FREE TOOLS TO RECRUIT, TRAIN, & RETAIN THE NEXT GENERATION OF CYBERSECURITY PROFESSIONALS

STAKEHOLDER ENGAGEMENT DIVISION (SED)
CYBERSECURITY EDUCATION AND AWARENESS (CE&A) BRANCH
Cybersecurity and Infrastructure Security Agency (CISA)

VISION: Secure and resilient infrastructure for the American people.

MISSION: Lead the Nation’s efforts to understand and manage risk to our critical infrastructure.
Advancing Cybersecurity Workforce Development: Opportunities for Women and Minorities

- Nation’s Cybersecurity Workforce
- CISA Cybersecurity Formal Education Resources
- Career Pathways
- Cybersecurity Awareness
The Cybersecurity Workforce Challenge

Globally

- According to (ISC)², the global cyber workforce shortage is projected to reach 1.8 million by 2022.
- That’s more than 1 new cyber expert needed every minute.*

Domestically

There are over 300,000 vacant cyber jobs in the United States.

Locally

- There are over 4,500 vacant jobs in the St. Louis metro area.
- The top openings are:
  - Cyber Security Engineer
  - Cyber Security Analyst
  - Network Engineer / Architect
The National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework provides a common language to describe cyber positions and helps define professional requirements in the cybersecurity field.

To ensure a robust pipeline of qualified cybersecurity professionals meet the demands of cybersecurity need, academia, government, and private sector must work together. The Framework is the foundation on which to build curricula, training, and job/workforce structures.

Merge disparate efforts across the state to standardize the implementation of the NICE Framework. Standardization enables effective education objectives and knowledge units creating a cohesive education track.

Create position descriptions and tie professional development to the NICE Framework enabling career progression and mobility within the cybersecurity field.

Increase clarity and uniformity which leads to better recruitment and retention across the state.
Workforce Development Toolkit

**WORKFORCE DEVELOPMENT PHASES**

**PREPARE**
- Assess goals
- Evaluate readiness

**PLAN**
- Inventory workforce
- Ongoing workforce planning

**BUILD**
- Close skill gaps
- Recruit for key skills

**ADVANCE**
- Retain staff
- Provide continuous development

**TOOLS**
- Workforce Planning Capability Maturity Matrix (CMM)
- Cybersecurity Workforce Planning Diagnostics
- NICE Framework
- Workforce Mapping Tool
- Team Traits/ Interview Questions
- Recruitment Checklist
- PushButton PD™ Generator Tool
- Retention Tips by Level
- Career Path Template
- NICCS Training Catalog
Build the right description to find the right people
It’s all on NICCS™

The Nation’s One-stop-shop for Cybersecurity Careers and Studies!

- 30,000+ visitors per month
- 4,000+ courses in the NICCS Training Catalog mapped to the National Cybersecurity Workforce Framework
- 100+ links to cybersecurity resources
- 15+ tools for managers, including a Cybersecurity Workforce Development Toolkit

https://niccs.us-cert.gov/
Over 3,000 cybersecurity-related courses!

Visit: https://niccs.us-cert.gov/training/search
Federal Virtual Training Environment (FedVTE)

DHS offers no-cost cybersecurity training for U.S. government employees and Veterans!

- Courses range from beginner to advanced levels
- 250,000+ registered users
- 40,000+ Veteran users (through our non-profit partner Hire Our Heroes™)
- Over 60 courses - and growing!
- All courses are mapped to the NICE Framework

Fedvte.usalearning.gov
Coming soon: Career Paths

Career paths are designed to support cyber professionals, their supervisors, and human capital professionals with a range of workforce related activities, as outlined below:

- Conducting *workforce assessment & planning* activities
- Creating position *descriptions* (PDs)
- Identifying current training needs & professional development opportunities
- Enhancing recruitment and retention initiatives
- Improving job satisfaction through rewarding & challenging career opportunities

Note: These career paths are meant to be a framework; and can be tailored to meet the needs of each individual agency’s workforce.
Coming soon: Sample Career Path

2 CAREER PATH – CYBER WORKFORCE MANAGER AND DEVELOPER

2.1 Description

The Cyber Workforce Manager and Developer work role is primarily aligned to the OPM occupational series (GS-2210, Information Technology Management) and is utilized in multiple roles, as described in Table 1. Cyber Workforce Manager and Developer can conceivably be hired into other OPM occupational series as illustrated in Table 1 below.

Table 1. Cyber Workforce Manager and Developer Work Role Overview

<table>
<thead>
<tr>
<th>OPM Occupational Series</th>
<th>Focus</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>2210, Information Technology Management Series, Information Security (IPOSEC)</td>
<td>Parametrical</td>
<td>CIO/Chief Information Officer</td>
</tr>
<tr>
<td>0201, Human Resources Management (Workforce Development Parametrical)</td>
<td></td>
<td>CIO/Personnel Manager</td>
</tr>
<tr>
<td>0202, Miscellaneous Administration and Program</td>
<td></td>
<td>CIO/Program Analyst</td>
</tr>
<tr>
<td>0203, Management and Program Analyst</td>
<td></td>
<td>CIO/Chief Administrative Officer</td>
</tr>
</tbody>
</table>

Date: April 2019

Primary: Cyber Workforce Developer & Manager (751)
Secondary: Cyber Policy and Strategy Planner (752), Program Manager (801)
Coming soon: Sample Career Path

2.5 Proficiency Levels

Each competency has several proficiency levels that map to career levels within the work role (Table 4).

| Cyber Workforce Manager and Developer Technical Competencies and Proficiency Levels |
|-------------------------------------------------|------|------|------|------|------|
| Technical Competency                             | GS-5 | GS-7/9 | GS-11/12 | GS-13 | GS-14/15 |
| Workforce Management                             | 1    | 1     | 2     | 2    | 4      |
| Project Management                               | 0    | 1     | 2     | 3    | 3      |
| Legal Advice and Advocacy                        | 0    | 1     | 2     | 3    | 4      |
| Risk Management                                  | 0    | 0     | 2     | 2    | 4      |
| Strategic Planning                               | 1    | 1     | 2     | 3    | 4      |
| Policy Management                                | 1    | 1     | 2     | 2    | 4      |
| Training Education and Awareness                 | 1    | 1     | 2     | 2    | 2      |
STOP. THINK. CONNECT. ™ Campaign

The Campaign provides **FREE** tools and resources so all digital citizens stay safer and more secure online. Join Today!

- **Government Agencies:** Cyber Awareness Coalition
- **Nonprofit Organizations:** National Network
- **Colleges and universities:** Academic Alliance
- **Individuals:** *Friends* of the Campaign

✓ **Quick tips** on how to stay safe online
✓ **Tip cards** on hot cyber topics and trends
✓ **Downloadable materials** (posters, presentations, etc.) to share

[Download @ www.dhs.gov/stopthinkconnect](http://www.dhs.gov/stopthinkconnect)
OWN IT. SECURE IT. PROTECT IT.

2019 National Cybersecurity Awareness Month

#BeCyberSmart
For more information:
cisa.gov
niccs.us-cert.gov

Questions?
Email: nancy.limauro@hq.dhs.gov