

GELFAND OUTREACH

Rigorous - Educational - STEM Focused - Hands-on - Fun

Summer 2022 Series Classes - Carnegie Mellon University

Scholarship funds are available through gifts from several Carnegie Mellon alumni. Please see the information below to learn more.

Program Overview

The Gelfand Outreach Summer Series is designed to illuminate, encourage, and motivate our future scholars through week-long classes in science, technology, engineering, math, and arts. We value hands-on learning, creating, collaborating, and sharing ideas. We understand the importance of providing opportunities for our young learners in Pittsburgh and southwestern Pennsylvania. Our Summer Series enables local students to explore science, engage in experiments using the scientific method, build prototypes, and so much more.

Instructors

We partner with members of the Carnegie Mellon University community to present these exciting summer courses for kindergartners through ninth grade students. CMU faculty and staff design our Gelfand Outreach classes to spark learning and enthusiasm in the fields of science, technology, engineering, math, and arts. We introduce young learners to their cutting-edge discoveries in research at CMU. Gelfand Outreach teachers are scientists and educators who understand the significance of early STEM education for our youth. For more information about each instructor see the brief biography following the course description.

Application Process

Classes are open to students entering kindergarten through ninth grade. Parents register online and students are assigned to classes in the order in which we receive the registrations. Students may take one or more classes.

Location

Classes are held on Carnegie Mellon University's campus in the Oakland neighborhood in Pittsburgh, PA.

Daily Schedule

9 am – Noon. On Friday, the last day of the program, we plan to invite parents and siblings to attend the class for a presentation. Class will meet at the usual beginning time but will stop early for the presentation. You will have a chance to tour your child's classroom and visit informally with teaching staff. Information will be sent home as this plan depends on Carnegie Mellon's guidelines for safety during the weeks when we are conducting programs.

Cost

Classes are \$325, 9 am-noon daily. All fees must be prepaid. Payment is expected when a child is accepted to guarantee their spot in class.

Financial Aid

Financial Aid Scholarships are available. To qualify you must submit a copy of the first page of your IRS Tax Form 1040 from the past year. We are able to offer scholarships through a gift provided by Carnegie Mellon alumnus Bernard Meisner (S '71) and other donors to support students in Gelfand Outreach classes.



Members of the Feinberg Lab

3D BIOPRINTING GRADES 7-9

June 27th - July 1st

Discover the exciting work being completed by the members of the Adam Feinberg lab at Carnegie Mellon University. Members of the lab will introduce students to 3D printing and bioprinting techniques for regenerative medicine/tissue engineering. Students will learn a bioprinting technique developed in the Feinberg lab and they will be able to practice printing hydrogels such as alginate.

Professor Feinberg’s lab is developing materials-based engineering strategies to encode information in the 3-D environment of the cell. They are currently investigating the basic properties of engineered ECM and using this to build cardiac, skeletal and corneal tissues. On the basic science side, they are exploring the biomechanics and mechanobiology of engineered fibronectin, laminin and collagen nanofibers. On the applied side, they are merging developmental biology and materials science to build 2-D and 3-D scaffolds that drive stem cells to differentiate and form functional tissues.



Kathie Stilinovich

JUNK BOTS GRADES K-2

July 11th - 15th OR July 18th - 22nd

What are robots and what makes robots work? Can robots really take over the world? In this class, we’ll build different types of robots and learn about batteries, LED, circuits, electricity, and more. We’ll explore how engineers build machines and make modifications to our robots to really make them buzz, rattle, and move! Draw and design your own junk bot, bringing it to life with household items! Have fun with science and technology while learning to think like a robotics engineer. The sky’s the limit!

Kathie Stilinovich spent her childhood living in Brussels, Belgium and living up and down the California coast. She graduated from Pacific Oaks College in Pasadena California with a Bachelor of Arts in Early Childhood Education and Development. She has over 30 years of experience working in the field as a teacher. She has taught in many different settings from private pre-schools, Jewish Community Centers to an International School. She is currently a kindergarten teacher at CMU’s Children’s School.

Before moving to Pittsburgh, Kathie and her family lived in Boise, Idaho for 24 years. They loved the small city to raise their two daughters. Once their girls left to pursue their dreams in other cities, Kathie and her husband decided they needed a new adventure on the other coast. They love their big new city and all that it has to offer. Kathie and her husband love to bike ride, walk their dogs, get coffee, and explore everything Pittsburgh has to offer.



Left: 3D printing is a “hot” topic in GO classes! Right: Mechanical engineering class testing their bridge designs to the breaking point!



Courtney Daylong

RESEARCH @ CMU GRADES 6-8

July 11th - 15th

Students will be introduced to faculty members and graduate students who conduct cutting-edge science, computer science and engineering research at Carnegie Mellon. Through discussions, tours, and hands-on activities participants will learn about studies that are designed to solve societal problems, application of science and mathematics content that they are learning in school, and about pathways to careers in STEM fields.

Courtney Daylong is a Carnegie Mellon University, Heinz College alum. She was a Teaching Assistant for the Communications/Public Speaking course and holds a Master's in Public Management with a focus in Strategic Planning. She's spent a decade in executive leadership as a District Manager and Regional Vice President in education and with American Honda Motor Co. throughout the Midwest and Los Angeles. She has also completed doctoral studies in public policy at the University of Southern California and earned a Bachelor of Arts in Education. Now, having three little boys, she owns a nationally recognized nutrition consulting business focused on women's and children's health, giving back, and partnering with likeminded organizations.

SCIENCE AND ENGINEERING SUMMER SAMPLER GRADES 3-5

June 27th - July 1st

Students will visit a variety of labs and spaces at Carnegie Mellon to learn about cutting edge research. Faculty, graduate students and staff in science, engineering and computer science will share information, demonstrations and hands-on activities to help Sampler participants to develop a broader understanding of what it means to work as a scientist or engineer. Students will summarize the information that they have learned and to make connections between the research activities and the content that they are learning in school.

Courtney Daylong is the instructor for this class. Please see her biography above.



Left: Students at work in a CMU chemistry lab. Right: Students preparing their "bug-bots" for the parade of insects!



Summer 2022 Series Classes

Classes are \$325.00 each and are conducted from 9:00AM to noon at Carnegie Mellon University.

Class Name	Dates	Grades	Brief Description
3D Bioprinting	June 27 - July 1	7-9	Learn a bioprinting technique developed in the Adam Feinberg lab and practice printing hydrogels such as alginate.
Science & Engineering Summer Sampler	June 27 - July 1	3-5	Visit labs and areas at CMU to learn about cutting edge research! Faculty, graduate students and staff in science, engineering and computer science will share information, demonstrations and hands-on activities.
Junk Bots	July 11-15	K-2	What are robots and what makes robots work? Explore how engineers build machines and make modifications to robots. Draw and design your own junk bot, bringing it to life with household items! If you cannot attend this week the same class will be offered next week, see below.
Research @ CMU	July 11-15	6-8	Students will be introduced to faculty members and graduate students who conduct research at Carnegie Mellon. Discuss, tour, and participate in hands-on activities.
Junk Bots	July 18-22	K-2	What are robots and what makes robots work? Explore how engineers build machines and make modifications to robots. Draw and design your own junk bot, bringing it to life with household items! This is the same class as the one above if you cannot attend this week.

To apply for scholarship funds, please submit a copy of the first page of your IRS 1040 tax form from last year.



Students from the Gelfand Outreach Summer 2019 classes host visitor and Gelfand Outreach Donor, Bernard Meisner (S '71.)