



Army Educational Outreach Program

AEOP Standard Operating Procedure: GEMS



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CONTENTS

Purpose	3
Proponency	3
Scope.....	3
Explanation of Terms	3
Roles & Responsibilities	4
GEMS Program Requirements & Eligibility. Error! Bookmark not defined.	
GEMS Budget Guidelines..... Error! Bookmark not defined.	
Agency Participation and Selection Process.....	5
Program Evaluation	6
Essential Program Steps..... Error! Bookmark not defined.	
Strategic Partnerships	6
References.....	7



Purpose

The purpose of this Standard Operating Procedure (SOP) document is to provide standardized processes and guidelines to effectively and efficiently plan and execute the Army Educational Outreach Program's (AEOP) Gains in the Education of Math and Science (GEMS). AEOP welcomes the customization of GEMS program planning and execution at the laboratory level based on organizational infrastructure and demographics. However, it is crucial to the success and longevity of AEOP-sponsored programs that each Army site consistently adheres to the policies, procedures and guidelines outlined in this document, which provides a centralized structured support in understanding the AEOP impacts, to include GEMS, and ensures each participating agency has the fiscal and logistical support for sustained program funding.

Proponency

The Army Educational Outreach Program Office within the Office of the Deputy Assistant Secretary of the Army, Research & Technology (DASA R&T) is the proponent for this SOP. The U.S. Army Research, Development, and Engineering Command (RDECOM), which serves as the Army's execution agent for AEOP, has the role and function of the AEOP Cooperative Agreement Manager (CAM) and will ensure the SOP is updated to reflect current Army policy and guidance as well as ensure that GEMS is implemented in accordance with the AEOP Cooperative Agreement.

Scope

This SOP applies to all U.S. Army, university and industry personnel involved in the planning and execution of the GEMS program as part of the larger AEOP portfolio.

Explanation of Terms

AEOP. Through AEOP, the Army continues its long tradition and strong commitment to the advancement of science, technology, engineering and mathematics (STEM) education and literacy. Leveraging its most valuable assets – **world-class scientists and engineers and research facilities** – AEOP offers our nation's youth and teachers a collaborative, cohesive portfolio of Army sponsored STEM programs that effectively engage, inspire, and attract future workforce generations in meaningful, real-world STEM experiences, competitions and paid internships. The Deputy Assistant Secretary of the Army, Research & Technology (DASA R&T), under the delegation of STEM education authority as outlined in U.S. code title 10, section 2192, plays an active role in the development, implementation and evaluation of AEOP programs to ensure they align with federal and DoD STEM goals. AEOP programs and functions are administered under the AEOP Cooperative Agreement (AEOP COA), which is comprised of a



lead organization (LO) and individual program administrators (IPAs) who collaboratively work as a consortium to help the Army execute and assess AEOP programs against its AEOP Priorities and Objectives.

GEMS. GEMS is an Army sponsored, summer enrichment activity for students, anywhere between 5th through 12th grades, which takes place at Army research laboratories and centers across the Army science and technology enterprise.

GEMS mission is to spark interest in young people who might not otherwise give serious thought to pursue STEM careers early enough in their education in order to attain the appropriate academic training. The program is based on multi-disciplinary educational curriculum, and is focused on age and grade-appropriate hands-on activities, in areas such as science, engineering, mathematics, computational sciences, computational biology, biomedical sciences, chemistry and biology. For more information on GEMS, visit <https://www.usaeop.com/program/gems/>

GEMS is one of eleven AEOP K-Undergraduate efforts. AEOP's mission is to provide both students and teachers a collaborative, cohesive, portfolio of Army-sponsored STEM opportunities that effectively engage, inspire, and attract the next generation of STEM talent. For more information on AEOP Vision, Mission and Objectives, visit <http://www.usaeop.com/about/>.

Roles & Responsibilities

It takes a collaborative approach to ensure the seamless integration of the strategic direction, fiscal and technical management, planning and execution, program evaluation, as well as the marketing and communications of GEMS programs across the Army. While managed and administered under the AEOP Cooperative Agreement (CA), GEMS programs are locally planned and executed at Army laboratories across the nation.

For a detailed summary of the roles and responsibilities involved with GEMS programs, as well as a current POC list, refer to the following documents:

- GEMS Roles and Responsibilities
- GEMS Points of Contact
- GEMS Program Requirements & Eligibility
- GEMS Budget Guidelines
- GEMS Essential Program Steps



Agency Participation and Selection Process

GEMS outreach is conducted in communities that are within commuting distance of the laboratory to create program awareness to a diverse applicant pool. The IPA, in support of the local program coordinator (LPC), disseminates program information widely to ensure broad program reach.

Application. Students and teachers must be directed to the [AEOP website](#) to apply for GEMS. The application tool allows LPCs and IPA staff to access, review, and select student applicants from the database. Students must apply within the application window and provide all required supporting documents (recommendation letters, transcripts, etc) as deemed necessary by the LPC.

To preserve the integrity of the data collected through our centralized AEOP application tool, AEOP heavily depends on LPCs to safeguard the program participants' records. All LPCs and command level coordinators (CLCs) have been provided access to their organization's AEOP application portal. It is strongly recommended that LPCs and CLCs restrict access to essential program personnel. LPCs bear the responsibility of access to participant records at their respective sites.

Selection Process. It is advised that labs create an internal process for selecting their GEMS participants. GEMS programs are not designed to target students already connected to the laboratory. LPCs should not give priority to children of civilian employees or those with existing personal connections to the respective laboratory. However, preference may be given to a predetermined percentage of active duty military children.

Consideration should also be given to students of diverse and underserved populations. These include low-income students; students belonging to race and ethnic minorities that are historically underrepresented in STEM (i.e., Alaska Natives, Native Americans, Blacks or African Americans, Hispanics, Native Hawaiians and other Pacific Islanders); students with disabilities; students with English as a second language; first-generation college students; students in rural, frontier or other Federal targeted outreach schools; and females in certain STEM fields (e.g., physical science, computer science, mathematics, or engineering).

The end goal of AEOP is to broaden participation of underserved populations in STEM and have diverse participation in the competitive programs that reflect our nations demographics. GEMS sites should have student representatives of national demographics and should err on the side of greater representation of underserved populations in support of this goal.



Student Acceptance and Notification. In coordination with LPCs, the IPA will prepare and send acceptance notification packages that include Terms and Conditions and a direct deposit form. The IPA/LPC will collect completed forms from program participants, gather additional forms or materials if required, and send a final list of accepted students to the LPCs. Terms & Conditions or forms containing personally identifiable information (PII) must be safely transferred to the IPA in accordance with AEOP PII Guidance.

Program Evaluation

Aligned with the Federal STEM Strategic Plan and DoD's STEM Strategic Plan, AEOP's evaluation strategy assesses the impact and outcomes of its program components against its priorities and objectives. AEOP Evaluation Reports are developed to support sustained funding for the program and to share best practices and lessons learned across participating agencies. Therefore, the evaluation of AEOP programs, such as GEMS, is a DASA(R&T) requirement and critical to the sustainment of program funding.

- AEOP program Evaluation Policy

To View the AEOP Evaluation Reports, [click here](#).

Strategic Partnerships

AEOP welcomes new and innovative ways to form mutually beneficial relationships with likeminded organizations that have similar STEM goals specifically serving students from underserved populations. AEOP and its strategic partners would collaborate on sharing information and in leveraging strong STEM networks to promote AEOP portfolio of opportunities to meet objectives, maximize impact, and provide more enriching STEM opportunities for students and teachers.

Many laboratories establish formal and informal relationships with professional organizations, educational institutions, and non-profits to provide additional support to GEMS. Partnerships can yield small scale donations of food, supplies, volunteers, etc. They may also result in long-term partnerships, significant resource allocation, and a broader impact to the AEOP. Army laboratories and IPA are highly encouraged to establish strategic partners to maximize the program's impact. Any GEMS site looking to establish a relationship with an organization outside of the government that will yield significant resource allocation and have a potential high visibility impact on AEOP, should engage the CAMs to ensure alignment with AEOP Priorities and Objectives and concurrence with legal and contracting. The LPC should also secure approval through their legal office prior to establishing the partnership. One-time donations of materials and small monetary or supply contributions do not require CAM approval. LPCs and



CLCs should exercise their best judgment when determining what needs to be elevated to the CAM.

References

Policies for the GEMS program are established under the direction of the AEOP Office at the Office of the Deputy Assistant Secretary of the Army for Research and Technology.