

STEAM Academy summer 2017

july 5 - august 3

9:30 am – 3:30 pm

University of Portland



Entering
grades 4-5

Join Saturday Academy and the University of Portland for a five-week experience in

SCIENCE
TECHNOLOGY
ENGINEERING
ARTS and
MATH



- Attend morning tutoring classes in math and reading to help prepare you for the next school year.
- Participate in afternoon classes in Geology, Finding Fibonacci, WeDo Robotics, Engineering: Rube Goldberg and Animated Math.

for further information and to register contact

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Class descriptions

Animated Math

Make inanimate objects move.

How do artists use ratio and proportion to create animations? How can knowledge of perspective and vanishing points make students better mathematicians? Students examine the interconnection between art and mathematics by constructing early models of animation, like zoetropes and flip books, and explore how stop-motion techniques can be used to illustrate mathematical concepts such as pattern iteration, geometric transformations or trigonometry of shadows. They learn how to use video cameras and HUE animation software to design a Kahn Academy®-style educational video to share with family and friends.

Engineering: Rube Goldberg

Make a simple task complex and set off a chain reaction.

Engineer a machine using an intricate series of imaginative steps. Work in small teams to design and build your contraption using everyday materials. Apply physics concepts such as energy conservation, inertia and forces to refine your machine.

Finding Fibonacci

What is the Golden Ratio?

Students find the hidden order behind pine cones, sea shells, tree branches, rabbits, and the Egyptian Pyramids encapsulated in a single number sequence. Through investigations into statistics, Platonic solids, bee genealogy, plant growth and architecture, students will discover ways to generate and uncover Fibonacci numbers. They delve into the fascinating and beautiful world of Penrose tilings, creating some unique and gorgeous works of art with mathematical meaning.

Geology: Rock Your World!

Blast off—it is rocket science!

From the mighty Cascade range to the Axial Seamount (a sub-marine volcano in the Pacific), discover what makes the Pacific Northwest rock! In a fascinating exploration of the area's geology, learn how this region was shaped by amazing forces and how to identify the rocks, minerals and substances that form our environment. Build a composite volcano and create earthquakes by igniting a three-staged volcanic eruption. Pan for gold using black sand samples, use a polarizing microscope to watch cooling "lava" crystals form in multi-color patterns and investigate the hidden beauty locked in undersea basalt and in "ordinary" black rock.

WeDo Robotics 2.0

How can you bring inanimate objects to life?

Using LEGO WeDo 2.0 students will discover how to make science come to life through hands-on projects. Students' skills will be enhanced across science, engineering, technology, and coding as they use a combination of the LEGO bricks, kid-friendly software, and inspiring projects. Students will discover how to ask the right questions, define problems, and design their own solutions as they take scientific discovery into their hands.

About Saturday Academy

Saturday Academy offers hands-on, in-depth classes, camps and workshops for students in grades 2-12. Our focus is science, technology, engineering, math, the arts and college prep. Classes are offered throughout the Portland Metro area. Saturday Academy to You (SA2U), our school-based program, brings Saturday Academy classes to your school or organization. Our Apprenticeships in Science & Engineering (ASE) program provides internships for students in grades 10-12 throughout Oregon and southwest Washington.

The University of Portland and Saturday Academy do not discriminate on the basis of race, color, national or ethnic origin, sex, disability, age or any other basis protected by federal, state or local law in its educational programs, admissions policies, scholarships or in employment.

for more information about saturday academy visit

www.saturdayacademy.org