



NSA/DHS Centers of Academic Excellence in Cybersecurity

# COMMUNITY QUARTERLY

## Quarterly Newsletter

Discovering and discussing the everchanging landscape of Cyber Security Education for NSA/DHS Centers of Academic Excellence designees

Summer 2018 | Issue 2



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## 2018 Executive Leadership Forum

On April 19 and 20, the National Centers of Academic Excellence in Cybersecurity, hosted by the University of Washington, Bothell, held its annual Executive Leadership Forum (ELF) in Bothell, Washington. The ELF brings together leaders from academia, industry, and government to discuss issues facing the cybersecurity workforce and education. This year the leadership forum focused on "discussion and information sharing, industry workforce needs, successful collaboration models, apprenticeship, and cooperative education programs," Lynne Clark, Chief of the CAE in Cyber Defense Program Management Office said.

During the morning session of the ELF, participants heard about the success of the Cin-Day Cyber Corridor, Innovative Partnerships and Solutions to Bridge Talent Needs, and the role of the Chief Information Security Officer and Chief Information Officer (CISO/CIO) in academia and state government. These discussions focused on initiatives that help make students successful beyond the classroom as well as methods to recruit and retain qualified cyber talent. Several of the discussions focused on the soft and hard skills students need to be successful upon graduation.

**...Continued on page 5**



Newsletter created by the CAE in Cybersecurity Community in collaboration with the CAE-CD Program Office.

# Welcome to the Community!

Congratulations to our newly designated institutions! As of May 1, we'd like to welcome the following schools to our Community!

## NSA/DHS National Centers of Academic Excellence in Cyber Defense Two-Year Education



**Calhoun Community College,**  
Tanner, Alabama

**College of Southern Nevada,**  
North Las Vegas, Nevada



**Fayetteville Technical Community College,**  
Fayetteville, North Carolina

**Florida State College at Jacksonville,**  
Jacksonville, Florida



**Grand Rapids Community College,**  
Grand Rapids, Michigan

**Lehigh Carbon Community College,**  
Schnecksville, Pennsylvania



**Green River College,**  
Auburn, Washington

**Pikes Peak Community College,**  
Colorado Springs, Colorado



**Portland Community College,**  
Portland, Oregon

## NSA/DHS National Centers of Academic Excellence in Cyber Defense Education



**American Public University System,**  
Charles Town, West Virginia

**Oakland University,**  
Rochester, Michigan



**Clemson University,**  
Clemson, South Carolina

**Southern Utah University,**  
Cedar City, Utah



**University at Albany, the State University of New York,**  
Albany New York

**Roosevelt University,**  
Chicago, Illinois



**ECPI University,**  
Virginia Beach, Virginia

# Community Feature

## DSU Faculty Professional Development Workshops



Every year the National Centers of Academic Excellence (CAE) in Cyber Defense Education (CDE) Program recognizes the biggest challenges faced by CAE designated institutions—the shortage of qualified faculty teaching cybersecurity curriculum in two and four year institutions. The shortage of qualified faculty teaching cybersecurity often means that CAE designated institutions are often hiring faculty from other CAE designated institutions which only exacerbates the problem. This year, the CAE-CDE Program Office tasked CAE Regional Resource Center (CRRC) Dakota State University (DSU) with creating faculty professional workshops to help address this challenge. Wayne Pauli, Professor of Computer Science and Coordinator for the Department of Science in Cyber Security for DSU, hosted the CAE Faculty Professional Development Workshops in Sioux Falls, South Dakota.

The series of workshops took one hundred faculty members from around the country, split them into four groups of twenty-five, and train them in one of four topical areas of cybersecurity. The topical areas for the workshop included malware analysis, software exploitation, cellular and mobile security, and incident response (a full list of the course material is available at <https://www.caecommunity.org/news/2018-faculty-professional-development-workshops>). All of the topical areas were chosen in response to community feedback from focus groups, email recommendations, and in coordination with the CAE-CDE program office. Faculty attending the topical areas of their choosing received instruction over a three day period, PowerPoint slide decks that can be used for instruction in their classroom, hands-on labs and demos, a list of supplemental material, and a sample course schedule. Attendees will also receive ongoing support from the faculty trainer after the faculty development workshop.

The Faculty Professional Development Workshops took place from May 30 to June 1, 2018. Faculty flew in from community colleges, universities, and doctoral programs from all over the nation to attend the workshops. “We [had] faculty coming in from all over the country, even as far away as Puerto Rico,” Dr. Pauli said, “it shows the desire to learn.” The desire to learn is not limited to the one hundred faculty that attended. A total of one hundred and fifty people applied to participate in the faculty professional development workshops. This not only demonstrates a huge interest amount CAE faculty for development workshops, but also demonstrates the need for the program to continue in the future.

To track the progress of the faculty development workshops, attendees took a pretest and posttest. “We do a

pretest and posttest on the topics we are teaching and ask what other topics will

be of a benefit to the university and college population,” Dr. Pauli said. The post evaluation assessment will be useful in the development and implementation of faculty development workshops over the next few years. Future iterations of the workshops may be coming to a location near you! Dr. Pauli noted the desire to “take the show on the road” to reach CAE faculty across the nation and provide more opportunities for faculty training.

For more information on the faculty professional development workshop, please contact [wayne.pauli@dsu.edu](mailto:wayne.pauli@dsu.edu).

## New NICCS CAE Highlights Page

Have updates to share? Introducing a new course? We'd like to feature you on the new CAE spotlight page on the National Initiative for Cybersecurity Careers & Studies (NICCS) website. The [DHS Cybersecurity Education & Awareness Branch](#) and the [National Initiative for Cybersecurity Careers & Studies \(NICCS\)](#) are proud to announce a new initiative highlighting CAEs in Cyber Defense on the NICCS website.

Each month the NICCS Education and Training Catalog receives over 80,000 page views, reaching over 30,000 cybersecurity students. To show appreciation to the CAEs who contribute to the NICCS Training Catalog, each quarter NICCS would like to highlight four CAEs, and the courses that they provide, on the new CAE Highlights page. A CAE must be an active course provider to the NICCS Training Catalog, and must submit the following things to [niccs@hq.dhs.gov](mailto:niccs@hq.dhs.gov) by: Friday, June 15, 2018.

- Highlight image(s) (size 1000px by 400px) of your CAE and your CAE logo that are [508 compliant](#)
- One paragraph (250 words max) introducing the CAE
- Link to the CAE's website and courses provided on NICCS

If you are not an active provider, but would like to become one, please submit a [NICCS Provider Application](#).



# Evolution of Knowledge Units (KU)

It's official – the CAE-CD Knowledge Units (KUs) have been updated!

By now, you've heard the CAE-CD PMO discuss how the evolution of the CAE-CD Knowledge Units would affect schools that apply in Fall 2018. Now that the May 1, 2018 deadline has passed, these updates are effective and available on the CAE Requirements and Resources page: <https://www.iad.gov/NIETP/CAERequirements.cfm>

Also on the page, a CAE KU Mapping Matrix is available to aid in mapping. The CAE-CD PMO determined review of the KUs was required for a variety of reasons.

Technology is constantly changing, and evolution is often needed to maintain a robust and rigorous cyber defense curriculum. Further, updating the KUs allowed for closer alignment with the NICE Cybersecurity Workforce Framework (NIST SP800-181), making it easier for other institutions, industry, government, and potential employers to share and compare information.

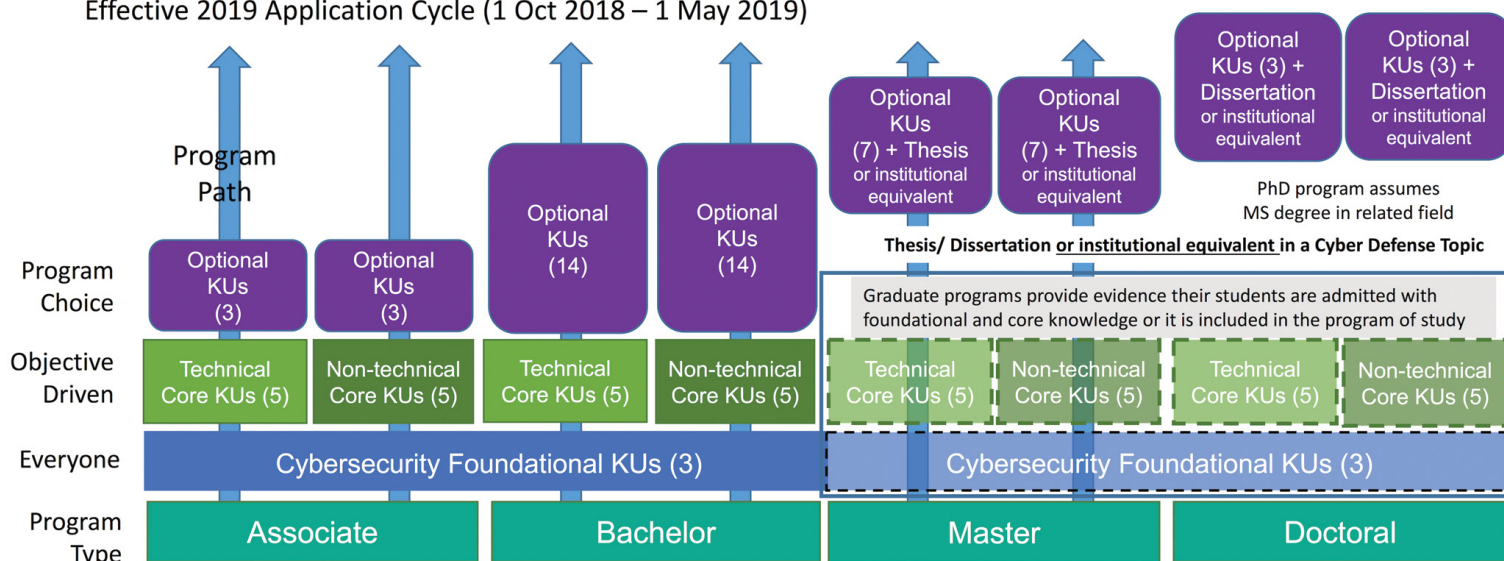
With the introduction of non-technical and technical core KUs, schools with non-technical backgrounds, who could previously not qualify, now are able, giving the program a more well-rounded

community.

And finally, as with any updates, during this shift, the CAE-CD PMO was able to tighten up and strengthen the KUs, eliminating duplicative topics within KU and adding more content where needed.

The chart below provides a baseline overview of the updated requirements. You can also find additional information at [www.cyberedwiki.org](http://www.cyberedwiki.org) a wiki page owned and maintained by the University of Houston, our CAE National Resource Center for Knowledge Unit Management.

## Centers of Academic Excellence in Cyber Defense Education (CAE-CDE) Designation Requirements, Effective 2019 Application Cycle (1 Oct 2018 – 1 May 2019)



### Knowledge Units (KUs):

**Foundational:** Cybersecurity Foundations, Cybersecurity Principles, and IT Systems Components

**Technical Core:** Basic Scripting and Programming; Basic Networking; Network Defense; Basic Cryptography; Operating Systems Concepts

**Nontechnical Core:** Cyber Threats; Policy, Legal, Ethics, and Compliance; Security Program Management; Security Risk Analysis; Cybersecurity Planning and Management

**For more information, please visit <https://www.iad.gov/NIETP/CAERequirements.cfm> or [www.cyberedwiki.org](http://www.cyberedwiki.org).**

# Executive Leadership Forum

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**Latasha McCord and Dan Stein  
at the 2018  
Executive Leadership Forum.**

In the afternoon session, participants listened to discussions on Apprenticeship and Cooperative Education in Cybersecurity Workforce Development, State Legislatures View of Cybersecurity, the Strategic Vision for Cybersecurity Education and Workforce Development, and Getting From School to the Professional Environment.

The afternoon sessions focused around the expansion of hands-on learning opportunities for students, the critical role legislators play in cybersecurity education, how the federal government is addressing challenges in workforce development, as well as how students can be successful upon graduation. These presentations also focused on how the CAE program can help government and industry as well as how industry and government can help the community.

On the second day, attendees sat in roundtable discussions or attended a site tour at T-Mobile or Microsoft. The site tours lasted roughly one hour and enabled participants to see innovative ideas in action.

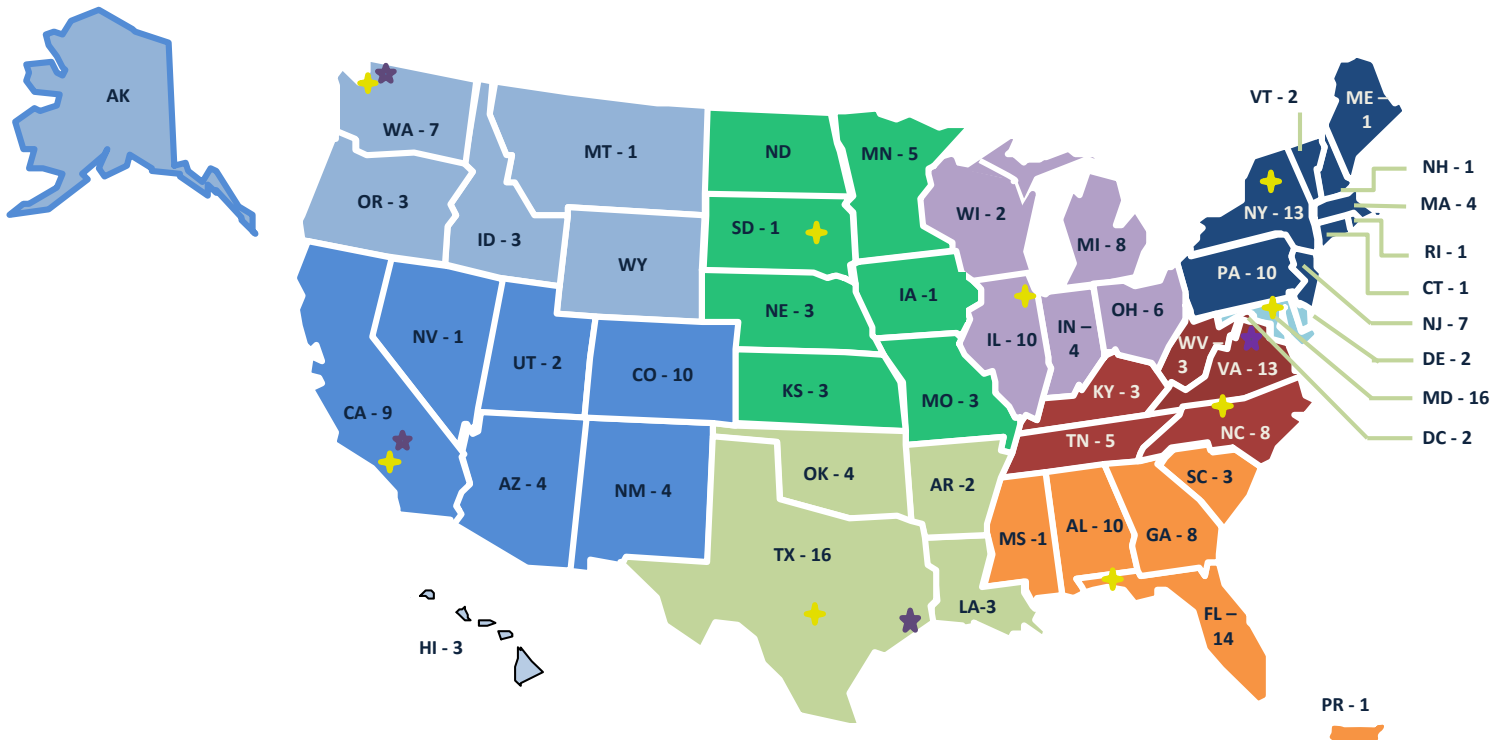
Roundtable discussion topics included apprenticeship, workforce development, recruiting qualified faculty, and ethics to name a few. The ELF ended with a call for institutional leadership to engage with the CAE program office and the private industry because, as Chancellor Dr. Wolf Yeigh states "it is only by working across government agencies, industry, and higher education that we can solve the many cybersecurity challenges we face."

The 2019 CAE Executive Leadership Forum will take place on April 24-25 in Pensacola, Florida. For more information, please visit <https://www.caecommunity.org/calendar/2019-executive-leadership-forum-invitation-only>.



**Morgan Zantua leads one of the discussion sessions during the Executive Leadership Forum.**

# CAE National & Regional Resource Centers (CNRCs and CRRCs)



★ CAE National Resource Centers
Community - California State University, San Bernardino (CA)
Mentors - Whatcom Community College (WA)
Reviewers - Northern Virginia Community College (VA)
Knowledge Units - University of Houston (TX)

**247 Total Institutions!**

**Legend:** State - # of CAEs as of May 2018

✦ CAE Regional Resource Centers	
North Western Region – University of Washington (WA)	North Eastern Region - Mohawk Valley Community College (NY)
South Western Region - Coastline Community College (CA)	and Northeast University (MA)
South Central Region - San Antonio College (TX)	National Capital Region - Prince Georges Community College (MD)
North Central Region - Dakota State University (SD)	East Central Region - Forsyth Tech Community College (NC)
Mid-Western Region - Moraine Valley Community College (IL)	Southeast Region - University of West Florida (FL)

**For a full listing of all the CAE-CDE, CAE-R, and CAE-2Y designated institutions please go to**  
[https://www.iad.gov/NIETP/reports/cae\\_designated\\_institutions.cfm](https://www.iad.gov/NIETP/reports/cae_designated_institutions.cfm)



# Upcoming Events

<b>MAY 30- JUN 1</b>	<b>Faculty Professional Development Workshops May 30-June 1</b> Sioux Falls, South Dakota Dakota State University, sponsored by the National Security Agency, is hosting a faculty professional development workshop for all faculty of CAE designated colleges and universities. For more information, please visit: <a href="https://www.caecommunity.org/calendar/faculty-professional-development-workshop">https://www.caecommunity.org/calendar/faculty-professional-development-workshop</a>	
	<b>National Cyber Summit June 5-7</b> Huntsville, Alabama Join academics and professionals in the field of cybersecurity as they discuss cyber training, education, and workforce development. For more information, please visit: <a href="https://www.nationalcybersummit.com/">https://www.nationalcybersummit.com/</a>	<b>5-7 JUN</b>
<b>9 JUN</b>	<b>NACE Workshop June 9</b> New Orleans, Louisiana Help define the future of security & privacy education! Your ideas are needed to answer important questions! For more information, please visit: <a href="http://ceri.as/nace">http://ceri.as/nace</a>	
	<b>HITECH July 23-26</b> Miami, Florida Join the CAE in Cybersecurity Community at the High Impact Technologies Exchange Conference (HI-TECH) in Miami. HI-TECH is a national conference on advanced technological education where secondary and postsecondary educators, counselors, industry professionals, trade organizations, and technicians can update their knowledge and skills. For more information, please visit: <a href="http://www.highimpact-tec.org/">http://www.highimpact-tec.org/</a>	<b>23-26 JUL</b>
<b>2-4 AUG</b>	<b>Community College Cyber Summit August 2-4</b> Gresham and Portland, Oregon Join community colleges across the nation as they discuss cybersecurity education. For more information, please visit: <a href="https://www.my3cs.org/">https://www.my3cs.org/</a>	
	<b>2018 Black Hat August 4-9</b> Las Vegas, Nevada For more information, please visit: <a href="http://blackhat.com/">http://blackhat.com/</a>	<b>4-9 AUG</b>
<b>9-12 AUG</b>	<b>2018 DEFCON 26 August 9-12</b> Las Vegas, Nevada For more information, please visit: <a href="https://www.defcon.org/">https://www.defcon.org/</a>	
	<b>2018 CAE Virtual Career Fair October 5</b> Virtual The job fair will connect students from CAE designated schools with employers looking to fill internships, part-time positions, and full-time positions. For more information, please visit: <a href="https://www.caecommunity.org/news/2018-cae-virtual-career-fair">https://www.caecommunity.org/news/2018-cae-virtual-career-fair</a>	<b>5 OCT</b>
<b>8-9 NOV</b>	<b>2018 CAE in Cybersecurity Community Symposium November 8-9</b> Miami, Florida This event immediately follows the NICE Conference. For more information, please visit: <a href="https://www.caecommunity.org/news/2018-cae-cybersecurity-community-symposium-call-proposals">https://www.caecommunity.org/news/2018-cae-cybersecurity-community-symposium-call-proposals</a>	

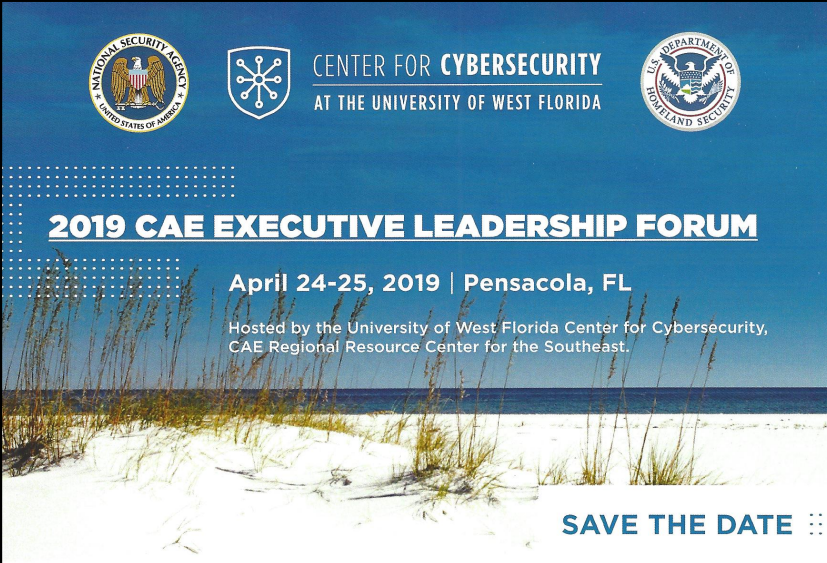
To learn more about these events, please visit [www.caecommunity.org/calendar](http://www.caecommunity.org/calendar) or contact us at [info@caecommunity.org](mailto:info@caecommunity.org)

***The CAE-CD Program Office uses the contact information uploaded into [www.iad.gov/nietp](http://www.iad.gov/nietp) to send out routine reminders, solicitations, and event invitations. Please ensure that you have updated your information with the correct contacts from your institution.***

## CAE-CD Program Staff Contact

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- **Rory Smith**  
CAE SEAL Program Manager
- **Latasha McCord**  
DHS Program Manager for Cybersecurity Education & Awareness Branch

Summer Edition 2018



2019 CAE EXECUTIVE LEADERSHIP FORUM

April 24-25, 2019 | Pensacola, FL

Hosted by the University of West Florida Center for Cybersecurity, CAE Regional Resource Center for the Southeast.

SAVE THE DATE

The poster features logos for the National Security Agency, the Center for Cybersecurity at the University of West Florida, and the Department of Homeland Security. The background is a scenic view of a beach with sand and dunes.



CAE in Cybersecurity Symposium

November 8-9th, 2018  
Hyatt Regency  
400 SE Ave  
Miami, FL 33131

Centers of Academic Excellence in Cybersecurity Community

The poster features logos for the National Security Agency and the Department of Homeland Security. The background is a city skyline with palm trees. A large circular graphic on the right contains the CAE logo and the text 'Centers of Academic Excellence in Cybersecurity Community'.

## Contact

### CAE-CD Program Office

- [askcaei@nsa.gov](mailto:askcaei@nsa.gov)
- <https://www.iad.gov/NIETP/>

### CAE Community Office

- [info@caecommunity.org](mailto:info@caecommunity.org)
- <https://www.caecommunity.org>

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Community in collaboration  
with the CAE-CD Program  
Office.



To submit ideas, stories, photos, events, feedback, or more, please email us at [info@caecommunity.org](mailto:info@caecommunity.org)