

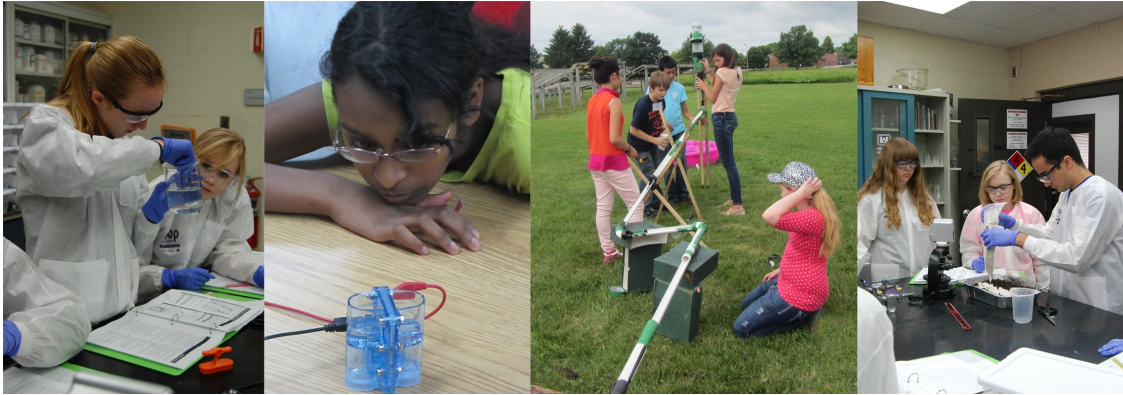


Engineer Research and Development Center-  
Construction Engineering Research Laboratory

2902 Newmark Drive, Champaign, IL 61822

# GEMS

**2019 Camp Program Dates:**  
**GEMS I - June 17 - 21, 6&7 Grade**  
**GEMS II - July 8 - 12, 8&9 Grade**  
**GEMS III - July 22-26, 10-12 Grade**



Looking for a fun-filled educational activity during the summer? Look no further...

**GEMS Camp (Gains in the Education of Mathematics and Science)** will be held in Champaign, Illinois this summer.

The GEMS Program gives students entering grades 7<sup>th</sup> or 8<sup>th</sup> grade and 9<sup>th</sup> through 11<sup>th</sup> grade an opportunity to intern at an Army laboratory and be exposed to career opportunities in the areas of math/science. Participating students will receive an educational stipend.

**GEMS I:** Transformation is in the works. Students will use chemistry, physics, and engineering to transform everyday items into new objects. Hands on experiments may include saponification (soap making), electromagnetism, and model building.

**GEMS II:** Transformation and pigments. Students will cover portions of topics from both GEMS I and GEMS III curricula.

**GEMS III:** Students will use STEM to explore how science and art are intermingled. Using the traditional laboratory setup, students will synthesize their own pigments and extract dyes from everyday items and explore how these pigments can be utilized to create paints.

## GEMS Goals:

- Cultivate curiosity.
- Encourage students to take advanced courses.
- Engage participants in rigorous and competitive scientific activities.
- Offer opportunities for student interns to conduct research in a working laboratory.
- Provide active learning experiments that merge concept with technical skills.
- Challenge students with advanced protocols.

**Application period open now until March 31, 2019**

**Applications submitted BEFORE or AFTER the registration period will not be considered.**

**Apply On-line at the Army Education Outreach Program website: <http://www.usaeop.com/champaign/>**

**\*Students must submit an essay (minimum 500 characters) as part of their application.**

**U.S. Army Corps of Engineers  
Engineer Research and Development Center –  
Construction Engineering Researcher Laboratory**

**CERL Outreach Coordinator  
CERL-Outreach@usace.army.mil**

The Construction Engineering Research Laboratory is located east of Mattis Ave. at the corner of Interstate Dr. and Newmark Dr. in the Industrial Park area.

# Frequently Asked Questions

## What is GEMS?

The Gains in Education of Mathematics and Sciences (GEMS) program promotes the education of regional youth in Science, Technology, Engineering and Math (STEM). GEMS is offered by the Army Educational Outreach Program and mainly funded by the Department of Defense to encourage students to enter into STEM related careers. The Construction Engineering Research Laboratory (CERL) provides a summer program under the GEMS umbrella. GEMS is also available at other locations around the United States of America.

## What can I expect as a participant of GEMS at CERL?

As an interested and enthusiastic middle school or high school student in the CERL GEMS Program, you will be exposed to a genuine, hands-on laboratory experience. GEMS will also help you in STEM related courses at school. The program offered at CERL is led by "near-peer" mentors who develop, explain, and execute each teaching module with you.

## What is a "near-peer" mentor?

Near-peer mentors are high school students or college students and recent graduates from related fields of academia. These mentors are closer in age than the traditional teacher and create a more relaxed atmosphere of learning. The responsibilities of a near-peer are to be role models to the students, promote high-level science and math classes, and act as expert resources concerning college life and career pathways. Near-peers are selected for their technical experience and attitude. Their inclusion is integral in enhancing each and every GEMS student's interest and achievement.

## What is a teaching module?

Our teaching modules are interdisciplinary, inquiry based, hands-on learning experiments that explore the various fields of STEM academia. We utilize real-world examples and merge theory with practice to cultivate a broad and well rounded understanding within each student. We require that every teaching module be fun and engaging.

## Where is the program located?

The program will be at the Construction Engineering Research Laboratory, 2902 Newmark Drive, Champaign, IL. The modules will be taught in a laboratory or training room setting.

## Is there a fee to participate?

The program does not have a fee and in fact, offers an educational stipend for students. This stipend is not a paycheck and is only available upon completion of the entire program.

## What are the dates and times that the program starts and ends?

Please plan to arrive between 8:00 a.m. and 8:20 am. Each day is split into a morning and an afternoon session with various breaks throughout the day. We break for lunch midday and require that students bring a packed lunch. Dismissal is at 3:30pm. Please plan to pick up your child by 3:45 p.m.

## When can I register?

Registration Window: now until February 28, 2019

All registrations are considered and placed, as best as possible.

Notification of placement is sent out by April 30, 2019 by email.

No paper forms will be sent out unless special request is made.

## How do I apply?

If the link on the front side doesn't work for you, you can also apply by accessing the Army Education Outreach Program (AEOP) website <http://www.usaeop.com>.

Choose the "Help Me Find a Program" button and then select "LEARN MORE" under the GEMS Section.

Select "APPLY NOW" on the bottom left, and under "Illinois" select "APPLY NOW" on the left.

Note that your GEMS Program site location is ERDC-CERL, Champaign.