bridget Riley, William Michael Harnett and more. *Additional material fee – $10*

Ceramics (Shannon Nop, CMSN)
June and July: 4th-6th, 6th-8th grades
In this workshop students will explore the hand-building techniques of pinch, slab and coil with clay. They will make several projects during the week which can be picked up at a later date (will be announced during the class), once the kiln firing process has been completed. Students who wish to glaze or paint their projects will have an opportunity to do so at a later date to be announced in class. *Additional material fee – $20*

Chess (Dr Alexey Root, Senior Lecturer UTD, Author of *Prepare With Chess Strategy*)
June and July: 4th-8th grades (space is limited)
During each chess course, students will learn or review the rules of chess, including castling, en passant, and pawn promotion. Students will also master basic checkmates, such as the two-rook checkmate. Students will read and write algebraic chess notation. Experienced chess players will help their classmates and will complete advanced chess problems. The last 30 minutes of class on Monday through Thursday is for tournament chess games. The last 45 minutes of class on Friday is for each student (and family helpers) to play against Dr. Root, a former U.S. Women's Chess Champion, in a simultaneous chess exhibition.

Chess-Advanced (Dr Alexey Root, Senior Lecturer UTD)
June and July: 4th-8th grades (space is limited)
For students entering grades 4-8 who previously took chess at MOSAIC from Dr. Alexey Root (author of Prepare With Chess Strategy and the 1989 U.S. Women's Chess Champion). Students who have a United States Chess Federation rating may also take "Chess-Advanced." Students will learn famous games, important endgame positions, how to solve tactics and checkmate problems, and standard chess openings. For the last 30 minutes each day, Monday through Friday, students will play notated chess games against one another.

Coding isn't just for computer whizzes, says Mitch Resnick of MIT Media Lab — it's for everyone. If you learn to code, you can code to learn. Now some of the things you can learn are sort of obvious. You learn more about how computers work. But that's just where it starts. When you learn to code, it opens up for you to learn many other things. Now you can create new technologies! MOSAIC students learn and leave knowing (and using) the basics for a lifetime:

Scratch (UTD) June: 4th-6th grades MIT Scratch is a GUI based programming environment. You can do 2D animations of objects, create cool drawings, make a character sing a tune, develop an interactive game (control it with various inputs including voice!) and even narrate a story with images! Scratch uses drag-and-drop programming which means no syntax errors – your program is always ready to run! It enables the young learners to focus on the logic instead. This camp is for beginners–no prior experience is required.

Lighting up with MICRO:BIT (UTD) July: 4th-6th grades *Pre-requisite: Scratch* This fusion camp uses a little device called BBC micro:bit – it was designed by the BBC for use in computer education in the UK. It has 25 red LED lights that can flash messages & two programmable buttons that can be used to control games or pause and skip songs on a playlist. It can be used for all sorts of cool creations, from robots to musical instruments – the possibilities are endless. It comes with multiple code editors – we will start off with Block based programming & show the path to use the programming languages like JavaScript & Python using various interesting projects.

Alice (UTD) June: 6th-8th grades This workshop is perfect for middle school students who have not done any programming so far. It uses drag and drop programming, which means there is no room for syntax errors! You can convert your idea to code quickly and see it in action! You can code 3D animations or games with ease. Alice comes with a powerful graphics library that minimizes coding effort.

JavaScript/Drawings with JavaScript (UTD) July: 6th-8th grades *Pre-requisite: Alice* This camp is perfect for students who have done a little bit of programming using Alice/Scratch/Robots, etc., but have not spent much time with C/C++/Java yet.

While many high school students may be OK to start here without any prior programming experience, all novices are strongly encouraged to complete Alice camp first. This camp uses the Khan Academy JavaScript environment, which features a web-page with coding area and virtual canvas area for output. As you type the code, output appears/changes. This friendly environment comes with a powerful graphics library that minimizes coding effort.

Modding with Minecraft (Wyze Academy – Venus Bhasin) June: 4th-6th grades Students get to go beyond just playing Minecraft, they get to program it! They create mods in Minecraft by learning programming concepts and applying them to realize their ideas. We are excited see what amazing ideas and "mods" students come up with! No prior coding experience needed.

Wild Web Design!! (Wyze Academy – Vishal Bhasin) July: 4th-6th grades
Ready to make your mark on web! Learn the tools that pros use - HTML, JavaScript & CSS. The websites are themed and uniquely built based on the area of interest of child - hobbies, business idea, social impact. They get to own the site and continue building on it even after the class!!No prior coding experience needed.

Engineering of Flights, Kites, Airplanes, and Rockets (Dick Attaway - CMSE)
June and July: 6th-8th grades
Curious about how things fly and beyond? Aerospace engineers begin with the ground…. You will be engaged in learning about things that take flight - Kites, Airplanes and Rockets. Experience flight in new ways - as an engineer, a pilot, and a designer!
Additional Material Fee - $20

Fantastic Elastics (Dick Attaway - CMSE)
June and July: 4th-6th grades
Stretching your minds using Elastic Energy - Engineering focus on force and motion as learners investigate the use of elastic energy. The bulk elastic properties of a material determine how much it will compress under a given amount of external pressure. Learn about the ratio of the change in pressure to the fractional volume compression! You will investigate the impact of elastic properties and experience the concept of hyper physics.
Additional Material Fee - $10

Fun with Fibers (Catherine Shaefer - CMSW)
June and July: 6th-8th grades
Learn about Fiber Arts and hand stitching by creating bright and colorful layered panels inspired by the traditional South and Central American “Mola.” These felt panels can easily be converted into decorative pillows or attached to a sturdy backing to be framed. Click here for a sample photo. *Additional Material Fee - $10*

“The Great Coppell Bake Off"
(Stephanie Leichtle, Owner & Baker, Kuluntu Bakery)
June and July: 4th-6th, 6th-8th grades
Are you an aspiring baker? Does your mouth water thinking about your next baked creation? Have you ever wondered what makes bread rise? In this workshop, students will learn about the fundamentals of baking and the pastry arts. They will learn: how to create a "signature bake” through baking customizable tartlets; how to create a “technical bake” through bread baking; and how to create a “showstopper bake” through baking and decorating cupcakes. *Additional material fee – $20*

Journalism: Storytelling in the Digital Age (Chase Wofford, CHS)
June and July: 4th-6th, 6th-8th grades
Behind every person is a great story. It is your job as a journalist to find and tell this story. This week, participants will learn how to find a great story, interview your subjects and compose great content as a journalist. Just like a great handyman, today’s journalists are able to utilize many tools. They can write a story, take photographs, film and edit video, post to social media, and package it all together for their audience. Participants will develop into 21st century journalists by learning how to do it all. With a smartphone, tablet or laptop, anybody can be a reporter, but not everybody can be a journalist!
Note: Students are encouraged to bring items such as laptops, cameras, tablets or smartphones if they have access to them. However, it is not required that students have any of these items for the workshop.

Math Whiz (Carol Raymond, EA Young)
June: 6th-8th grades
Love to compete? Enjoy math? Hone your math skills and prepare for a variety of middle school math competitions with and against others using your knowledge of Algebra, Counting, Probability, Number Theory, and Geometry. Explore various strategies to attack the same problem different ways.

Physician/Nurse Wanna Be’s! (Marcia Moore, CHS9)
June and July: 6th-8th grades (Class size is limited to 8 students) Learn basics of first aid, understand CPR, and how to handle an emergency! Thinking about a career in the medical profession some day? Pediatrics? Nursing? Or do you just want to earn top money as an "expert" sitter? Safe Sitter® prepares young teens and pre-teens for the responsibility of nurturing and protecting children through hands-on training with medically-trained experts. Join us!
Book Fee - $20

The Power of Debate (Glenda Ferguson, CHS (retired)
June & July: 6th-8th grades
Do you want to increase your thinking skills, increase your confidence and improve your speaking skills? Learn the fundamentals of argumentation and the basics of debate by practicing with each other using fun and interesting topics.

Pour, Splatter, Splash and Smear - Acrylic Pour Painting 2.0 (Linka Behn, Artist)
June & July: 4th-8th grades
Pour, Splatter, Splash and Smear! NEW techniques, NEW surfaces, and NEW experiences! Painting does not have to be drawn or painted with a brush. Come and experiment with us as we pour, tilt, shimmy one-of-a-kind paintings, pouring through, over, and around stuff from the kitchen. Let's just see what happens! We discover how paint moves, gravity pulls and pushes, colors change and mix and additives pop to the surface. BONUS! At the end of a week, we will assemble a new wall hanging from your work to bring home! Here, art does not have to be difficult, but always involves curiosity. Click here for examples. *Additional Material Fee - $15*

Sticky, Stretchy, Slimy, Shrinking, Saltating Science (Laura Williams, CMSN)
June & July: 4th-6th grade
Description: Plastics are a part of our every day life. If you look through our garbage, our households, or our land, you are going to find evidence of the "Plastic Age". In this class, you will learn more about the synthetic polymers that we deal with everyday. We will be creating different types slimes, bouncy balls and Shrinky Dinks, You will create a investigation to test the stretchiness of different polymers. You will also be involved in a Global Citizen Science experiment about the absorbency of different disposable diapers. *Additional Material Fee - $20*

SPACE! Billions of Frontiers! (Angela Barnes, CHS)
June and July: 4th-6th and 6th-8th grades
We will investigate the search for extraterrestrial intelligence (SETI) and determine what other Earth-like worlds exist and where to look for them.
What is life? What kinds of exoplanets can support life? How do we find them?
In this course, we will discover the answers to these questions and create unique organisms that would have the body systems which would allow them to thrive and compete for resources, reproduce, and evolve on these strange Earth-like worlds."

Survival of the Fittest (Mattie Oveross, UNT Grad Student)
June and July: 4th-6th grades
How can a camel go months without drinking water? Why do Okapi smell using their feet? Learn the answers to these questions and more as we explore the animal kingdom! Our focus will be on adaptations and resiliency in this animal survival class! Each student will work to design their own animal species. At the end of the week, natural disasters will ensue and "predators" will be let loose. I hope your spe6-8cies is built to adapt as we take on this challenge of survival of the fittest!

Upcycled/Reclaimed/Redesigned Jewelry 2.0 (Linka Behn, Denton Artist)
June and July: 4th-8th grades
Here we go again! MORE jewelry we can bling out, create one-of-a-kind, and surprise even yourself! A week full of NEW creative ways to create distinctive pieces we can wear, gift to someone special or just show off to your friends. We take stuff you might see in the garage, old magazines, old broken jewelry and stuff from someone's junk drawer— making/imagining/turning things into something new. Come and join as we show off BIG creating and grow your imagination with possibilities you can take home and also repeat on your own! Click here for examples. *Additional Material Fee - $15*

Whose Turn Is IT? (Mattie Oveross, UNT Grad Student)
June and July: 4th-6th grades
Calling all board game enthusiasts and visual designers! Join us this week as we embark on a journey swerving through the roads of Catan and punching our tickets to ride. During this course, we will strengthen skills of creativity, problem-solving, illustrative design, and collaboration while designing our own board game and associated fictional world. It's your turn!