



## FAQ

### Why should I attend GEMS?

You'll get to do really cool stuff. You'll make new friends who also like science and math. And you'll get to learn from Penn students and professors!

### When does GEMS take place?

Camp is from **9am-4pm** from **June 22 to June 26** on the Penn campus. Lunch is provided, transportation is NOT provided. Camp staff will meet campers at a drop off location and take them to their sessions each day.

### How much does GEMS cost?

There is a \$25 non-refundable application for each camper. If accepted, the cost of GEMS is \$625 per participant. Each participant will receive a certificate of completion, a GEMS t-shirt, and families are invited to attend the closing reception at the end of the week. A limited amount of financial assistance is available. Contact the Camp Director for more information.

### Who can apply?

If you are entering 7th, 8th or 9th grade in Fall 2020, are interested in math, science or engineering, have at least a B average, and live within a 60 mile radius of Penn's campus, you are encouraged to apply.

*Please Note: Participants from previous GEMS camps are NOT eligible to return to the program.*

### How can I apply?

Applications are available online:

<http://www.seas.upenn.edu/awe/gems/>

Applications, along with one (1) teacher recommendation and the \$25 application fee are due by March 2, 2020.

### For more information, contact:

**Michaile E. Rainey**

Director, Advancing Women in Engineering Program

215-573-6487

[michaile@seas.upenn.edu](mailto:michaile@seas.upenn.edu)

[www.seas.upenn.edu/awe](http://www.seas.upenn.edu/awe)

### PennGEMS

Advancing Women in Engineering Program

School of Engineering & Applied Science

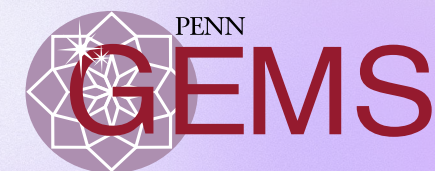
University of Pennsylvania

220 S.33rd St

109 Towne

Philadelphia, PA 19104

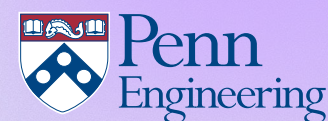
**[WWW.SEAS.UPENN.EDU/AWE](http://WWW.SEAS.UPENN.EDU/AWE)**



## Engineering Math & Science Camp

June 22 to June 26, 2020

**For students entering 7th, 8th, and 9th grade at the University of Pennsylvania**







## Calling all middle school students in 6th, 7th or 8th grade who will be 7th, 8th or 9th graders next year!

Join us for a great week of hands-on science, math, and engineering at Penn! You'll participate in a wide variety of activities including Bioengineering, Nanotechnology, Materials Science, Mechanical Engineering, Graphics and Computing.

- Discover how engineers change lives!
- Make new friends and learn from Penn students!
- Experience engineering through challenging, hands-on activities with your fellow campers!



# Why Study Engineering, Math, and Science?

**Because you can make a difference in the lives of people and this planet!**

Engineers are creators, innovators, builders, and problem solvers. We are always thinking about how things work, and how we can make them work better. And we care a lot about improving people's lives and about how to protect and preserve this planet.

We design products and tools that improve people's lives: Computers, MP3 players, cell phones, social networking websites, animations, roller coasters, space shuttles, Mars Rovers, prosthetic devices, fabrics for bulletproof vests, and fabrics that breathe for active wear (to name just a few).

We help make the world a better place by finding alternate energy sources and designing highly fuel efficient cars to combat global warming.

We work on the most difficult challenges that face human health and disease, such as cancer, HIV/AIDS, spinal cord injury, and we try to create better ways to diagnose and treat these diseases.

We communicate, work in groups and teams, negotiate, and we are always learning new things as we work with people from all sorts of other fields, such as medicine, law, business, and psychology.

## The GEMS Program

Over the course of the week, you'll learn how engineering is part of your everyday life.

*Please note, activities are subject to change and not all participants will necessarily get to do all activities.*

Students will be broken into groups and will participate in a variety of activities some of which may include:

### Glow in the Dark Science

What does a cell in your body look like up close? Do you know how cells travel throughout your body? Through hands-on labs, learn how engineers make cells light up so that they can watch them move around the body, and how engineers are actually making body cells that fight disease.

### Mechanical Engineering in Action!

Mechanical Engineers create everything from cell phones and toys to medical devices and cars. You'll get to try your hand at the exciting design process by working in a team to build your own structure or vehicle.

### What is Computer Science?

Computers, iPods, cell phones, websites, video games, animated movies, and robots are just a few things created by computer scientists. Learn how to think like a computer scientist and maybe even create a few things of your own.

### How stuff works!

Have you ever wondered how your computer screen can produce such a wide variety of crisp, clear colors? Or why some types of glasses frames can be bent and twisted without breaking? Materials Scientists will help you answer these questions and more!

### Electricity and Magnetism

Charging your phone, a bolt of lightning, a spark when going down a slide...What do these things have in common? Electricity! Learn the basic concepts behind electricity.

### ALL Robotics track!

Spend all week in the robotics lab learning about and playing with different types of robots. What is a robot? How does it work? Can I make it work? Learn the answers to these questions and more when you get to build, program and test your own LEGO EV3 robot. Space in the robotics only track is limited. No prior robotics experience necessary.