



National CAE Cybersecurity Workforce Development Program

NCAE Cybersecurity Workforce Program Coalition Team

Institution	CAE-C Designation	Lead
University of West Florida (Lead Institution)	CAE-CD, Southeast CAE-C Regional Hub	Dr. Eman El-Sheikh, PI Dr. Guillermo Francia, co-PI Dr. Tirthankar Ghosh, co-PI
University of South Florida – Cyber Florida	CAE-CD, CAE-R	HON. Mike McConnell, VADM, USN, Retired Dr. Ron Sanders, co-PI
University of Houston	CAE-CD, CAE-R, CNRC KU Lead	Dr. Art Conklin, co-PI
Augusta University	CAE-CD	Dr. Michael Nowatkowski Steve Weldon
Dakota State University	CAE-CD, CAE-R, CAE-CO	Dr. Wayne Pauli Dr. Ashley Podhradsky
Eastern New Mexico University – Ruidoso	CAE-2Y	Stephen Miller
Florida International University	CAE-CD, CAE-R	Randy Pestana
Metropolitan State University	CAE-CD	Dr. Faisal Kaleem
San Antonio College	CAE-2Y, Southwest CAE Regional Hub	Kim Muschalek
University of Texas at San Antonio	CAE-CO, CAE-CD, CAE-R	Dr. Glenn Dietrich



NCAE Cybersecurity Workforce Program Goal

- Establish a best practice, nationally scalable and sustainable certificate-based program with verifiable credentialing to rapidly expand the cybersecurity workforce by:
 - a) increasing the number of qualified, skilled professionals
 - b) supporting the transition of military and first responders to cybersecurity work roles in Critical Infrastructure sectors, with an emphasis on the defense industrial base, financial services and energy sectors
 - c) providing CAE-C designated institutions access to curricular resources through the Cybersecurity Curriculum Repositories



NCAE Cybersecurity Workforce Program Objectives

Objective 1: Pilot and refine a certificate-based workforce development program with stackable, verifiable credentials for transitioning military, first responders and other learners.

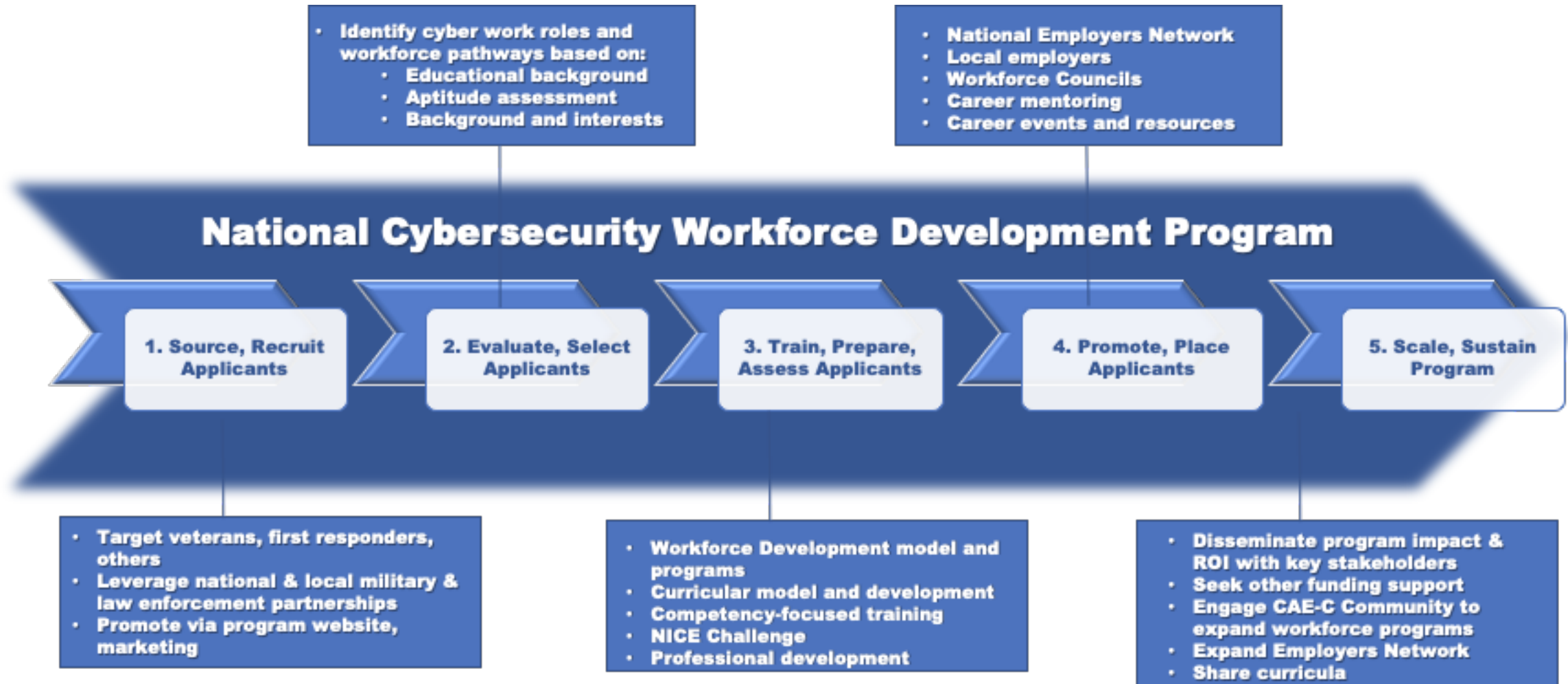
Objective 2: Develop and utilize screening diagnostics to evaluate participants' aptitude and readiness for cybersecurity work roles.

Objective 3: Develop workforce pathways to prepare participants for cybersecurity work roles in critical infrastructure sectors, particularly financial services, defense and energy.

Objective 4: Align pathways and curricula with employer requirements and nationally recognized frameworks and credentials, including the NICE Cybersecurity Workforce Framework, DoD Directives 8570/8140 and industry certifications.

Objective 5: Develop learner-centric, skill-based, competency-focused cybersecurity curriculum that includes emerging technologies such as AI, quantum computing and threat hunting.

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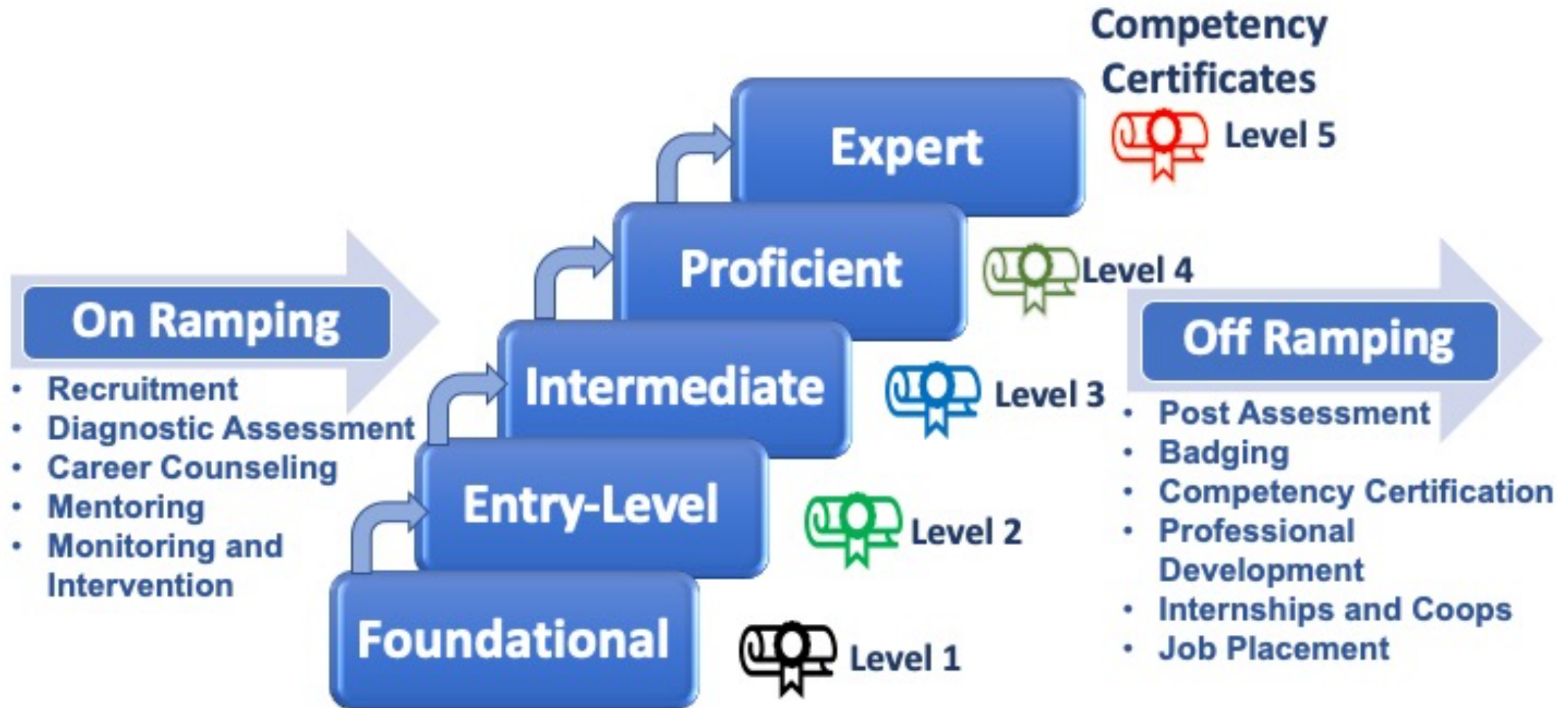
Executive Steering Committee

Institution	CAE-C Designation	Capabilities and Experience
University of West Florida	CAE-CD, Southeast CAE-C Regional Hub	Workforce development for veterans and first responders; Florida Cyber Range®; Cybersecurity for All® workforce program; training for State of Florida personnel; competency-focused curriculum development; industry and DoD partnerships; internships and co-ops, SFS program
University of South Florida – Cyber Florida	CAE-CD, CAE-R	New Skills for a New Fight Veterans Program; industry partnerships; Florida State University System coordination; cyber curriculum development; Florida Cyber Hub; virtual lab support
University of Houston	CAE-CD, CAE-R, CNRC KU Lead	Three cycles of Department of Labor grant for cybersecurity workforce development (retrained > 100 NASA employees)
Government Partners	N/A	CAE-C Program Office; CAE-C National Center; DHS/CISA; NICE; U.S. Department of Labor; U.S. Department of Veterans Affairs
Industry Partners	N/A	IBM and 1-2 key stakeholders from target Critical Infrastructure Sectors

Coalition Team – Workforce Capabilities

Institution	CAE-C Designation	Capabilities and Experience
Augusta University	CAE-CD	Ft. Gordon and Army Cyber Command partnerships and workforce development; Georgia Cyber Innovation Center
Dakota State University	CAE-CD, CAE-R, CAE-CO	Workforce development for transitioning military and first responders; developing learner-centric, competency-focused curricula on cutting edge technologies; industry partnerships
Eastern New Mexico University – Ruidoso	CAE-2Y	HSI; Workforce development program for veterans; online degrees and certifications; DoL Apprenticeship Program; DOD CySP Program; NCyTE Co-PI
Florida International University	CAE-CD, CAE-R	MSI; DoL Apprenticeship Program; Cyber Threat Intelligence Fellowship Program; USSOCOM Digital Forensics Training Program; Cybersecurity Fundamentals Badging Program
Metropolitan State University	CAE-CD	Workforce development for veterans and National Guard; MN Cyber Range; Pathway Cyber Curriculum Development; Industry partnership via MN Cyber Institute; internships; apprenticeships
San Antonio College	CAE-2Y, Southwest CAE Regional Hub	MSI; Cyber First Responders Occupational Skills Award; SFS CyberCorps Pilot Program for Community Colleges
University of Texas at San Antonio	CAE-CO, CAE-CD, CAE-R	MSI; Army workforce development; online certifications; Wounded Warrior training program; 16th Air Force training; Army Reserve transition training; industry, federal lab and law enforcement partners

Stacked Credentialing Workforce Development Model



Workforce Development Engagement and Placement



Critical Infrastructure Sector Partners

Financial Services

- Capital One
- Deutsche Bank
- Federal Reserve Bank of Atlanta
- Goldman Sachs
- Inn Of The Mountain Gods
- JP Morgan
- Navy Federal Credit Union
- Regions Bank
- U.S. Bank

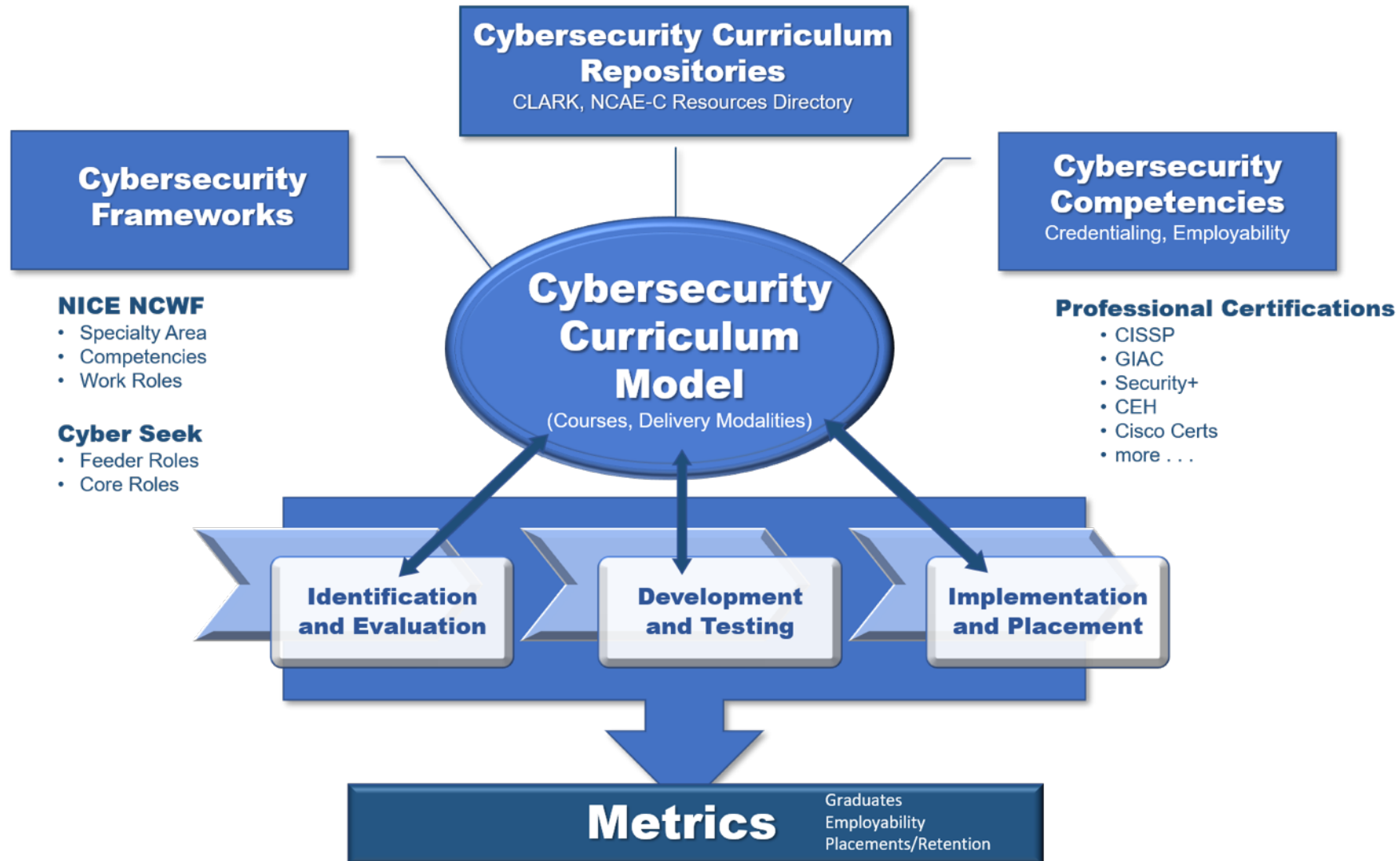
Defense Industrial Base

- Accenture Federal Services
- Air Force OSI
- AFCEA
- BAE Systems
- Booz Allen Hamilton
- Corry Station, Pensacola, FL
- Eglin AFB, FL
- Elbit Systems of America
- Ft. Bliss, TX
- Ft. Gordon, GA
- General Dynamics IT
- Holloman Air Force Base, NM
- Hurlburt Airfield, FL
- L3Harris Technologies
- MacDill AFB, FL
- National Defense Industrial Association
- Naval Air Station - PNS, FL
- Northrop Grumman
- Raytheon
- Sandia National Labs
- US CENTCOM
- US SOCOM
- White Sands NASA

Energy and Other Partners

- ExxonMobil
- Florida Power & Light
- Gulf Power
- NextEra Energy
- Pattern Energy
- The Southern Company
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- IBM
- BlackBerry
- Business Executives for National Security
- Hetherington Group
- Innovate + Educate
- IPSecure
- Merkel Foundation
- Mescalero Apache Tribal Government, Economic Development & Telecom ISP
- Minnesota Dept. of Employment & Economic Development
- National Security Collaboration Center
- New Mexico Economic Development Dept.
- New Mexico Workforce Development
- Region 9 Education Cooperative
- South Central Mountain Economic Dev. Assoc.
- UnitedHealth Group

Workforce Skills Development Model



Sample Courses to be Developed or Refined for Workforce Program

Courses/Topics	
Cybersecurity Fundamentals	Risk and Incident Management
CompTIA Network+	Network Defense
CompTIA Security+	Malware Analysis
CompTIA Cybersecurity Analyst (CySA+)	Cyber Threat Intelligence
Introduction to Networks	Industrial Control Systems Security
Introduction to IT	Artificial Intelligence
Introduction to Programming	Introduction to Machine Learning
EC-Council Certified Ethical Hacker	Data Programming and Visualization
Firewalls and Network Security	Computer and Digital Forensics
Information Technology Security	Intrusion Detection and Prevention
Introduction to Linux	Business Continuity and Disaster Recovery
Advanced Linux	Cyber Ethics, Professionalism, and Career Development
Digital Forensics	Ethical Hacking
Operating Systems Concepts	Threat Hunting
Operating Systems Applications	Quantum Computing and Cryptography
Introduction to Computer Architecture	Introduction to Intelligent Systems
Fundamentals of National Security	Applications of Machine Learning for Cybersecurity
Foundations of Global Cybersecurity Policy	Certified Information Systems Security Professional
Effective Governmental Communication	Introduction to Structured Analytic Techniques

Target Number of Trainees

Institution	Year 1	Year 2	Year 3
Augusta University	In development	20	25
Dakota State University	In development	20	30
Eastern New Mexico University – Ruidoso	10	20	20
Florida International University	30	60	90
Metropolitan State University	60	90	150
San Antonio College	20	25	25
University of South Florida – Cyber Florida	20	40	40
University of Texas at San Antonio	30	80	170
University of West Florida	30	60	120
Total	200	415	670
Cumulative Program Total	200	615	1285

NCAE Cybersecurity Workforce Development Programs

Institution	Workforce Development Program	Delivery Format	Target Audience	NICE Cybersecurity Workforce Framework Work Roles
Augusta University	Cyber Workforce Transition Program (in development)	Face-to-face	Transitioning military	Roles within the Analyze, Collect and Operate, Operate and Maintain, and Protect and Defend categories
Dakota State University	Digital Forensics and Open Source Intelligence Program (in development)	Online	First responders and transitioning military	Law Enforcement / Counterintelligence Forensics Analyst, Cyber Defense Forensics Analyst, Cyber Operator, Cyber Crime Investigator, Cyber Defense Analyst, Cyber Incident Responder
Eastern New Mexico University – Ruidoso	Computer and Network Cybersecurity Certificate	Online	Transitioning military, first responders, and native American populations	Technical Support Specialist, Network Operations Specialist, System Administrator, Systems Security Analyst, Cyber Defense Analyst, Cyber Defense Infrastructure Support Specialist, Cyber Defense Incident Responder, Vulnerability Assessment Manager, Cyber Operator
Florida International University	Veterans and First Responders Cyber Threat Intelligence Fellowship Program and Professional Education Program	Face-to-face and online	Transitioning military, veterans, and first responders	All Source Analyst, Cyber Defense Analyst, Cyber Defense Forensics Analyst, Law Enforcement / Counterintelligence Forensics Analyst

NCAE Cybersecurity Workforce Development Programs

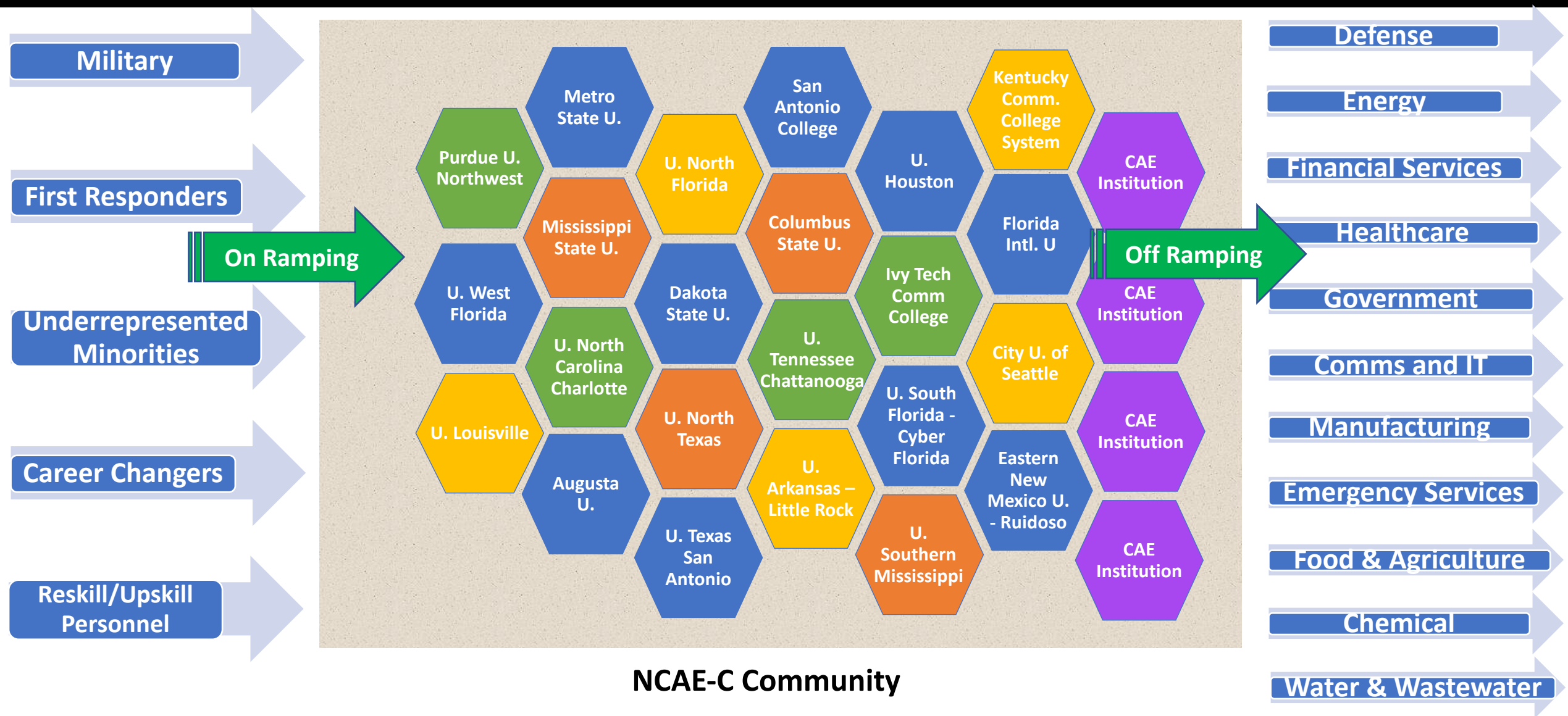
Institution	Workforce Development Program	Delivery Format	Target Audience	NICE CWF Work Roles
Metropolitan State University	Intensive Cybersecurity Program for our Nation's Heroes	Face-to-face and online	Transitioning military, first responders and underrepresented minorities	Cyber Defense Analyst, CD Incident Responder, CD Infrastructure Support Specialist, Cyber Operator, Network Operations Specialist, System Administrator, Systems Security Analyst, Technical Support Specialist, Vulnerability Assessment Analyst
San Antonio College	SAC Cyber Workforce Development Program	Face-to-face and online	Transitioning military, first responders, SAC Finance and Criminal Justice majors	Technical Support Specialist, Network Operations Specialist, Systems Security Analyst, Cyber Defense Incident Responder, Cyber Defense Analyst, System Administrator
University of South Florida – Cyber Florida	New Skills for a New Fight Program	Face-to-face	Transitioning military and veterans	Cyber Defense Analyst
University of Texas at San Antonio	Workforce Development Program (introductory and experienced programs)	Online	Transitioning military	Roles within the Collect and Operate, Operate and Maintain, and Protect and Defend categories
University of West Florida	UWF Cybersecurity Workforce Development Program (introductory and advanced programs)	Face-to-face and online	Transitioning military, first responders and underrepresented minorities	System Administrator, Systems Security Analyst, Cyber Defense Analyst, Cyber Defense Infrastructure Support Specialist, Cyber Defense Incident Responder, Vulnerability Assessment Analyst



NCAE Cybersecurity Workforce Program Sustainability and Scalability

- Develop infrastructure for nationally scalable and sustainable program:
 - Best practice models that align with national frameworks
 - Expandable website and dynamic dashboard
 - Resources: aptitude assessment, career and curricular resources
 - National Employers Network
- Expand program in future years to include additional:
 - Target populations and participants
 - Sectors and employers
 - CAE institutions
 - Share workforce models and curricular resources

National CAE Cybersecurity Workforce Program Expansion





National CAE Cybersecurity Workforce Development Program

Q&A

Thank you!

For additional information, please contact
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