

NICE

NATIONAL INITIATIVE FOR
CYBERSECURITY EDUCATION



About NICE

The National Initiative for Cybersecurity Education (NICE), led by the National Institute of Standards and Technology (NIST), is a partnership between government, academia, and the private sector focused on cybersecurity education, training, and workforce development. The mission of NICE is to energize and promote a robust network and an ecosystem of cybersecurity education, training, and workforce development. NICE fulfills this mission by coordinating with government, academic, and industry partners to build on existing programs, facilitate change and innovation, and bring leadership and vision to increase the number of skilled cybersecurity professionals helping to keep our Nation secure.



NICE Goals



ACCELERATE LEARNING AND SKILLS DEVELOPMENT

Inspire a sense of urgency in both the public and private sectors to address the shortage of skilled cybersecurity workers



NURTURE A DIVERSE LEARNING COMMUNITY

Strengthen education and training across the ecosystem to emphasize learning, measure outcomes, and diversify the cybersecurity workforce



GUIDE CAREER DEVELOPMENT AND WORKFORCE PLANNING

Support employers to address market demands and enhance recruitment, hiring, development, and retention of cybersecurity talent

Affiliated Programs

The Department of Homeland Security's **Cybersecurity Education and Awareness portal** promotes cybersecurity knowledge and innovation by increasing professional expertise and public awareness. Employers, educators, professionals, and students can use the portal to access a course catalog, workforce development toolkit, sample curriculum, and more. Learn more at www.niccs.us-cert.gov.



The Office of Personnel Management is leading the development of a **Cybersecurity Human Resources Strategy** that addresses Recruitment and Hiring, Learning and Talent Development, and Retention for the Federal cybersecurity workforce. OPM also leads the **Special Cyber Workforce Project** that oversees the process by which agencies code their workforce to identify the positions that perform significant cybersecurity work and a dataset that can be analyzed to identify future workforce needs and gaps.

The National Science Foundation's **Advanced Technological Education (ATE)** program supports the education of technicians for the high-tech fields—including information technology and cybersecurity—that drive the U.S. economy. ATE accomplishes this by providing grants to develop and evaluate innovative activities that improve technician education, particularly in community colleges and secondary schools. Learn more at www.atecenters.org/security-technologies and www.nsf.gov/ate.

The National Security Agency's **National Centers of Academic Excellence in Cybersecurity** (CAE-C) programs aim to reduce vulnerability in our national information infrastructure by promoting higher education and research and producing a growing pipeline of professionals with cybersecurity expertise in various disciplines. The National Centers of Academic Excellence in Cyber Defense (CAE-CD) are co-led by the National Security Agency and the Department of Homeland Security. Learn more at www.nsa.gov/academic/nae-cae-cd.

The National Science Foundation's **CyberCorps®** Scholarship for Service (SFS) program, co-sponsored by the Department of Homeland Security, is a program that provides scholarships that may fully fund the typical costs incurred by full-time students while attending a participating institution, including tuition, stipends, and related fees. In return, students receiving SFS awards must agree to serve in a government agency upon graduation for a period equivalent to the length of their scholarship. Learn more at www.sfs.opm.gov.



The National Security Agency's **GenCyber** program, co-sponsored by the National Science Foundation, provides summer cybersecurity camp experiences for students and teachers at the K-12 level. The goals of the program are to help all students understand correct and safe online behavior, increase diversity and interest in cybersecurity and careers in the cybersecurity workforce of the Nation, and improve teaching methods for delivering cybersecurity content in K-12 computer science curricula. Learn more at www.gen-cyber.com.

The **National Cybersecurity Workforce Framework** is the foundation for increasing the size and capability of the US cybersecurity workforce. The Department of Homeland Security partnered with organizations across the US from private industry, federal and state government, and colleges and universities to develop a comprehensive list of cybersecurity tasks and the knowledge, skills, and abilities required to do those tasks. Learn more at www.niccs.us-cert.gov/training/tcframework.

Funded Projects

The following are a few key projects funded by the federal government.

The **NICE Challenge Project**, led by California State University, San Bernardino, is designed to create a flexible set of challenge environments and supporting infrastructure with a low barrier of use in which one would be able to perform the tasks outlined in the National Cybersecurity Workforce Framework. It can be used as a platform for instruction as well as to evaluate those who endeavor to be part of the cybersecurity workforce. Learn more at www.nice-challenge.com.



The **Cybersecurity Jobs Heat Map**, being developed by CompTIA in partnership with Burning Glass Technologies, will provide a data visualization of the need for and supply of cybersecurity workers to guide employers, job seekers, policy makers, education and training providers, and guidance counselors. The Map will also provide information on the supply of workers with relevant credentials. This project will also show career pathways in cybersecurity that map opportunities for advancement in the field. Learn more at www.nist.gov/nice/map.

The **National Integrated Cyber Education Research Center** (NICERC), as the academic outreach and workforce development arm of the Cyber Innovation Center, provides hands-on professional development, curricula, programs, and competitions to engage students in STEM disciplines. NICERC has developed programs to enable K-12 teachers to motivate creativity and innovation in students through problem-solving, critical thinking, and communication. Learn more at www.nicerc.org.

The **Consortium Enabling Cybersecurity Opportunities and Research** (CECOR) is a collaborative project to develop a K-20 pipeline for the cybersecurity workforce. Consortium partners include thirteen historically black colleges and universities, one public school district, and two national laboratories. CECOR is creating a sustainable workforce development program to produce well-qualified cybersecurity professionals in significant numbers to address the pressing cybersecurity workforce shortage, in particular for the National Nuclear Security Administration and its laboratories.

Connect with NICE

Join the NICE Working Group

The NICE Working Group provides a mechanism for public and private sector participants to develop concepts, design strategies, and pursue actions that advance cybersecurity education, training, and workforce development. The Working Group meets regularly to provide an opportunity for consultation and information-sharing between the government, academia, and the private sector. Subgroup focus areas include:

- K-12
- Training and Certifications
- Collegiate
- Workforce Framework
- Competitions
- Career Development and Workforce Planning

Participate in the Annual NICE Conference and Expo

The NICE Annual Conference and Expo features thought leaders from education, government, industry, and non-profits who are addressing the cybersecurity education, training, and workforce needs of the nation. This event includes face-to-face convening of public-private partners, an opportunity to signal NICE strategic directions and priorities, and a forum to showcase best practices. Learn more at www.tbccinc.com/nice.

Participate in the National K-12 Cybersecurity Education Conference

The National K-12 Cybersecurity Education Conference brings together educators, curriculum specialists, professionals, researchers, students, non-profit organizations, foundations, government, and industry to address the challenges and opportunities of cybersecurity education in elementary and secondary schools. The event includes workshops, keynote speakers, panel discussions, and exhibits designed to promote cybersecurity career awareness and support academic preparedness of K-12 students. Learn more at www.nist.gov/nice/k-12conference.

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