

## PROGRAM OVERVIEW:

eCYBERMISSION is a web-based Science, Technology, Engineering and Mathematics (STEM) competition for students in grades six through nine that promotes self-discovery and enables all students to recognize the real-life applications of science, math and technology. Using either the scientific method or engineering design process, teams of three to four students propose a solution to a real problem in their communities to compete for State, Regional and National Awards and recognition.

The U.S. Army is committed to answering the Nation's need for increased national STEM literacy and to expanding STEM education opportunities across the country to open doors to new career paths for American students that lead to a brighter tomorrow.

## PROGRAM MILESTONES

<b>Aug - Jan:</b>	<b>Team Registration</b>
<b>Aug - Feb:</b>	<b>Teams Conduct Research and Experiments</b>
<b>Dec - Feb:</b>	<b>Mission Folder Submission</b>
<b>Feb - Apr:</b>	<b>Virtual Judging</b>
<b>Apr - May:</b>	<b>Regional Judging</b> [Mid APR State Winners Announced] [Late APR Regional Winners Announced]
<b>June:</b>	<b>National Judging &amp; Educational Event</b>

*"I joined eCYBERMISSION because it gives you a variety of opportunities, and it opens doors for you, and it gives you new experiences that might not be available in other places"*

~ eCYBERMISSION Student

### Program Contact Information:

**E:** [missioncontrol@ecybermission.com](mailto:missioncontrol@ecybermission.com)

**Tel:** 1-866-60-CYBER (462-9237)

 [ecybermission.blogspot.com](http://ecybermission.blogspot.com)

 [youtube.com/ecybermissionteam](http://youtube.com/ecybermissionteam)

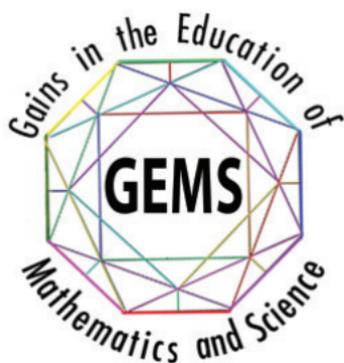
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 [pinterest.com/ecybermission](http://pinterest.com/ecybermission)





## PROGRAM OVERVIEW:

Gains in the Education of Mathematics and Science [GEMS] is an Army-sponsored, summer STEM enrichment program for middle and high school students that takes place in participating Army Research Laboratories. GEMS is driven by the overarching mission: to interest young people, who might not otherwise give serious thought to becoming scientists or engineers, in STEM careers early enough in their education so that they have the time to attain the appropriate academic training.

## PROGRAM MILESTONES

- Jan - Feb:** Student Application Opens [varies by site]
- Mar - Apr:** Applications Due
- Apr - May:** Applications Reviewed & Participants Selected
- May:** Selected Students Notified
- June - Aug:** Students Participate in GEMS program [length and dates vary by location]

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*"GEMS is a great opportunity to expand my knowledge in the science and biology department while being able to inform and help me decide what my future in science can be like."*

*~ GEMS Participant*

### Program Contact Information:

**E:** [ArmyGEMS@asee.org](mailto:ArmyGEMS@asee.org)

**Tel:** 202-331-3558

[www.usaeop.com/programs/GEMS/index.htm](http://www.usaeop.com/programs/GEMS/index.htm)





## ACADEMY OF APPLIED SCIENCE

### PROGRAM OVERVIEW:

JSHS is designed to challenge and engage students [Grades 9-12] in science, technology, engineering or mathematics [STEM]. Individual students may apply to compete for scholarships and recognition by presenting the results of their STEM projects before a panel of judges and an audience of their peers. Opportunities for hands-on workshops, panel discussions, career exploration, research lab visits and networking benefit participating students. JSHS regional symposia are held at 48 nationwide university campuses and serve students in the 50 states, Puerto Rico, and the DoD Dependents Schools, Europe and Pacific.

### PROGRAM MILESTONES

- Sep - Dec:** Student application process is open requiring application, abstract and paper  
Regional symposia deadlines vary
- Jan - Apr:** Regional symposia review of abstracts and papers
- Jan - Apr:** Regional symposia judging – Oral and poster presentations. Regional winners announced
- May:** National JSHS held

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*"I loved the exposure to future research opportunities at JSHS and to learn about both university and military research. The JSHS broadened my thinking about possibilities for the future. The confidence and competence that I gained through this high school experience played a large part in my future success. Because of the JSHS experiences, I decided to major in Chemistry."*

~ National JSHS Student Delegate

#### Program Contact Information:

**E:** [cousens@jshs.org](mailto:cousens@jshs.org) **Tel:** 603-228-4520  
[www.jshs.org](http://www.jshs.org)

Visit [www.jshs.org/regions.html](http://www.jshs.org/regions.html) to locate the JSHS statewide contact and to apply



Search for "Junior Science and Humanities Symposium"





## PROGRAM OVERVIEW:

Junior Solar Sprint (JSS) is a free educational program for 4th through 8th grade students where students design, build and race solar powered cars. Students develop teamwork and problem solving abilities, investigate environmental issues, and gain hands-on Science, Technology, Engineering and Mathematics (STEM) skills to create the fastest, most interesting, and best crafted vehicle possible. An online resource center includes STEM standards-based educational materials, supplementary instructional videos and webinars. An interactive calendar/database facilitates a national network of participants. Students can compete in local races or take part in an online competition.

## PROGRAM MILESTONES

- Oct - May:** Online resources available
- Nov:** Online competition opens
- Dec - Mar:** Webinars and local training for students and teachers/mentors
- Jan - Mar:** Complete JSS lesson plans  
Create design sketches and team journal  
Purchase solar car kits
- Mar - Apr:** Online competition submissions judged
- Apr - June:** Participate in local and regional JSS races
- May - June:** Local and online race winners announced

*"Engaging middle school students in the Junior Solar Sprint since 2000 has proven to excite students about designing and fabricating vehicles that run on only the sun. Give it a try. You and your students will be glad you did."*

*~ Technology Engineering Teacher and Junior Solar Sprint Race Coordinator*

### Program Contact Information:

**E:** [info@jrsolarsprint.org](mailto:info@jrsolarsprint.org)

**Tel:** 703-860-9000

[www.jrsolarsprint.org](http://www.jrsolarsprint.org)

-  [youtube.com/user/NationalJSS](https://youtube.com/user/NationalJSS)
-  [twitter.com/NationalJSS](https://twitter.com/NationalJSS)
-  Search for "Junior Solar Sprint"



## COLLEGE QUALIFIED LEADERS (CQL) PROGRAM



### PROGRAM OVERVIEW:

The College Qualified Leaders (CQL) program matches practicing DoD scientists with talented college and graduate students creating a direct mentor-student relationship, providing participants with training that is unparalleled at most colleges. CQL students receive firsthand research experience and exposure to DoD laboratories. CQL fosters desire in its participants to pursue further training and careers in STEM. Selected participants receive a stipend based on education and experience and may participate year-round.

### PROGRAM MILESTONES

*Applications are accepted year-round.*

*The schedule below is for summer-only positions.*

<b>Nov:</b>	<b>Application Opens</b>
<b>Late Feb:</b>	<b>Applications Due</b>
<b>Mar - Apr:</b>	<b>Mentors Review Applications &amp; Select Participants</b>
<b>Apr - May:</b>	<b>Selected Students Notified</b>
<b>June - Aug:</b>	<b>Students Participate in CQL at DoD Laboratories</b>

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*"I thoroughly enjoyed my learning curve through the CQL program. The program has benefited numerous students at various levels in their educational career by giving them an opportunity to realize their dreams in science. I am greatly indebted to the program and will endorse it throughout my life!"*

*~ CQL Participant*

### Program Contact Information:

**E:** [ArmyCQL@asee.org](mailto:ArmyCQL@asee.org)

**Tel:** 202-331-3558

[www.usaeop.com/programs/CQL/index.htm](http://www.usaeop.com/programs/CQL/index.htm)



# THE SCIENCE AND ENGINEERING APPRENTICE PROGRAM (SEAP)



## PROGRAM OVERVIEW:

The Science and Engineering Apprentice Program (SEAP) matches practicing DoD scientists with talented high school students creating a direct mentor-student relationship that provides students with training that is unparalleled at most high schools. SEAP participants receive first-hand research experience and exposure to Department of Defense laboratories. SEAP fosters desire in its participants to pursue further training and careers in STEM. Selected participants receive a stipend of approximately \$2000 for the 8-week program.

## PROGRAM MILESTONES

<b>Nov:</b>	<b>Student Application Opens</b>
<b>Late Feb:</b>	<b>Applications Due</b>
<b>Mar - Apr:</b>	<b>Mentors Review Applications &amp; Select Participants</b>
<b>Apr - May:</b>	<b>Selected Students Notified</b>
<b>June - Aug:</b>	<b>Students Participate for 8 weeks at DoD Laboratories</b>

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*"I was exposed to a lot of new science topics, lab techniques, and concepts with which I had little or no experience. My mentor was awesome and I had some other great mentors, including other P.I's and lab techs."*

*~ SEAP Participant*

### Program Contact Information:

**E:** ArmySEAP@asee.org

**Tel:** 202-649-3833

[www.usaeop.com/programs/SEAP/index.htm](http://www.usaeop.com/programs/SEAP/index.htm)



# UNITE



## PROGRAM OVERVIEW:

UNITE is a four-to-six-week pre-collegiate summer program for talented high school students from groups historically underrepresented and underserved in science, technology, engineering, and mathematics [STEM]. Held at higher education institutions across the country, UNITE encourages college majors and careers in engineering in these students by giving them the opportunity to experience hands-on rigorous academics, enrichment, and career exploration – all in STEM fields.

## PROGRAM MILESTONES

- Mar - May:** Student Application Period
- May - June:** Selected Students Notified
- June - Aug:** Students Participate for 4-6 weeks at Colleges and Universities across the country.

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*"UNITE was an extremely rewarding experience. I met and worked diligently with other students. I learned how to divide and conquer a project with my team members. I learned how to look at our world in a mathematic and scientific manner. I would recommend this program to anyone; it was absolutely incredible."*

*~ UNITE Participant*

### Program Contact Information:

**E:** [hlee@tsaweb.org](mailto:hlee@tsaweb.org); subject line UNITE **Tel:** Toll Free 888-860-9010

[www.tsaweb.org/TSA-UNITE](http://www.tsaweb.org/TSA-UNITE)

[www.usaeop.com/programs/UNITE/index.htm](http://www.usaeop.com/programs/UNITE/index.htm)



Search for "AEOP UNITE"

## WEST POINT BRIDGE CONTEST



UNITED STATES MILITARY ACADEMY  
**WEST POINT**®

### PROGRAM OVERVIEW:

The West Point Bridge Contest provides students with an opportunity to build realistic bridges using a free award winning software program. The contest is open to students age 13 through grade 12. A special Army-Navy version of the contest is open to students in grades 6-7.

The contest will provide you with an opportunity to:

- Learn about engineering through a realistic problem solving experience.
- Learn about the engineering design process.
- Learn about truss bridges and how they work.

[BridgeContest.usma.edu](http://BridgeContest.usma.edu)

### PROGRAM MILESTONES

<b>Aug - Dec:</b>	<b>Software Download and Student Practice</b>
<b>Jan:</b>	<b>Qualifying Round Begins</b>
<b>Mar:</b>	<b>Semi-Final Round</b>
<b>May:</b>	<b>Final Round at West Point</b>

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*"Thank you for another wonderful engineering contest. The program itself, the schedule, the accommodations, and the attention to every detail came seamlessly together for a great experience."*

*~ West Point Bridge Design Student Participant*

#### Program Contact Information:

E: [wpbedc1@gmail.com](mailto:wpbedc1@gmail.com)

[www.bridgecontest.usma.edu](http://www.bridgecontest.usma.edu)



[twitter.com/BridgeContest](https://twitter.com/BridgeContest)



[facebook.com/WestPointBridgeContest](https://facebook.com/WestPointBridgeContest)



# HSAP

High School Apprenticeship Program

# URAP

Undergraduate Research Apprenticeship Program



## PROGRAM OVERVIEW:

The High School Apprenticeship Program (HSAP) and Undergraduate Research Apprenticeship Program (URAP) provide high school students and undergraduates authentic science and engineering research experience with university researchers sponsored by the Army Research Office. Through this commuter program students will develop skills in Army critical science and engineering research areas in a university lab setting to prepare them for the next steps of their educational and professional career.

## PROGRAM MILESTONES

- Jan - Feb:** Applications open
- April - May:** Participants notified & select start date
- June - Aug:** Student research session (also Fall if necessary)
- July:** HSAP and URAP Research Showcase

*"I really enjoyed my project and research experience! I got to apply all of the concepts I learn in class for the first time. Being in the lab and using all the equipment was great - I'll probably do research again in the future."*

~ HSAP Participant

### Program Contact Information:

**E:** [usarmy.rtp.aro.mbx.youth-science@mail.mil](mailto:usarmy.rtp.aro.mbx.youth-science@mail.mil)

**Tel:** 919-549-4383



# RESEARCH & ENGINEERING APPRENTICESHIP PROGRAM (REAP)

# ACADEMY OF APPLIED SCIENCE

## PROGRAM OVERVIEW:

REAP is a summer STEM program that places talented high school students, from historically under-represented and underserved groups, in research apprenticeships at area colleges and universities. REAP apprentices work under the direct supervision of a mentor on a research project. REAP apprentices are exposed to the real world of research, they gain valuable mentorship, and they learn about career opportunities in STEM. REAP apprenticeships are 5-8 weeks duration and apprentices receive a stipend.

## PROGRAM MILESTONES

<b>Jan:</b>	<b>Student Application Opens</b>
<b>Late Mar:</b>	<b>Applications Due</b>
<b>Apr - June:</b>	<b>Selected Students Notified</b>
<b>July:</b>	<b>Students Apprentice for 5-8 Weeks in College or University Laboratories</b>

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*"I believe REAP set me apart from other applicants and has been one of the main factors for my acceptance into Brown and for that I am extremely grateful. I hope this program has benefitted others in the same way or greater and continues to provide opportunities for students who typically would not have exposure to research activities."*

*~ 2012 REAP Apprentice*

### Program Contact Information:

**E:** [usarmy.rtp.aro.mbx.youth-science@mail.mil](mailto:usarmy.rtp.aro.mbx.youth-science@mail.mil) **Tel:** 603-228-4530

[www.aas-world.org/REAP/REAPprogram.html](http://www.aas-world.org/REAP/REAPprogram.html)

 Search for "Academy of Applied Science"

