

# NICE Working Group

## Meeting Minutes

Date: September 23, 2020 Time: 3:30 p.m. ET

SharePoint Page: <https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG>

### I. Introduction and Ground Rules

- a. Danielle Santos, NICE Program Manager, welcomed participants to the meeting. The NICE Working Group (NICEWG) is set up to provide a mechanism for collaboration among academia, government, and industry as well as to discuss strategies and actions to aid in workforce development.
- b. Danielle encouraged participants to use the Adobe Connect chat box feature to provide feedback and ask questions.
- c. Danielle urged all participants to collaborate and share information. The NICE Working Group [mailing list](#) is a convenient way to disseminate information. The [SharePoint site](#) stores meeting agendas and minutes, documents, and member information.

Danielle noted that NICE Working Group mailing lists and meeting teleconferences are not intended for promotional announcements, advertising, product-related press releases, or other commercial use.

### II. Opening Remarks

- a. Industry Co-Chair, Jon Brickey, Senior Vice President, Mastercard, welcomed members to this month's call. He noted that the pandemic continues to affect work environments and routines. At his company, employees are now allowed to work in the office every other week on a volunteer basis.
- b. Government Co-Chair, Rodney Petersen, Director of NICE, reminded everyone that the NICE mission is to promote and energize a robust network and integrated ecosystem for cybersecurity education, training, and workforce development. The program office keeps an eye out for hotspots emerging for policy and practice. He noted that America's Workforce Policy Advisory Board just announced the launch of the Learning and Employment Records (LERs) initiative; a topic they've been tracking. NICE has been participating in this effort, which is [featured in the just-released fall NICE eNewsletter](#). It will also be the topic of the [October NICE webinar](#).
- c. A recent NIST workshop on privacy offered insight into how the NICE Framework is viewed. NIST is seeking ways to integrate the NICE Framework with other frameworks such as the Cybersecurity Framework and Privacy Framework.

- d. There is a very busy fall season ahead with the two major NICE conferences and several other big events lined up. Additionally, there is ongoing work on issues related to teleworking.

### III. Standing Items

#### a. Strategy Stories – New Developments that Align to NICE Strategy

Teresa Thomas, Program Lead, Neurodiverse Talent Enablement, The MITRE Corporation, presented on “Neurodiversity in the Cybersecurity Workforce.” This topic aligns to NICE Strategic Plan Goal 2.4: Grow creative and effective efforts to increase the number of women, minorities, veterans, persons with disabilities, and other underrepresented populations in the cybersecurity workforce

- The Neurodiverse Federal Workforce Program seeks to help agencies learn to recruit and support autistic individuals in cyber work roles. The program trains managers and co-workers. Eventually, it will be expanded to include individuals with other neurodiverse conditions, including to ADHD, Tourettes, and dyslexia.
- The program service provider is Melwood, while DHS and OMB provide oversight. The Federal Protective Services and the National Geospatial Intelligence Agency will be the first sites to implement the program. Individuals will spend six months as interns, and it is expected that they will then be hired full-time. MITRE is helping with recruiting, training, special development and reach back support.
- A major game changer in increasing the number of neurodiverse individuals – and other under-represented populations – in the cyber workforce is starting with clear requirements in job descriptions. It is well-documented that men and women look at job descriptions very differently. Women feel like they need to meet 80% of the posted job requirements to apply. Men feel like they need to meet only 50% of the requirements. Autistic people won’t apply if they don’t feel they meet 100% of the requirements because they have an expectation of being disqualified.
- Job requirements need to be stripped to the bare bones to increase the number of neurodiverse candidates as well as candidates from other under-represented groups. The description should be made as simple as possible. The [NICE Framework](#) can be used to write a good requirements list.
- Teresa will discuss the program in more detail at this year’s [NICE Conference](#).
- In response to a question about providing presentations to high school students, Teresa said she can do that.
- In response to a question about an active DoD clearance being listed as a basic qualification, Teresa said that is a major problem with a lot of job postings.
- See presentation for more information.

## **b. Report Roundup – Learning from Good Ideas**

Laura Bate, Director, Cyber Engagement, Cyberspace Solarium Commission, presented on the “Cyberspace Solarium Commission White Paper Cyberspace Solarium Commission #3: Growing a Stronger Federal Cyber Workforce.”

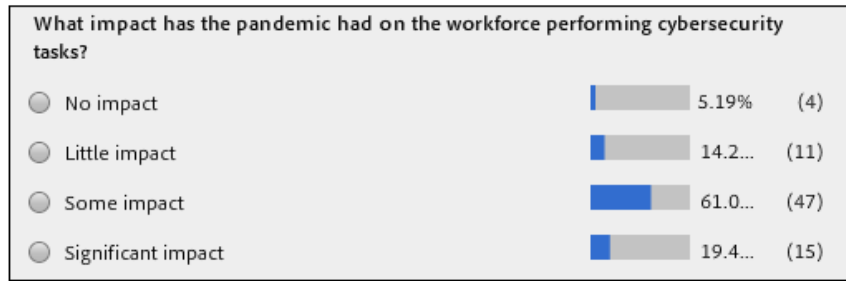
- The Cyberspace Solarium Commission is a bipartisan, intergovernmental body created by the 2019 NDAA to develop a strategic approach to defending the United States in cyberspace against cyberattacks of significant consequence.
- The Commission issued a major report a few months ago, but more recently it issued two white papers. The first, “[Cybersecurity: Lessons from the Pandemic](#)” looks at the challenges and opportunities that have been revealed in recent months. The paper points out that preparedness for a crisis requires that a skilled workforce be in place before the crisis occurs. This paper also discusses the opportunity that the pandemic has spurred to try new work models, like apprenticeship, and to make effective use of direct hire authorities and flexibilities. It emphasizes the importance of learning from existing communities of practice, like the [NICE Subgroups](#).
- The second white paper, “[Growing a Stronger Federal Cyber Workforce](#),” puts into words things we already knew for the most part. For one thing, better coordination among all stakeholders is needed to leverage limited resources in this effort. Second, the federal government cannot develop its own cyber workforce without thinking about the national workforce; we must think about how to grow the entire talent pool.
- Laura noted that the white paper references “cyber” rather than “cybersecurity” because the commission is examining a variety of cyber-related issues, including emerging technologies and the digital economy.
- In response to a question about actions that are being taken now, Laura said that a number of the commission’s recommendations are included in pending legislative proposals.
- See presentation and find out more [here](#).

## **c. Metric Moment – What Gets Measured Gets Done**

Topic: Recent Changes to Cybersecurity Education, Training, and Workforce Development

Jon Brickey led the group through a series of polls on matters related to the impact of the pandemic on the cybersecurity workforce:

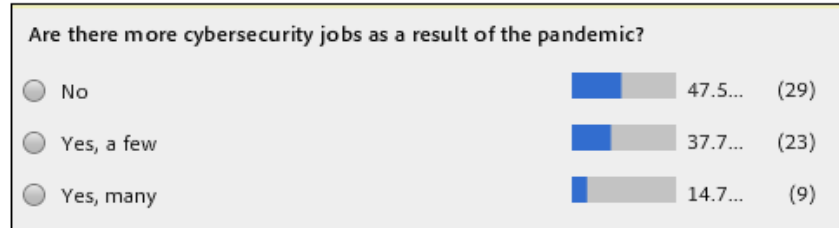
**Question 1a:**



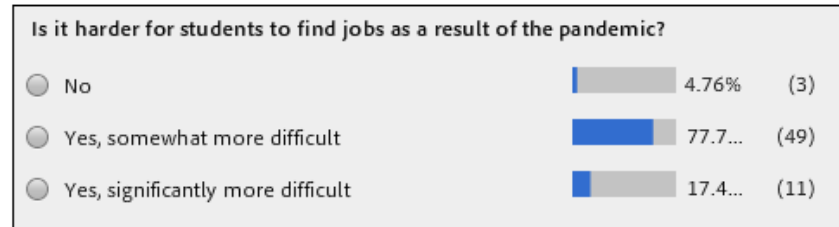
**Question 1b:**

What evidence or measure do you use to describe the impact the pandemic has had on the workforce performing cybersecurity tasks? [See answers *at end of minutes.*]

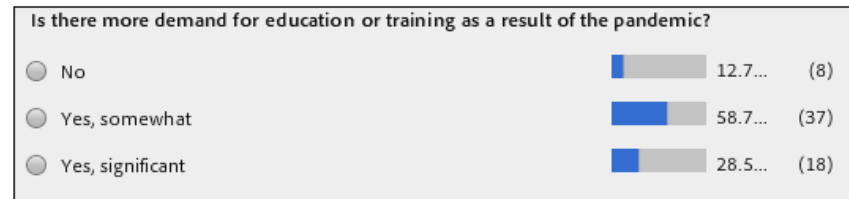
**Question 2a:**



**Question 2b:**



**Question 2c:**



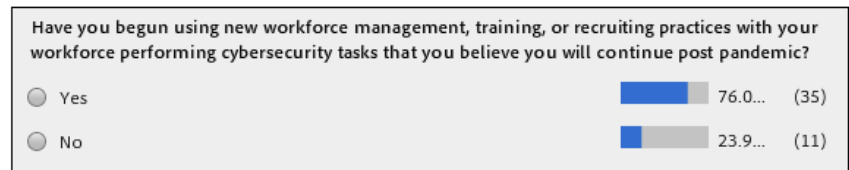
**Question 3a:**

What evidence exists to answer these questions? [See answers *at end of minutes.*]

**Question 3b:**

What further research is needed? [See answers *at end of minutes.*]

**Question 4a:**



**Question 4b:**

What is that new practice? [See answers *at end of minutes.*]

Rodney Petersen stated it is often a challenge to find evidence of the work we're doing. He encouraged the community to measure results that provides ways to further examine research and data.

#### IV. Project Spotlight

Presenter: Laurin Buchanan, Secure Decisions, NICE K12 Co-chair

Topic: K12 Subgroup Curriculum Review & Repository Project

- The K12 Subgroup is working to identify high-quality K12 educational materials in support of Recommendation 3.5 of *A Report to the President on Supporting the Growth and Sustainment of the Nation's Cybersecurity Workforce: Building the Foundation for a More Secure American Future*. A main objective of the project is to increase awareness of these materials and inspire their adoption.
- There are several project deliverables:
  - Phase 1
    - Curating the resources: The subgroup has identified more than 800 resources.
    - Cross mapping the NICE Framework and nationally recognized K12 standards.
  - Phase 2
    - Developing a rubric of content analysis and standardization process for the content. The rubric was developed using common design principles from STEM resources. This is in the review phase now where resources are added to the [collection](#). There are 10 elements about each resource they want to understand. Reviewers send in information, which is compiled in a spreadsheet.
    - Resource page or searchable database of curated resources. The project team is looking for recommendations on the best format that this should take.
  - Phase 3
    - Analyzing the resources to understand what is missing and where greater attention is needed. This deliverable will likely take the form of a report.
- Because of the pandemic, the subgroup pivoted and curated resources for elementary, middle school, and high school for at-home use.

- Please contact [Laurin](#) if you know of a resource pertinent to this effort or have an idea about how to best make the resources available; or you are interested in reviewing, cross-mapping, or analyzing resources.
- See presentation and find out more [here](#).

## V. Subgroup Updates

### a. Apprenticeship

Co-chair Tony Bryan, Executive Director, CyberUp, provided the update.

- The co-chairs have worked to formalize project teams. Project teams are starting to make progress on their efforts. There are three project teams.
  1. Apprenticeship Ecosystem Integration and Scaling
  2. Comparative Analysis of Work Enhanced Learning Models
  3. Return on Investment of Apprenticeships
- Each project team has a lead and they are meeting regularly.
- The next Apprenticeship Subgroup meeting is scheduled for October 23 at 11:00 a.m. ET.
- Visit the Apprenticeship Subgroup website [here](#).

### b. Collegiate

Co-chair Denise Ferebee, LeMoyne-Owen College, provided the update.

- Members are working on a project transforming a few NICE Framework work roles into curriculum. They met earlier this month to go over the basic ideas. It was decided that they will choose one work role for a 4-year program and one work role for a 2-year program. They are working on a survey to narrow down the work roles.
- The next Collegiate Subgroup meeting is scheduled for October 13 at 2:00 p.m. ET.
- Visit the Collegiate Subgroup website [here](#).

### c. Competitions

Co-chair Brad Wolfenden, EmberSec, provided the update.

- During the last meeting a presentation on the [Cyber 9/12](#) competition was held. They also learned about [CTF time](#) and the [Aviation ISAC CTF](#) for students.
- The How to Build and Run a Competition project is nearly complete. The document looks at planning, logistics, types of competitions, facilities needed, funds, sources of support, challenges themselves, sources of players needed, rules and approval needed, plan, and other details. It also includes some competition terminology.

- There are two other ongoing projects: A guide on cybersecurity competitions for competitors and a series of [podcasts](#) where Dr. Dan Manson interviews people on competitions.
- The NICE Program Office shared that in October there will be a series of free cybersecurity games provided via the Cyber Carnival Games 2020. These games are open for anyone to play and are designed for all levels of expertise. See <https://cybercarnival.katzcy.com/> for more details.
- The next Competitions Subgroup meeting is scheduled for October 20 at 3:00 p.m. ET.
- Visit the Competitions Subgroup website [here](#).

**d. K12**

Co-chair Laurin Buchanan, Secure Decisions, provided the update.

- During the last meeting members spent time discussing the cybersecurity curriculum resource review, National Cybersecurity Career Awareness Week (NCCAW), and the NICE K12 conference.
- Team members are starting a new project on roadblocks schools face supporting hands-on cybersecurity curriculum and competitions. They seek to highlight advantages and address roadblocks to hopefully open doors. Anyone who wishes to join this project can reach out to [Laurin](#).
- Laurin was asked about their plans for outreach regarding the repository. When enough resources have been reviewed, and we know where the repository is located, then work on how to make the public aware will take place. This is a challenge for all resources.
- The next K12 Subgroup meeting is scheduled for October 14 at 3:30 p.m. ET.
- Visit the K12 Subgroup website [here](#).

**e. Training and Certifications**

Co-chair John McCumber provided the update.

- During the last subgroup meeting guest speakers from [CYBER.ORG](#) talked about the next generation cybersecurity workforce effort and solution for K12.
- The Training Best Practices project team has a document out for review.
- Other initiatives include the Army grant system opportunities and evolving requirements for the illustrative mapping project.
- Members continue to speak about new ideas to support the strategic goals for the NICE program.

- The next T&C Subgroup meeting is scheduled for October 7 at 2:30 p.m. ET.
- Visit the T&C Subgroup website [here](#).

**f. Workforce Management**

Co-chair, Susie Cone, IT Consultant, provided the update.

- Susie, outgoing chair, introduced Kevin Perry, Chief Cyber Training, DoD Cyber Crime Center/Cyber Training Academy as the new co-chair. Susie is thankful for the opportunity as the co-chair for the past two years.
- Members are wrapping up a publication on *Successful Strategies for Cybersecurity Hiring* and are brainstorming ideas for next projects.
- The next Workforce Management Subgroup meeting will be held on October 15 at 1:00 p.m. ET.
- Visit the Workforce Management Subgroup website [here](#).

**VI. Project Progress Reports**

**a. National Cybersecurity Career Awareness Week**

Davina Pruitt-Mentle, Academic Liaison, NICE, provided the update.

- National Cybersecurity Career Awareness Week (NCCAW) is scheduled for November 9-14, 2020. There will be many activities reaching multiple stakeholder groups no matter what the age.
- Special activities scheduled include a webinar on recruiting women, a live stream interview event on how to get a job without experience, and a Capture the Flag competition focusing on careers running the entire week for multiple groups. The goal is trying to reach various audiences.
- A [commitment form](#) is available online to log your event. Events range from promotion on social media (#cybercareerweek #mycyberjob), speaking engagements, professional development, distributing career awareness materials, and more.
- See presentation and find out more [here](#).

**b. NICE Annual Conference**

Randy Pestana, Florida International University, provided an update on the NICE Conference.

- The virtual conference will take place one day per week during a four-week period. Each week will be dedicated to a different sub-theme.
  1. Tuesday, October 27 | 1 – 5:15 PM EST: Growing and Sustaining the NICE Community



2. Thursday, November 5 | 1 – 5 PM EST: Transforming the Learning Ecosystem
  3. Monday, November 9 | 1 – 5 PM EST: Career Discovery
  4. Monday, November 16 | 1 – 4:45 PM EST: The Future Cybersecurity Workforce
- Each day will be half day series along with plenary sessions, presentations, and breakout sessions. [Registration is now open.](#)
  - There are multiple workshops scheduled throughout the series.
    1. The New NICE Framework hosted by Marian Merritt, Deputy Director of NICE
    2. Behind the Scenes at Georgia Tech’s Online MS Program
    3. Building Apprenticeships for the 21st Century hosted by the Aspen Institute
    4. Diversify, The Cybersecurity Survival Guide
  - You can register for multiple workshops.
  - Sponsorships and exhibitors are filling up. The costs are lower than in previous years. Registration is \$50 for all weeks through early November.
  - Find out more [here.](#)

**c. NICE K12 Cybersecurity Education Conference**

Felicia Rateliff, Director of Operations and Programs, iKeepSafe, provided an update:

- The virtual event is scheduled to take place December 7-8, 2020. [Registration is open.](#) Early bird registration is open through October 31.
- The conference includes five tracks plus many layers of ways to engage. Programming will be available for the full year after the conference, including documents, free curriculum, and more. The [agenda](#) is live.
- A student keynote was just announced. Sam Grant is the first youth cyber apprentice for the U.S. Department of Labor.
- There is a student track. This programming is geared toward grades 6-12 which will launch in the next few weeks. The plan is to make student programming like a field trip so teachers can register students.
- There is sponsor and exhibitor space available. Discussion boards will be available to enable networking and engagement, the online platform will have games, virtual meetups, messaging, an evening social, and more.
- See presentation and find out more [here.](#)

**d. CAE Community**

Tony Coulson, California State University, San Bernardino, provided an update on the CAE community.

- The CAE virtual career fair, held September 4, 2020, included participants from large, medium, small, and government organizations. There were 32 booths, and 1,438 attendees. On average people hung around about 4 hours. This was a free event for all.
- Employer feedback was positive.
- When asked how many offers were provided, Mr. Coulson said that while that question is asked, many companies will not exactly answer. They are following up with surveys to the students. Anecdotally, they heard of many offers.
- The next CAE Virtual Career Fair is scheduled for September 10, 2021. They now have 335 colleges attending.
- They are currently employing a large operation with 23 different projects with over 100 partners covering faculty development, student development, competition, and are working with the NICE program. They are also rebooting the CAE research program.
- See presentation and find out more [here](#).

## VII. Featured Topic

Chris Paris, Senior Advisor, Department of Veterans Affairs, spoke about the 'Federal Cyber Career Pathways Tool.'

- Representatives from the Department of Veterans Affairs, the Department of Defense, and CISA stood up a working group of cyber practitioners and workforce developers.
- The tool supports a standard Federal career pathway framework unique to each NICE Framework Work Role. The working group looked at work roles, sat with federal practitioners who do this work and identified core attributes, KSAs, competencies, training, and aligned KSAs to respective tasks.
- They built a federal baseline. They built core baseline requirements for the work roles in the form of career pathways. This includes work roles you can leverage. They identified stepping stones.
- They partnered with the CISA training team to develop the cyber career pathways.
- Mr. Paris demonstrated the tool and features online.
- Depicting cyber in a different way than many are used to, many practitioners say they have the wrong person. The tool shows where the roles are in the tasks and KSAs.
- The Venn diagram shows cyber is overarching and has different communities of skill that align to work roles. There are relational views between work roles and the

ability to compare roles based on overlapping Knowledge, Skills, Abilities, and Tasks (KSAT).

- Many traditional IT roles are represented in the Framework.
- The tool is interactive. Users can click on a community and the tool will reorient the work roles below it. Clicking on any role will pull up a profile, the community it's in, and the top five related work roles. KSAs and capability of each work role can be explored.
- Users can compare work roles side by side to see how KSATs overlap and align. This could assist those in the workforce by comparing what work role-specific training you might wish to pursue.
- For tasks they are partnering with DoD to conduct a criticality analysis. For some work roles there are lists of tasks in up to 40-50 statements. Is this necessary for someone to perform this role? There is a subset of tasks to demonstrate against those identified in the core set of subtasks.
- Key features to incorporate in future releases include OPM data incorporation, community and work role learning objectives, core competencies, and behavioral indicators. This can be a career discovery tool to aid in understanding the Framework in your position descriptions. The tool will have many iterations and enhancements.
- When asked how many SMEs participated and about participant group sizes, Mr. Paris said there were as few as 7-9 or as many as 250 participants per focus group. About 740 federal practitioners were engaged.
- The Federal Cyber Career Pathways Tool will be presented at the NICE conference.
- See presentation and find out more [here](#).

#### **VIII. Summary of Action Items**


- Meeting minutes and presentations to be sent to members.

#### **IX. Next Meeting Reminder**

The Next NICE Working Group meeting is scheduled for Wednesday, October 28, 2020, at 3:30 p.m. ET.

## Poll Question 1b:

What evidence or measures do you use to describe the impact the pandemic has had on the workforce performing cybersecurity tasks?

Type your answer here... 

Broadcast Results

Answers (32)

- increased success of attacks like ransomware
- some impact
- Reporting phishing
- staff dealing with homeschooling
- zoombombing
- reports from SOC folks able to work remotely
- Prod slowdowns
- increased phishing
- Time to resolve issues
- other concerns taking priority
- Increased workload
- slower response
- Teamwork requiring more frequent and direct communication.
- New projects for securing endpoints of remote workers.
- Personal losses or illness takes toll
- increased phishing with covid-related messages
- less access to devices for patching / support
- slowed work progress
- # projects completed
- Increased phishing, increased vulnerability
- schools are struggling because they have not had the focused attacks
- Time to completion - longer, shorter, the same
- Ability to do continuous hands -on training and analysis
- slowed work progress
- Increased risk due to not being able to use secure rooms in certain circumstances
- Shifts in work-life balance
- time and resources to purchase and configure "secure" collaboration tools
- lagging suspenses
- hiring freeze
- changes in the measured KPI
- Delays in completion; personnel on various reporting schedules, telework issues
- Less spending on IT

### Poll Question 3a:

What evidence exists to answer these questions?

Type your answer here...

Broadcast Results

Answers (27)

Hiring Freeze

Higher education is not hiring

many companies in utilities have hiring freezes

SFS Hiring delays

capstone projects/internships cancelled, a few moved to remote

Training demands

Job Boards posting

I work with students and teach training classes. I'm answering based on this experience.

Discussions with actual organizations

Students report their internships are cancelled

student experiences and industry outreach discussions

Reduced revenue as a result of the pandemic

increased requests for training

Less access to resources

Think outside of the box

Little - I fear mostly anecdotal or opinions

Too early to tell.

No backfill

student chatter

Tutoring demand seems to have increased due to remote learning

Hiring freezes

Hiring for more senior or experienced roles not entry level

actual job statistics from companies

Hiring freeze

Too many fake jobs advertised for recruiters to learn about your organisation

Extensive cuts to IT Budgets from several organizations. Many that were employed has either reduced hours or layoffs depending on the organization

Many companies going under

### Poll Question 3b:

What further research is needed?

Type your answer here...


Broadcast Results

Answers (23)

- Task analysis
  - occupational
  - entry level positions
  - would be good to know who is writing the job postings...the actual work leader or senior manager or HR
- Most effective strategies to develop individuals for technical roles
- Specific skills required for workforce needs
- Occupational breakdown needed
- Experience expectations from employers
- Where are the actual gaps in connectivity - how can they be filled when it is difficult
- business resilience
- Adopting new methodologies for hiring
- Changes in DIB requirements affecting cyber talent needs
- We need to figure out the vulnerabilities and how to prevent them
- Need more action. We love to research in the US and it kills momentum
- People assert the hypothesis that the pandemic has increased the need for cybersecurity and therefore the need for more workforce. What evidence is there to support the hypothesis?
- What do business desire for specific skills sets.
- more awareness is needed
- hard fact not from students
- how to measure training effectiveness
- Data that spells out the experience requirement and the actual amount of people available to fill those roles
- Can we utilize the staff currently in the org, rather than hiring from outside
- Where jobs are available, the quality is too poor / bar is lowered just to fill numbers - set a baseline to measure quality of knowledge
- Surveys to organizations of their IT Budget changes during the Pandemic

## Poll Question 4b:

What is that new practice?

Type your answer here.. 

Broadcast Results

Answers (26)

- integrating non credit workforce center students into for credit classes
- Avoidance of online meetings due to Zoom fatigue
- teleworking
- many are realizing - jobs that used to be on-site only can actually be done remotely
- Development of training that specific to role tasks
- Community College expanded programs
- More teleworking. More online training.
- Quick-ref guides for secure remote working
- broadening that workforce that is involved in cybersecurity - it is the perfect opportunity to drive home the point that Cybersecurity is everyone's job
- Pre & Post Apprenticeship training methodology
- Remote work
- More online training
- New practices have not been implemented at this time
- Teleworking, online training, etc.
- Online webinars, flexible workplaces and spaces on campus when necessary,
- More Teleworking
- Making Cyber less focused on higher ed and something students can do right after HS
- More teleworking. More accommodation of remote workers. More flexible work schedules. More "team" work - not less!
- mostly online webinar
- flex schedules
- Treating WFH as the "new abnormal" for the foreseeable future...
- Teleworking online training and professional development
- remote internships
- No longer a requirement to work in a specific office location
- More remote working where on-site is not required
- Online training, virtual training