The National Security Agency (NSA) and the Department of Homeland Security (DHS) jointly sponsor the National Centers of Academic Excellence in Cyber Defense (CAE-CD) program. The goal of the program is to reduce vulnerability in our national information infrastructure by promoting higher education and research in cyber defense and producing professionals with cyber defense expertise for the Nation.

CAE-CD Designations

- Four-Year Baccalaureate/Graduate Education (CAE-CDE)
- Two-Year Education (CAE-2Y)
- Research (CAE-R)

All CAE-CD Institutions are:

- Regionally accredited within the United States
- Leaders in Cyber Defense education and the development of the cybersecurity discipline
- Producers of cyber professional from mature programs

Educating students with curriculum that meet or exceed criteria established by NSA in collaboration with academia, NICE, and the NICE Workforce Framework

For more information, visit www.iad.gov/nietp or contact: askCAEIAE@nsa.gov
Cybersecurity Workforce Demand

1.5 Million
MORE cybersecurity professionals will be needed to accommodate the predicted global shortfall by 2020.

Source: (ISC)² 2015 Global Information Security Workforce Study

On average, 52% of IT professionals surveyed stated fewer than 25% of all applicants were qualified.


The biggest skill gaps of today's cybersecurity professionals:

72% Ability to Understand the Business
46% Technical Skills
42% Communication Skills


Cybersecurity job postings took 8% longer to fill than IT job postings overall.

Source: (ISC)² 2015 Global Information Security Workforce Study

Approximately 10% of the current cybersecurity workforce are comprised of women.

Source: (ISC)² 2015 Women in Security: Wisely Positioned for the Future of InfoSec

18% Growth
Computer and mathematical occupations will grow much faster than the average job during 2012–2024.


Fastest growing skills in cybersecurity job postings:

- Python
- HIPAA
- Risk Management
- Internal Auditing
- Audit Planning

Source: Partnership for Public Service

Expertise required for various cybersecurity roles in demand:

- Information Security
- Network Setup
- Auditing
- Network Protocols
- Core Database, Coding and Scripting
- Systems Administration

Source: Job Market Intelligence: Cybersecurity Jobs, 2015

Fastest cybersecurity demand sectors are in industries managing consumer data:

40% Professional Services
30% Manufacturing and Defense
16% Finance and Insurance
14% Other

Source: Job Market Intelligence: Cybersecurity Jobs, 2015–2016 Burning Glass Technologies

Hardest to fill skills in cybersecurity job postings:

- Software Architecture
- Network Attached Storage (NAS)
- Software Issue Resolution
- Internet Security
- Legal Compliance
- Data Communications
- Platform as a Service (PaaS)
- Computer Forensics
- Internal Auditing
- Apache Hadoop

Source: Job Market Intelligence: Cybersecurity Jobs, 2015–2016 Burning Glass Technologies

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