**UC Davis School of Education**
**Adventures In Enrichment**

*Invites You To Have a* **STEM-Tastic Summer**

(Science, Technology, Engineering, and Math)

7 weeks of fun and enrichment

June 13 – August 5 (no camps the week of July 4)

Open to young people entering grades 2-8 in the fall of 2016

To register or for more information, visit:
http://education.ucdavis.edu/adventures-enrichment

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**Join us for STEM-TASTIC SUNDAY**

Jan. 31, 2016 • 1 – 4 p.m.

UC Davis Conference Center
550 Alumni Lane, Davis, CA

Meet our amazing instructors, sample the camps and register!
Flash sale, online registration, begins at 2 p.m.

Parking will be available in Lot 1A directly across from the conference center and the Gateway parking lot across from the Mondavi Center.

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**Flash Sale: Jan. 31 – Feb. 7, 2016**

Online registration opens at 2 p.m. on Jan. 31. Take $25 off of the Early Bird Special for each regular camp and $10 off of each High Velocity Camp

- **Regular camps:** $250
- **High Velocity camps:** $165

**Early Bird Special:**
Feb. 8 – April 8, 2016

- **Regular camps:** $275
- **High Velocity camps:** $175

**Rates after April 8**

- **Regular camps:** $295
- **High Velocity camps:** $195

**Extended Day Rates**

7:30-8:30 a.m. $25 per week
2-6 p.m. $45 per week
Here’s what we offer!

**Regular Camps:** 8:30 a.m. – 2 p.m.
**High Velocity Camps:** 2:30 – 5:30 p.m.
**Extended Days:** 7:30 a.m. – 8:30 and 2 – 6 p.m.

### June 13-17
- **Grade 2:** Farmer Grady’s Challenge
- **Grades 3-4:** Wildlife Corridors Challenge
- **Grades 4-8:** Beginning Robotics
- **Grades 5-8:** Programming with Scratch
- **Grades 6-8:** Rube Goldberg Apparatus
- **Grades 6-8:** Robotics and Digital Media

**High Velocity**
- **Grades 2-5:** Explorations in the World of Painting
- **Grades 5-8:** Bridging Physical and Digital Space with Minecraft
- **Grades 6-8:** Cardboard Installation: Constructing Community

### June 20-24
- **Grade 2:** Earthquake Technology
- **Grades 3-4:** Digital Relay Challenge
- **Grades 4-8:** Beginning/Intermediate Robotics
- **Grades 5-8:** Website Development
- **Grades 6-8:** Flight and Space
- **Grades 6-8:** Computer Programming with STEM applications

**High Velocity**
- **Grades 2-5:** Star Reader’s Theater
- **Grades 5-8:** Learn to Code with Minecraft
- **Grades 6-8:** Kinetic Sculpture: Using Technology for Art

### June 27-July 1
- **Grade 2:** The Great Toy Challenge and Creative Innovator and Idea Makers
- **Grades 3-4:** The Great Toy Challenge and Creative Innovator and Idea Makers
- **Grades 4-8:** Beginning/Intermediate Robotics
- **Grades 5-8:** Becoming a STEM Maker
- **Grades 6-8:** Creating a Solar Powered Green Car (Part 1)
- **Grades 6-8:** Computer Programming With Robotics

**High Velocity**
- **Grades 2-5:** Arts and Craft Circus
- **Grades 5-8:** Redstone Creations with Minecraft
- **Grades 6-8:** Collage and Layering: Form and meaning through juxtaposition

### July 11-15
- **Grade 2:** Bug Camp 1
- **Grades 3-4:** Rainwater Runoff Challenge
- **Grades 4-8:** Beginning/Intermediate Robotics
- **Grades 5-8:** Personal Genomics
- **Grades 6-8:** Creating a Solar Powered Green Car (Part 2)

**High Velocity**
- **Grades 4-6:** Circuits, Electronics, Arduino and Programming for Beginners
- **Grades 5-8:** Living Stories with Minecraft
- **Grades 6-8:** Ceramic Sculpture and Installation: Inspiration by place

### July 18-22
- **Grade 2:** Solar House Design Challenge
- **Grades 3-4:** Bug Camp 2
- **Grades 4-8:** Advanced Robotics
- **Grades 5-8:** Science and Technology 2
- **Grades 6-8:** Computer Aided Design for Makers

**High Velocity**
- **Grades 5-8:** Bridging Physical and Digital Space with Minecraft
- **Grades 6-8:** Texture in Clay: Nature and Manmade

### July 25-29
- **Grade 2:** Helicopter Hang Time Exploration
- **Grades 3-4:** Young Biologist 1
- **Grades 4-8:** Advanced Robotics
- **Grades 5-8:** Science and Technology 1
- **Grades 6-8:** Becoming a STEM Maker
- **Grades 6-8:** Computer Programming and Robotics

**High Velocity**
- **Grades 2-5:** Play Writer’s Camp
- **Grades 5-8:** Learn to Code with Minecraft
- **Grades 6-8:** Sculpture: Exploring Form through Upcycling & Moldmaking

### August 1-5
- **Grades 2-4:** Young Biologist 2
- **Grades 4-8:** Beginning Robotics
- **Grades 5-8:** Science and Technology 2
- **Grades 6-8:** Introduction to engineering
- **Grades 6-8:** RoboBlockly Block based Computer Programming

**High Velocity**
- **Grades 5-8:** Redstone Creations with Minecraft
- **Grades 6-8:** Fiber Art: Fun with Textiles

### Extended Day:
**A Solution for Working Parents**

We have the solution for parents who need their children to stay beyond the hours of the regular camp day. Our early morning option runs from 7:30-8:30 a.m. and the afternoon programs run from 2-6 p.m. This will be a more relaxed time for our campers. We will provide recreational activities, quiet games, arts and crafts and the opportunity to socialize with their friends. The cost is $25 per week for the morning program and $45 per week for the afternoon. Parents can pick up their campers anytime between 2-6 p.m. Early morning drop off is also flexible. For campers enrolled in High Velocity camps, they will be supervised from 2-2:30 p.m. and again from 5:30-6 p.m. There is no extra cost for this additional time.
June 13-17
Farmer Grady's Challenge, Grade 2
How can a farmer protect crops when a hailstorm threatens? Campers will save the day using criteria and constraints to determine which design solutions can help Farmer Grady protect his crops. They will learn about weather related hazards and how to make a claim about the merits of a design solution.

Wildlife Corridors Challenge, Grades 3-4
The Department of Fish and Wildlife help design the animal corridor to safely move wildlife across the mile. Students plan, build, and test the success of wildlife corridors under a busy road.

Beginning Robotics, Grades 4-8
Campers will design, build, and program their own LEGO MINDSTORMS NXT robot. The camp will focus on the elements of design and testing participants' ideas and redesigning their robots until it meets the highest standards. We will also focus on presentation skills so campers show off their robots and demonstrate it to all the parents on the last day of camp.

Computer Programming with STEM Applications, Grades 6-8
Code like an engineer! This coding camp introduces campers to the working principles of computer programming through the UC Davis C-STEM Curriculum. Campers learn computer programming with a user-friendly C/C++ interpreter Ch. Campers learn programming constructs, data types and declaration of variables, expressions, control structures for selection, repetition with patterns, random numbers, and applications to math. The week ends with exploring on how their comprehensive programs are developed to solve practical real-world, game, or STEM problems.

June 27-July 1
The Great Toy Challenge and Creative Innovator and Idea Makers, Grades 2 and 3-4
Campers will have the opportunity to experience two different subjects this week. The week will spend half of each day in each of the camps. Both camps promise to be both fun and enriching. Campers will be divided into a second grade group and a third and fourth grade group.

The Great Toy Challenge
Sir Isaac's Toy Company wants to create a smushy, gooshy children's toy and needs help in its design. Campers identify materials based on their properties, gooshy children's toy and needs help in design testing. Campers identify materials based on their properties, gooshy children's toy and needs help in design testing. Campers use in their own creations. All this knowledge and exploration will allow the young artists to be able to create their own masterpieces.

Creative Innovators and Idea Makers.
Electronics with littleBits
Using littleBits you will play with light, sound, sensory burst, without wiring or soldering. Learn the basics of electronics from the foundation of critical thinking or just fun with blinking, buzzing creatures. Bits snap together so it is impossible to make a mistake. Unleash your creativity and get ready to make inventions in all sizes and shapes.

Beginning/Intermediate Robotics, Grades 4-8
See description under June 13-20.

July 18-22
Solar House Design Challenge, Grade 2
How can a builder make a house warm when the sun is shining and keep the house warm when it is not? Campers learn about energy conservation they work in teams. The teams make budget decisions about windows and flooring material in a home design and build a passive solar house model to test, analyze and design.

Bug Camp 2, Grades 3-4
See description under July 11-15.

Aerovics Robots, Grades 4-8
You will put their creative engineering skills to the test as you work to complete building, navigation and programming missions with your NXT Mindstorms robot. In addition to the many individual challenges, campers may choose to compete with each other to build the fastest and strongest robots in the daily head-to-head competitions. Campers will also get the opportunity to share their robots with competition teams. If you already know the basics of designing, building and programming, then this camp will be a great place to work with other young robotic engineers in a fun, friendly and competitive atmosphere.

Science and Technology 2, Grades 5-8
This class is an introduction to how engineers use math and science to solve problems and invent new products. Students enrolled in this week long class will learn how to design, plan, and build products primarily out of wood. Examples include a wooden notebook, The Tower of Hanoi, Tangram puzzle, and more.

RoboBlockly Block Based Computer Programming, Grades 6-8
RoboBlockly is a web-based robot simulation environment that campers will use to begin learning computer programming! The RoboBlockly environment uses a simple puzzle piece interface to program virtual Linkbots and Lego Mindstorms NXTLEV for beginners to learn robotics, computing, science, technology, engineering and math (G-STEM). Campers will be able to transfer their programs into text-based code and run real robots!
High Velocity Camp Descriptions (2:30 – 5:30 p.m.)

June 13-17
Explorations in the World of Painting – Grades 2-5
This class will not only familiarize the young artists with creating their own color wheels and painting, but the young artists will study and observe the different techniques that artists use in their own creations. All this knowledge and exploration will allow the young artists to be able to create their own masterpieces.

Bridging Physical and Digital Space with Minecraft – Grades 5-8
In this camp, students will create their own interpretations of real-life local public spaces. They will also be challenged to visualize their spaces, considering how they can improve the impact the space has on the environment around it.

Cardboard Installation: Constructing Community – Grades 6-8
This camp will construct an entire city beginning with your very own city block. Campers will learn basic design and engineering principles while using cardboard and other mixed media to develop their project. Campers face the opportunity to create community spaces that will then be assembled into a community with public spaces and buildings. Inhabitants will be created and the cardboard city will be bustling by the end of the camp.

June 20-24
Star Reader’s Theater – Grades 2-5
Sometimes all people need is a little bit more action behind words. This can be the same case with reading. So, come and join us this week, as we act out some amazing stories! This week, students have the opportunity to develop fluency and further enhance comprehension of what they are reading through reading playscenes, and acting them out.

Learn to Code with Minecraft – Grades 5-8
There’s a new animal in town! TURTLES! Yes, turtles in this Minecraft World! (Don’t worry, there exist powerful, but clueless, turtle robots.) Students will learn the fundamentals of programming through a tile-based interface. It’s a fun and new twist on Minecraft and computer programming.

Kinetic Sculpture: Using Technology for Art – Grades 6-8
This engaging camp will focus on designing and building basic kinetic sculpture. Lessons combine a bit of science and a lot of art so you can create your own whacky and fun kinetic sculpture. Learn how to hack electronics, use lights, and learn basic fabrication and sculpting techniques to design and build your moving creation. This session will be action packed!

June 27-July 1
Arts and Craft Circus – Grades 2-5
Circuses are fun, exciting, and colorful, intriguing, and showcase different talents. This week, students will create art work and crafts using different materials, colors, textures, and patterns that showcase creative art forms from different eras, countries, artists, and from themselves.

Redstone Creations with Minecraft – Grades 5-8
Redstone allows players to create lights, open doors, build devices that lift stones, move water, and much more. Students will explore a pre-made world known as Redstone Mansion and begin to craft their own amazing creations.

Collage and Layering: Form and meaning through juxtaposition – Grades 6-8
The process of collage is to transform bits and pieces of materials into a cohesive whole in order to create an artwork. Juxtaposition and layering of different visual objects in artwork creates contrast, which generates meaning. Campers will apply the design process and knowledge of engineering principles while using cardboard and other mixed media to develop their project. Campers face the opportunity to create community spaces that will then be assembled into a community with public spaces and buildings. Inhabitants will be created and the cardboard city will be bustling by the end of the camp.

July 11-15
Circuits, Electronics, Arduino and Programming for Beginners – Grades 4-6
This fun, hands-on camps covers everything from electricity, to electrical circuits to electrical components to programming for beginners. Many hands-on activities include: Potato Power, Squishy Circuits, making circuit cards and illuminating your designs with circuits. Learn to program and make smart computerized gadgets with Arduino.

Living Stories with Minecraft – Grades 5-8
In this camp, students will embark on a journey to create a work of literature by building a world that comes alive and tells a story using redstone, command blocks, and pressure plates. Visual and written communication as well as basic computer programming skills are strengthened through this activity.

Ceramic Sculpture and Installation: Inspiration by place – Grades 6-8
FACES can inspire. Where an artwork is placed and how it is presented can dramatically change how it is interpreted and its impact on the viewer. In this camp, participants will learn the basics of clay including slab, coil, and other handbuilding techniques to create dynamic clay sculpture. Using the beauty of natural and manmade environments of the campus, campers will be inspired to create clay sculptures as well as create experimental site specific artwork from unfired clay in individual and group exercises. Students’ creations will be glazed and campers will be able to take home their creations once the firing process is completed.

July 18-22
Bridging Physical and Digital Space with Minecraft – Grades 5-8
See description on June 13-17

Texture in Clay: Nature and Mannmade – Grades 6-8
Clay is a perfect vehicle for texture. Depending on how an artist forms it, it could be smooth and glass-like to sharp and rough. Through exploration of the natural and manmade beauty around campus along with images and examples of texture, students will create artworks. Students will learn basic clay handbuilding techniques such as slab, coil and pinch methods. Different processes to create texture will be discussed including additive and subtractive methods. Gazing and the firing process will be shown as a way to enhance the textures students have created.

Circuits, Electronics, Arduino and Programming for Beginners – Grades 6-8
See description on July 11-15

July 25-29
Play Writer’s Camp – Grades 2-5
Students become excited and enthusiastic about reading when they are presented with the opportunity to participate in developing scripts, performing in groups, and practice using their voice to depict characters from texts. This week, students have the opportunity to develop fluency and further enhance comprehension of what they are reading through creating and writing their own plays, and performing them.

Learn to Code with Minecraft – Grades 5-8
See description on June 20-24

Sculpture: Exploring Form through Upcycling & Moldmaking – Grades 6-8
Camps will explore the principles of sculpture through the exploration of different materials and processes. They will learn the basics of form through techniques like mold making, upcycling and unexpected materials. The week will culminate with collaborative artmaking including large scale inflatable sculptures and the trading of objects that students created in their very own molds.

August 1-5
Redstone Creations with Minecraft – Grades 5-8
See description on June 13-17

Fiber Art: Fun with Textiles – Grades 6-8
Textiles and fiber have been used for millennia for practical and expressive purposes. In this camp, learn techniques and artistic processes like weaving, sewing, knot making, crochet, and limiting to create sculptural textile artworks. Campers will learn about historical and contemporary uses of fiber art. Our projects will demonstrate innovative ways of creating surface design, which is the addition of image, color, texture, and pattern applied to the surfaces of handmade objects. Campers will create fiber artworks that explore the use of different surface design techniques, such as printing, dyeing, felting, sewing, drawing, and painting.

Andee Press-Dawson
Director, Community Programs
UC Davis School of Education
apressdawson@ucdavis.edu
(530) 752-4490

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