

UC Davis School of Education Adventures In Enrichment



Invites You To Have a

STEM-Tastic Summer

(Science, Technology, Engineering, and Math)

5 weeks of fun and enrichment

June 19 – July 28 (no camps the week of July 3)



**[Open to young people entering
grades 1-8 in the fall of 2017]**



To register or for more information, visit:

https://www.regonline.com/enrichmentcamps_1789358copy

ONLINE REGISTRATION

Opens at 1 p.m. on Jan. 29.

\$25 off of the Early Bird Special for each regular camp and \$10 off of each High Velocity Camp

FLASH SALE:

Jan. 29 – Feb. 4, 2017

Regular camps: \$250

High Velocity camps: \$165

EARLY BIRD SPECIAL:

Feb. 5 – April 8, 2017

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. \$60 per week

*SIBLING DISCOUNT:

When enrolling more than one child – **5% off**

Join us for STEM-TASTIC SUNDAY

January 29, 2017

1 – 4 p.m.

**UC Davis Conference Center
550 Alumni Lane, Davis, CA**

Parking will be available in the Gateway parking lot across from the Mondavi Center.

**Meet our amazing instructors,
sample the camps and register!**



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 19-23

Grades 1-2: Squeaky Clean Magnets Challenge
Grades 3-4: Squeaky Clean Magnets Challenge
Grades 5-6: Biology
Grades 6-8: Becoming a STEM Maker
Grades 5-8: Mission to Mars
Grades 4-8: Beginning Robotics

High Velocity

Grades 1-5: Explorations in the World of Painting
Grades 5-8: Learn to Code with Minecraft
Grades 6-8: Toothpick Bridges

June 26-30

Grades 1-2: Food Desert Challenge
Grades 3-4: Digital Relay Challenge
Grades 5-8: Becoming a STEM Maker
Grades 5-8: Biotechnology
Grades 5-8: Competitive Robotics
Grades 4-8: Beginning Robotics

High Velocity

Grades 1-5: Explorations in the World of Painting
Grades 5-8: Redstone Creations with Minecraft,
Grades 7-8: Paper Race Cars

July 10-14

Grades 1-2: Great Toy Challenge
Grades 3-4: Great Toy Challenge
Grades 5-6: Snap Circuits
Grades 6-8: Computer Aided Design for Makers
Grades 5-8: Robotics
Grades 5-6: Bug Camp

High Velocity

Grades 1-5: Arts and Craft Circus
Grades 5-8: Air Aware (Cadette Journey Camp)
Grades 7-8: Living Stories with Minecraft
Grades 1-4: Bug Camp

July 17-21

Grades 1-2: Earthquake Technology
Grades 3-4: Rainwater Runoff Challenge
Grades 5-6: Becoming a STEM Maker
Grades 6-8: Chemistry
Grades 5-8: Competitive Robotics
Grades 5-6: Young Biologist

High Velocity

Grades 1-5: Arts and Craft Circus
Grades 4-5: Get Moving! (Junior Journey Camp)
Grades 5-8: Bridging Physical and Digital Space with Minecraft
Grades 3-4: Young Biologist

July 24-28

Grades 1-2: STEM Make-It Take-It
Grades 3-4: Young Biologist
Grades 6-8: Rube Goldberg Apparatus
Grades 5-8: Becoming a STEM Maker
Grades 5-8: Mission to Mars

High Velocity

Grades 1-5: Arts and Craft Circus
Grades 2-3: WOW! Wonders of Water (Brownie Journey Camp)
Grades 5-8: Learn to Code with Minecraft
Grades 3-4: Young Biologist

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 \$60 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.



STEM-Tastic Summer! – Camp Descriptions (8:30 a.m. – 2 p.m.)

(see *High Velocity* camp descriptions on back)

June 19-23

Squeaky Clean Magnets Challenge, Grades 1-2

Pete, the owner of Pete's Pet Shop, is looking for a way to quickly clean fish tanks without disturbing the fish. Students explore the power of magnets, and they combine their best ideas as a team to make, test and redesign a prototype solution for Pete.

Squeaky Clean Magnets Challenge, Grades 3-4

(See camp description above)

Biology, Grades 5-6

We will explore what effects enzymes and how those enzymes affect other molecules, create growth media for bacteria and harvest microbes, extract DNA from a strawberry, and explore the world of cells under a microscope. These are just a few things we will take part in. This camp is packed with enriching activities in the field of Life Science.

Becoming a STEM Maker, Grades 6-8

Makers are those imaginative individuals who are willing to go out on a limb and create. This course will teach campers how to design and bring their own projects to life with the help of some handy STEM topics and 3D printers. Campers will use and learn concepts revolving around design thinking and engineering. Projects will vary from highflying water rockets to sleek new 3D printed phone cases and anything else in between. Campers are encouraged to bring their own ideas and interests into this camp.

Mission to Mars, Grades 5-8

Plan our next Mission to Mars. At this enrichment camp, participants will work in teams to plan a mission to Mars. Campers will build and launch model rockets, design mars landers that can handle the impact of a crash landing without damaging cargo, and make their own LEGO MINDSTORMS robot that can automatically explore the red planet. In addition to making incredible rockets, landers and robots, campers will also take virtual tours of mars, study past missions and discuss what we can learn from exploring Mars.

Beginning Robotics, Grades 4-8

During this week of camp, you will design, build and program your own Lego robot. We will focus on the elements of design, testing your ideas and redesigning your robot until it meets your high standards. We will also have other engineering and design challenges throughout the week. Even if you have no previous skills building or programming robots you will be able to have a robot up and running the very first day. We will also get a visit from the Davis Citrus Circuits robotics team and see their newest robot in action. At the camp, we

will also focus on presentation skills as you show off your robot and demonstrate it to the other campers.

June 26-30

Food Desert Challenge, Grades 1-2

The School Service Club wants to help families who live in food deserts grow fresh produce. Students plan, build, test and optimize systems for growing fresh produce without soil.

Digital Relay Challenge, Grades 3-4

Millennium Mines needs help communicating its recent discovery. Campers design, build, test and redesign a code transmission system.

Becoming a STEM Maker, Grades 5-8

Makers are those imaginative individuals who are willing to go out on a limb and create. This course will teach campers how to design and bring their own projects to life with the help of some handy STEM topics and 3D printers. Campers will use and learn concepts revolving around design thinking and engineering. Projects will vary from highflying water rockets to sleek new 3D printed phone cases and anything else in between. Campers are encouraged to bring their own ideas and interests into this camp.

Biotechnology, Grades 6-8

This camp will expose students to the diverse fields of biotechnology including biomedical engineering, bio-molecular genetics, bioprocess engineering, and agricultural and environmental engineering. Lessons engage students in engineering design problems that can be accomplished in a high school setting related to biomechanics, cardiovascular engineering, genetic engineering, agricultural biotechnology, tissue engineering, biomedical devices, human interface, bioprocesses, forensics, and bio-ethics. Although we may not complete labs in all these areas we will briefly touch upon each concept. This course will have a main focus in forensics.

Competitive Robotics, Grades 5-8

In Competitive Robotics you will put your creative engineering skills to the test as you work to complete building, navigation and programming missions with your Lego EV3 robots. 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. If you already know the basics to 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.

Beginning Robotics, Grades 2-4

(See camp description for week of June 19)

July 10-14

Great Toy Challenge, Grades 1-2

Sir Isaac's Toy Company wants to create a smushy, gooshy children's toy and needs help in design testing. Campers identify materials based on their properties, evaluate competitors' products and design a superior product to sell.

Great Toy Challenge, Grades 3-4

(See camp description above)

Snap Circuits, Grades 5-6

Get ready to venture on a journey where you will create a Morse code machine, a night light, and a combination circuit all from scratch! We will be powering motors and LEDs using our knowledge of schematics. We will partake in exploring snap circuits by building simple and complex grids.

Computer Aided Design for Makers, Grades 6-8

Campers will learn how to create beautiful and accurate 3d models using Autodesk's professional Fusion 360 product design software. The skills learned from this class will serve campers particularly well if they envision their future possibly involving game creation, engineering, architecture, or industrial design. The projects will be fun and challenging and include activities such as 3d printed water rocket nozzles, movie props, and collaborative projects like a totem pole challenges and anything else in between. Kids are encouraged to bring their own ideas and interests into this course!

Robotics, Grades 5-8

Campers will design, build and program their own LEGO MINDSTORM NXT robot. The camp will focus on the elements of design and testing participant's ideas and redesigning their robots until it meets the highest standards. We will also focus on presentation skills as campers show off their robots and demonstrate it to all the parents on the last day of camp.

Bug Camp, Grades 5-6

This is an active camp that will combine outdoor exploration, recreation and hands-on activities for our young campers. Throughout the week campers will discover how amazing and valuable bugs truly are. They will collect insects, perform experiments and activities with the insects and more. Collecting trips are interspersed with a series of fun projects and activities. This is the perfect camp for bug lovers and enthusiasts!

July 17-21

Earthquake Technology, Grades 1-2

Build Safe is planning a new apartment building, but a recent earthquake has potential residents worried about safety. Campers will learn about earthquakes and earthquake resistant technologies and they will compare models to improve designs for a new building.

Rainwater Runoff Challenge, Grades 3-4

The city of lakeside needs to learn how pollution moves and how to keep it from flowing into the lake. Campers will design, build and test a model of subsoil for a rain garden.

Becoming a STEM Maker, Grades 5-6

Makers are those imaginative individuals who are willing to go out on a limb and create. This course will teach campers how to design and bring their own projects to life with the help of some handy STEM topics and 3D printers. Campers will use and learn concepts revolving around design thinking and engineering. Projects will vary from highflying water rockets to sleek new 3D printed phone cases and anything else in between. Campers are encouraged to bring their own ideas and interests into this camp.

Chemistry, Grades 6-8

This camp will include concepts such as chromatography, acids and bases, chemical reactions, building organic molecules, and everyone's favorite...Making Ice Cream! Students in this camp will have a new outlook on world phenomena on the molecular level.

Competitive Robotics, Grades 5-8

In Competitive Robotics you will put your creative engineering skills to the test as you work to complete building, navigation and programming missions with your Lego EV3 robots. 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. If you already know the basics to 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.

Young Biologist, Grades 5-6

Through this weeklong interdisciplinary experience, participants will be introduced to the basics of general biology. Our young biologist will be immersed in topics in plant, animal and earth science, where

they will eagerly experiment, explore and create. Fun and excitement is fostered by great lessons and hands-on, engaging make-and-take projects and experiments. Topics will include Paleontology, Ecology, Marine Biology, Animal Behavior, Botany, Geology and more. Campers will surely find out the biological sciences were never this much fun!

July 24-28

Stem Make- it Take-It, Grades 1-2

Campers will be participating in STEM design challenges, and will be able to take each project home daily. They will be designing and creating balloon cars, air blasters, spinning toys, and more!

Young Biologist, Grades 3-4

Through this weeklong interdisciplinary experience, participants will be introduced to the basics of general biology. Our young biologist will be immersed in topics in plant, animal and earth science, where they will eagerly experiment, explore and create. Fun and excitement is fostered by great lessons and hands-on, engaging make-and-take projects and experiments. Topics will include Paleontology, Ecology, Marine Biology, Animal Behavior, Botany, Geology and more. Campers will surely find out the biological sciences were never this much fun!

Rube Goldberg Apparatus, Grades 6-8

A Rube Goldberg machine is a simple machine that accomplishes a simple task in as complicated a way as possible. Campers utilize their knowledge of simple machines and basic physics to demonstrate creativity and complexity while entertaining everyone observing it in action. If campers have ever played the game "Mouse Trap," they have used a Rube Goldberg apparatus.

Becoming a STEM Maker, Grades 5-8

(See camp description for week of June 19)

Mission to Mars, Grades 5-8

Plan our next Mission to Mars. At this enrichment camp, participants will work in teams to plan a mission to Mars. Campers will build and launch model rockets, design mars landers that can handle the impact of a crash landing without damaging cargo, and make their own LEGO MINDSTORMS robot that can automatically explore the red planet. In addition to making incredible rockets, landers and robots, campers will also take virtual tours of mars, study past missions and discuss what we can learn from exploring Mars.

High Velocity Camp Descriptions (2:30 – 5:30 p.m.)

June 19-23

Explorations in the World of Painting, Grades 1-5

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.

Learn to Code with Minecraft, Grades 5-8

There's a new animal in town: TURTLES! Yes, turtles. In this Minecraft mod (ComputerCraftEdu) 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.

Toothpick Bridges High Velocity, Grades 6-8

Students explore the role forces play in bridge construction. Students plan, design, construct and test a bridge that is free-standing and capable of holding the most mass before breaking. Students will then compete for the strongest bridge.

June 26-30

Explorations in the World of Painting, Grades 1-5

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.

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.

Paper Race Cars High Velocity, Grades 7-8

Students explore concepts relating to motion. Students plan, design, construct and test a race car made out of paper. Students will then compete for the fastest car that can also protect an egg from breaking.

July 10-14

Arts and Craft Circus, Grades 1-5

Circuses are fun, exciting, and colorful, intriguing, and showcase different talents. This week, students will create artwork and crafts using different materials, colors, textures, and patterns that showcase creative art forms from different eras, countries, artists, and from themselves.

Air Aware, Grades 5-8 (Cadette Journey Camp)

Do you know how to lessen your carbon footprint, monitor the air you breathe, or how to take advantage of alternative energy? Join us at this Cadette only day camp to learn how to live green through hands on activities, experiments and presentations from adults in the air quality industry as you complete the *Breathe! Girl Scout journey*. (Girls interested in earning the Girl Scout Silver Award will have completed ALL the prerequisites for the award by the end of this camp.) Join us to see what adventures await.

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.

Bug Camp, Grades 5-6

This is an active camp that will combine outdoor exploration, recreation and hands-on activities for our young campers. Throughout the week campers will discover how amazing and valuable bugs truly are. They will collect insects, perform experiments and activities with the insects and more. Collecting trips are interspersed with a series of fun projects and activities. This is the perfect camp for bug lovers and enthusiasts!

July 17-21

Arts and Craft Circus, Grades 1-5

Intermediate, Advanced): Circuses are fun, exciting, and colorful, intriguing, and showcase different talents. This week, students will create artwork and crafts using different materials, colors, textures, and patterns that showcase creative art forms from different eras, countries, artists, and from themselves.

GET MOVING! (Junior Journey Camp), Grades 4-5

Get Moving! Discover the energy inside of you, the energy in places and spaces and the energy you use getting from here to there. Learn to appreciate the importance of energy and how to use it wisely through a variety of hands on activities and experiments. Take action on an issue you're passionate about as you complete the *GET MOVING!* Girl Scout journey.

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 futurize their spaces, considering how they can improve the impact the space has on the environment around it.

Young Biologist, Grades 3-4

Through this weeklong interdisciplinary experience, participants will be introduced to the basics of general

biology. Our young biologist will be immersed in topics in plant, animal and earth science, where they will eagerly experiment, explore and create. Fun and excitement is fostered by great lessons and hands-on, engaging make-and-take projects and experiments. Topics will include Paleontology, Ecology, Marine Biology, Animal Behavior, Botany, Geology and more. Campers will surely find out the biological sciences were never this much fun!

July 24-28

Arts and Craft Circus, Grades 1-5

Circuses are fun, exciting, and colorful, intriguing, and showcase different talents. This week, students will create artwork and crafts using different materials, colors, textures, and patterns that showcase creative art forms from different eras, countries, artists, and from themselves. (July 10-14; July 17-21; July 24-28)

WOW! Wonders of Water, (Brownie Journey Camp) Grades 2-3

Embark on a special journey to discover the "Wonders of Water." Create a rainbow, make watermelon coolers, design a special mural, host a "Green Tea" party and more as you become an advocate for water conservation and complete the WOW! Wonders of Water Girl Scout journey.

Learn to Code with Minecraft, Grades 5-8

There's a new animal in town: TURTLES! Yes, turtles. In this Minecraft mod (ComputerCraftEdu) 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.

Young Biologist, Grades 3-4

Through this weeklong interdisciplinary experience, participants will be introduced to the basics of general biology. Our young biologist will be immersed in topics in plant, animal and earth science, where they will eagerly experiment, explore and create. Fun and excitement is fostered by great lessons and hands-on, engaging make-and-take projects and experiments. Topics will include Paleontology, Ecology, Marine Biology, Animal Behavior, Botany, Geology and more. Campers will surely find out the biological sciences were never this much fun!



We are excited to add our new partner
THE GIRL SCOUTS
as part of our
High Velocity Camps.

Register Early and Save!
Camps fill up quickly – don't get left out!
Registration opens
January 29 at 1 p.m.

Disclaimer: Not all organizations with access to this distribution network are required to abide by anti-discrimination statutes. Parents are encouraged to contact the activity sponsor directly if they have questions.



Andee Press-Dawson
Director, Community Programs
UC Davis School of Education
apressdawson@ucdavis.edu
530-754-7422