

THE NEED

Science, technology, engineering, and mathematics (STEM) underpin DoD's ability to defend the nation and to assure the vitality of the nation's Defense Industrial Base (DIB). Developing a highly competent STEM workforce requires partnerships among government, industry, and academia. Emerging mission requirements continue to pose great STEM workforce challenges for DoD.

THE DOD APPROACH

Vision: A diverse, world-class STEM talent pool and workforce with the creativity and agility to meet national defense needs.

Mission: Ensure the Department has enduring access to a highly competent STEM workforce essential to deliver innovative solutions for the nation's current and future defense challenges.

The DoD Strategic Plan outlines a path forward to ensure that the Department has the STEM expertise necessary to develop technological solutions in an ever-changing threat environment and affords DoD Components the ability to tailor their approach to achieve these objectives.

For the complete DoD STEM Strategic Plan, please visit: www.acq.osd.mil/rd/organization/stem.html.

UNIQUE TO DOD

- Experience authentic STEM environment, research, and activities.
- Access to unique learning environments, mentors, resources, topics, activities.
- Explore, clarify, advance STEM education and career pathways.
- Build STEM networks consisting of students, teachers, STEM professionals.



DoD STEM Information
www.acq.osd.mil/rd/organization/stem.html

Department of Defense



Department of the Army
www.usaeop.com

The Army Educational Outreach Program is composed of competitions, unique experiences, internships, and teacher resources designed to spark inspiration, exploration and achievement in STEM literacy and career development.



Department of the Navy
www.stem2stern.org

STEM2Stern is the Department of the Navy's STEM workforce initiative.



Department of the Air Force
www.afstem.org

Innovation through Education –
Breaking Boundaries for a Brighter Future.

Science, Technology, Engineering & Mathematics (STEM)

*Creating emerging technology through
an innovative workforce*

A Unified STEM Approach



DISTRIBUTION STATEMENT A.

Approved for public release; Distribution is unlimited.

Meeting DoD's STEM workforce needs...

Engagement

"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 benefited others in the same way or greater and continues to provide opportunities for students who typically would not have exposure to research activities."

-Research & Engineering Apprenticeship Program (REAP) Student

Hands-on Experiences

"These activities have been invaluable to me. Not only have they enhanced my college applications, but now I don't have to imagine what engineers do: I have worked in their labs, used their programs, assisted in their projects, and I am ready to do it again."

-SeaPerch/ Science and Engineering Apprenticeship Program (SEAP) Student

Outreach

"NDSEG has allowed me to establish concrete links with the military research community and increased my ability to pursue a career there. It has demonstrated that the DoD believes that my research has value to the US Armed Forces, and has driven me to work harder than ever to live up to that faith."

-National Defense Science and Engineering Graduate (NDSEG) Fellow

Internships

"The NDSEG gave me the freedom and autonomy to begin my journey toward becoming a legitimate scientist."

-National Defense Science and Engineering Graduate (NDSEG) Fellow

Scholarships

"Since I've been working here I've learned that engineering is really the best way to make a difference in people's lives."

-Science, Mathematics And Research for Transformation (SMART) Scholar

Fellowships

Research Experiences



DoD Research Priorities

Across DoD, Scientists and Engineers are confronted with a wide variety of challenges to ensure the warfighter's ability to protect the nation.

- **Autonomy**- science and technology to achieve autonomous systems that reliably and safely accomplish complex tasks, in all environments.
- **Counter Weapons of Mass Destruction (WMD)**- advances in DoD's ability to locate, secure monitor, tag, track, interdict. Eliminate and attribute WMD weapons and materials.
- **Cyber Science and Technology**- science and technology for efficient, effective cyber capabilities across the spectrum of joint operations.
- **Data to Decisions**- science and applications to reduce the cycle time and manpower requirements for analysis and use of large data sets.
- **Electronic Warfare/Electronic Protection**- new concepts and technology to protect systems and extend capabilities across the electro-magnetic spectrum.
- **Engineered Resilient Systems**- engineering concepts, science, and design tools to protect against malicious compromise of weapon systems and to develop agile manufacturing for trusted and assured defense systems.
- **Human Systems**- science and technology to enhance human- machine interfaces to increase productivity and effectiveness across a broad range of missions.

...through a coordinated and cohesive approach to STEM.