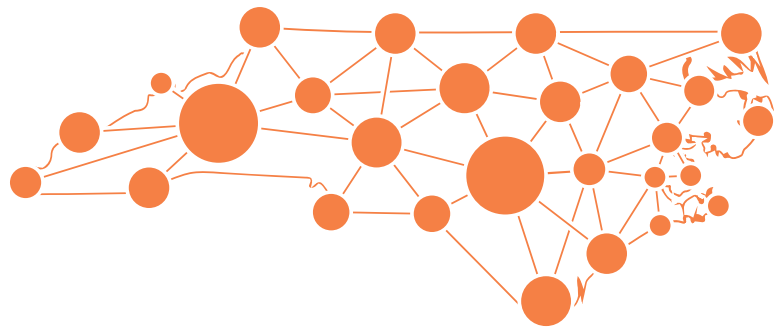


CAROLINA
CYBER
NETWORK

www.carolinacybernetwork.net

DEVELOPING TALENT
PROTECTING OUR FUTURE

ANNUAL REPORT 2023

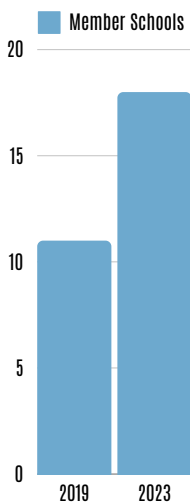


Content

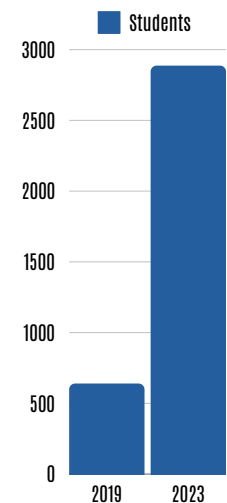
A Message from the Executive Directors	1
Member Schools and Advisory Board	2
CCN in the News	3
Work Groups	5
Sector Groups	6
Program and School Highlights	7
News from Member Schools	9
Competitions	12
Budget Allocations	12
Projects Coming in 2024	13



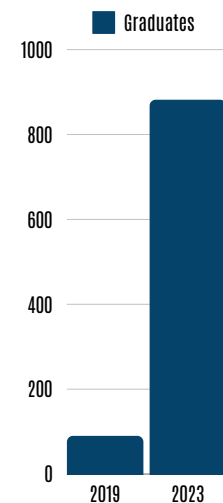
Did you know, in 2023...



2019: 11 schools
2023: 18 schools



2019: 640 students
2023: 2887 students



2019: 90 graduates
2023: 882 graduates

456

students participated in cyber competitions in 2023

234

High Schools students enrolled in Cybersecurity courses through CCN efforts (up from 150 in 2022)

207

students participated in work-based learning including internships, apprenticeships and Security Operations Center contract work (up from 153 in 2019)

63%

Increase in member schools (from 11 to 18)

11

schools have already achieved CAE designation

A MESSAGE FROM THE EXECUTIVE DIRECTORS



Dr. Mark Sorrells
PRESIDENT,
FAYETTEVILLE
TECHNICAL
COMMUNITY
COLLEGE

2023 was an exciting and productive year for the Carolina Cyber Network. In this report you will read about our most recent efforts and progress in building a comprehensive and responsive workforce strategy for North Carolina. We continue to expand the number of the CCN member schools and the depth of services offered. This has included adding four new schools, bringing our membership to 18 institutions. Sector group activity is ramping up and has expanded to include Government (added to our Military group) and Critical Infrastructure has been split to create separate groups covering Utilities and Transportation. Sector groups are supported through sub-grants to build strategic responses to sector-based risks. In addition, we have recently added incentives for sector group leaders to compensate for time spent designing and implementing strategic initiatives with business partners. Sector group activity continues to mature with several initiatives targeting new sector-specific training and student internship opportunities with potential employers.



Mr. Lawrence Young
EXECUTIVE
DIRECTOR,
CAROLINA
CYBER CENTER

Cooperation between schools is a key to the CCN's success. Members are continually finding new avenues to network to share ideas, programs, resources, and tools. The CCN's semi-annual convenings represent important growth opportunities for members to further enhance their programs, share best practices, and identify strategic partnership opportunities. This year's convenings were held at Montreat College in the spring and Forsyth Technical Community College in the fall. Please note the articles included in this report outlining an impressive list of guest speakers who attended from leading cyber organizations in NC and nationally. We are excited about the plate of work scheduled for 2024 highlighting K-12 outreach, more curriculum alignment, train-the-trainer programs customized for different institutions, and expanded Sector and Work group activity. Two new initiatives we intend to kick off in 2024 include Artificial Intelligence (the benefits of AI as a learning and administrative tool and the threats of AI as a weapon) and in Governance, Risk and Compliance, which is becoming more critical especially in doing business with the federal government (contracting, grants, etc.).



Mr. David Thompson
PRESIDENT &
CEO, RBX
SOLUTIONS

And finally, it's worth noting our involvement in State and National Cyber initiatives. The State has generously provided funding to the CCN for two additional years, which validates that we're building an ecosystem that addresses critical needs for both the public and private sectors and is producing a positive impact for our state. On the national scene, the CCN was honored to be asked to contribute to the National Cyber Workforce and Education Strategy. The leadership of the CCN was invited to meet with the Cyber Defense team from the Executive Office of the President to provide input in the design stage and feedback on the document prior to its release last July. The CCN is well-positioned to help other states and organizations strengthen cyber resiliency in support of this important strategy.

Please take a moment to read through this annual report as there is so much more.

Regards,

The Executive Directors

MEMBER SCHOOLS AND ADVISORY BOARD

Blue Ridge Community College

Scott Queen

Vice President of Economic and Workforce Development

Caldwell Community College and Technical Institute

Liz Silvers

Vice President/ SACSCOC Accreditation Liaison

Catawba Valley Community College

Aden Cranford

Dean, School of Career and Technical Education

Cleveland Community College

Susan Randall

Department Chair of Information Technology and Broadcasting

Elizabeth City State University

Kuldeep Rawat

Dean of School of Science, Aviation, Health and Technology

Fayetteville Technical Community College

Rhiannon Holley

Department Chair, System and Security Analysis Instructor

Forsyth Technical Community College

Tony Brown

Department Chair, Davis iTEC Cybersecurity Center

Gaston College

Jeff Guzman

Instructor Cyber-Security/Director-Cyber Security Center

Isothermal Community College

Kem Harvey

Dean of Applied Technologies

Johnston Community College

Ryan Bradshaw

Department Chair for Business, Industry, Logistics, and Transportation

Montreat College

Kelli Burgin

Department Chair of Cybersecurity

North Carolina A&T State University

Salil Desai

Director of the Center of Excellence in Product Design and Advanced Manufacturing

Piedmont Community College

Chris Davis

Dean, Business Studies and Emerging Technologies

Richmond Community College

Lance Barber

Information Technology Program Coordinator

Stanly Community College

Gonda Watson

IT Cybersecurity Program Head

University of North Carolina, Wilmington

Ulku Clark

Professor of Information Systems, Director of the Center for Cyber Defense Education

Wake Technical Community College

Sandellyo Kauba

Instructor, Cyber Security

Wayne Community College

Tracy Schmeltzer

Dean of Business and Computer Technologies

MISSION

Strengthening North Carolina's cybersecurity capabilities through a coordinated, work-ready talent development system connecting employers with needed talent.

VISION

Create and deliver a first-of-its kind national demonstration project enabling a high-performance, holistic cybersecurity workforce pipeline for public and private entities.

PRINCIPLES

The Carolina Cyber Network seeks to achieve two principal outcomes. First, to nurture the full-life cycle of North Carolina cybersecurity practitioners, from identification to self-selection and lifelong learning. Second, to serve the business and institutional communities of North Carolina by contributing to their cybersecurity success.

THE CCN IN THE NEWS

THE CCN CONGRATULATES DR. SORRELLS ON APPOINTMENT AS FTCC PRESIDENT

On January 1st, 2023 Dr. Mark A. Sorrells took on the role of President for Fayetteville Technical Community College (FTCC). His previous role as FTCC's Senior Vice President for Academic and Student Services laid a strong foundation for this transition. Dr. Sorrells succeeds Dr. J. Larry Keen, following an extensive nationwide search. Most importantly, Dr. Sorrells remains an Executive Director of the CCN and is committed to serving in this role going forward.

CCN LEADERSHIP MEETS WITH CONGRESS, THE WHITE HOUSE, AND NIST/NICE

Last February, leaders from the CCN traveled to Washington D.C. to meet with NC's Congressional Delegation and other entities focused on advancing our national cybersecurity posture. Mark Sorrells, Lawrence Young, and David Thompson met with members of Congress, the Executive Office of the President's National Cyber Director (ONCD), and the National Initiative for Cybersecurity Education (NICE) at NIST. These meetings centered on the CCN's response to the pressing cybersecurity workforce shortage, with over 20,000 unfilled positions in

North Carolina and 500,000 nationally. The meetings highlighted the urgent need for innovative solutions to bridge the skills gap, especially in collaboration with agencies like the NSA and DoD. Most notably, a second meeting with ONCD was held in April to review and provide feedback on the National Cyber Workforce and Education Strategy (NCWES) that was launched on July 31st. In this meeting, The CCN's leadership team emphasized the network's commitment to aligning with the ONCD's strategy to fortify the nation's cybersecurity posture and providing assistance to the ONCD in shaping this crucial national education and workforce strategy. The CCN's collaboration with key national and state entities, including the ONCD, National Security Agency, and North Carolina's Department of Information Technology, underscores the comprehensive approach to cybersecurity workforce development by the CCN. The CCN's role in developing a holistic ecosystem with accessible pathways for cybersecurity careers was highlighted in the NCWES.

CCN TESTIFIES BEFORE SENATE CYBERSECURITY CAUCUS

On March 30, Dr. Sorrells presented, in a closed-door briefing with the staff of Senator

Mark Warner (D-VA) and Senator Thom Tillis (R-NC), co-chairs of the Senate Cybersecurity Caucus. Established in 2016 by Senator Warner, the Caucus serves as an educational resource focused on elevating the cybersecurity policy conversation within Congress. Dr. Sorrells highlighted North Carolina's efforts in cyber workforce development and identified challenges to standing up a comprehensive workforce ecosystem. He specifically addressed innovative strategies for workforce development and emphasized non-traditional approaches to engaging employers that allow students to gain work experiences prior to graduation. The Caucus recognized the CCN's novel approaches to resource sharing, faculty collaboration, work experiences for students, and facilitating seamless transfer for students looking to further their education.



CCN ADDRESSES THE STATE BOARD OF COMMUNITY COLLEGES

Last April, Dr. Sorrells addressed the State Board of Community Colleges during their issues luncheon, where he outlined

the CCN's comprehensive cyber workforce strategy for North Carolina. He emphasized the CCN's collaborative approach to engage private businesses and public agencies in creating innovative strategies to address cyber risks and workforce concerns in 8 core economic sectors, including agriculture, biotechnology, water and power infrastructure, financial services, military and government, and healthcare, among others. Dr. Sorrells also highlighted the CCN's success in forming a dynamic public-private partnership, garnering significant support from industry and government at both state and national levels.



DR. MARK SORRELLS AWARDED NC TECH'S TECH DIFFERENCE MAKER OF THE YEAR

Dr. Mark Sorrells was honored as the Tech Difference Maker of the Year by the NC TECH Association at their annual awards dinner in Raleigh on November 1st. NC TECH, a technology trade association with over 600 member companies and institutions, recognizes individuals who significantly impact the tech industry. Dr. Sorrells' recognition stemmed from his influential role as FTCC President and his leadership in co-founding the Carolina Cyber Network.



THE CCN PRESENTS AT PRESTIGIOUS NSA'S CENTERS OF ACADEMIC EXCELLENCE SYMPOSIUM

This past fall, the National Security Agency invited the CCN to present at the 2023 National Cybersecurity Education Colloquium, held in Chicago. This symposium included key leaders in government and industry as well as representatives of 400+ CAE schools from across the country. Dr. Paul Maurer, President of Montreat College, led the panel that included Dr. Mark Sorrells, Larry Young, and David Thompson.

The panel provided an overview of the CCN's origins and growth over the past three years and discussed some of the challenges experienced in standing up the organization along with hurdles encountered in higher education in meeting its mission to churn out qualified, work-ready pipeline of cyber graduates. The panel fielded a variety of questions from the audience, including many from colleges in other states looking to implement a flexible and responsive workforce development ecosystem similar to that created in North Carolina by the CCN.

FALL CONVENING FEATURED GOVERNMENT OFFICIALS AND NATIONAL CYBERSECURITY EXPERTS

On November 2-3, the CCN held its 5th semi-annual meeting at Forsyth Technical Community College in Winston-Salem. This event brought together over 100 representatives from 22 colleges and universities, along with prominent state and national leaders. Presenters included Deputy Cyber Director Daniel Ragsdale from the Biden Administration's Office for National Cyber Defense (ONCD); Rodney Petersen, Executive Director of NICE; Torry Crass, Chief Information Security Officer at NC DIT; Lynne Clark, Executive Director of the NSA; and John Opala, Chief Information Security Officer at Haynes Brands, Inc.



Rodney Petersen, Director of NICE, NIST receiving the 2023 CCN Service Award for exemplary service to the cyber community

A highlight of the convening was the ONCD's presentation on the "National Cyber Workforce and Education Strategy." The CCN's role as the first ecosystem featured in this strategy report was a point of pride and is representative of its impact on national cybersecurity.

WORK GROUPS

CURRICULUM ALIGNMENT

Victoria Ferrell, Forsyth Tech

The curriculum alignment work group is focused on aligning the CCN member institutions' cyber security curricula with the Center of Academic Excellence knowledge units (KUs) and industry needs. The group has conducted a comprehensive analysis of existing cybersecurity courses for North Carolina community colleges utilizing the CAE-Cyber Defense Designation Requirements as a guiding framework for developing recommendations. The recommendations identify a set of core cyber courses aligned with those requirements to ensure that all of the CCN member institution curricula are aligned with established industry standards and employer needs. Another benefit of the curriculum alignment work is completing a curriculum crosswalk that can facilitate articulation agreements between our 2-year and 4-year member schools. Montreat College is piloting this effort and has completed agreements with Gaston, Stanly, Forsyth, Fayetteville Tech, and Wake Tech, with more anticipated in 2024.

EDUCATIONATIONAL TECHNOLOGY

William Cummings, Fayetteville Tech

A valuable benefit to the CCN member institutions is the provision of licenses for students to access two cyber ranges where students apply skills learned to defend against simulated cyber-attacks. The CCN has renewed contracts with both Range Force and Cyberbit for multiple years. The cyber ranges provide students with simulated "real-world" experiences that have proven to be invaluable in developing the skills of our students, preparing them for cyber competitions, and to be work-ready upon graduation.

K-12 CYBER EDUCATION

Thomas Brown, Forsyth Tech

The K-12 Cyber Education Work Group is exploring avenues to work with the NC Department of Public Instruction to incorporate cybersecurity education into K-12 curricula. Currently, the group is researching strategies used in other states to gain an understanding of best practices in K-12 cyber education. Their findings will be used to develop strategies for building a successful and effective K-12 cybersecurity education pathway that connects secondary cyber programs to those offered in higher education.

PROFESSIONAL AND ESSENTIAL LIFE SKILLS

John Sheuring, Carolina Cyber Center

The Professional and Essential Life Skills modular curriculum has been updated. The purpose of the curriculum is to teach, coach, and mentor students in developing "essential" skills and abilities that are critical to achieving success in a cybersecurity career. Specifically, while technical skills and the associated skills validation (badges, certifications, degree, etc.) can enable a person to "get the interview," professional skills (e.g., punctuality, clarity of written and verbal communications, coachability, critical thinking, collaboration, "grit," problem solving, dealing with conflict, etc.) are skills that get a person hired for (or fired from) a job. The curriculum is being reviewed to update the content and determine how the curriculum can be incorporated into a variety of program and delivery formats.

SECTOR GROUPS

MANUFACTURING

Salil Desai, NCA&T

The Manufacturing Sector Group is focused on developing research, education, and outreach programs to assist manufacturers with cyber compliance regulations that are applicable to transforming legacy manufacturing to digital/cyber manufacturing. Cyber compliance is also becoming a standard mode of operation for any entity contracting with the federal government, which includes defense contractors and educational agencies that seek funding from federal agencies. The group is working to develop compliance training modules and readiness assessment tools for small and medium manufacturers.

GOVERNMENT & MILITARY

Scot McCosh, Fayetteville Tech

This sector group is developing innovative opportunities for students to gain practical skills that prepare them for cyber security careers in public and private organizations supporting governmental entities and the military. Teams of students are being formed, in a pilot project, to conduct soft cyber assessments for local governments in partnership with the Mid-Carolina Council of Government (MCCOG). Student teams, along with a technical advisor, will use the assessments to make recommendations to harden security assets for local municipalities. Students

will gain technical skills and build essential life skills as they liaise with leaders, give presentations, and summarize recommendations and outcomes.

AGRICULTURE

Scott Queen, BRCC

The Agriculture Sector Group is focused on increasing awareness among farmers, distributors, and consumers of potential cybersecurity threats to the agricultural sector, increasing cybersecurity training specific to agriculture, and establishing partnerships with business and industry to more clearly identify and align with the industry's pain points. Scott Queen, the director of this group, participated in a panel discussion at the Western NC AgTech and Agribusiness Discovery Event at the WNC Ag Center where he highlighted his work with the Carolina Cyber Network and Agriculture Sector group and the risk exposure from potential cyber-attacks to the nation's food supply.

FINANCE

Greg Sayadian, Montreat College

The Finance Sector Group has collected job descriptions for entry and journeyman cyber-related positions. The group is now working to map corporate requirements to task statements and the knowledge, skills, and abilities acquired by students in cyber training. The end goal is to map classroom work to actual job responsibilities and corresponding tasks. In addition,

the group is identifying the primary methods used by financial institutions to recruit cyber talent. Corporate members include Wells Fargo, Bank of America, Ally, and others.

HEALTHCARE

Athena Smith, CVCC

The Healthcare Sector Group is developing a continuing education, cybersecurity workforce focused curriculum, which includes cybersecurity certifications for healthcare professionals. The course content and an instructor's guide will be shared with the CCN member institutions for use to advance cybersecurity programs across the state. The group also plans to create cybersecurity tabletop exercises for healthcare industry partners.

MOVING Forward →

In 2024 the CCN plans to expand the Sector groups to include Biotech, High Tech (a major employer of cyber professionals), expand Critical Infrastructure with Utilities and Transportation, and add Government to the Military sector group. In addition, we are exploring AI and Compliance as possible add-ons.

Program & Member HIGHLIGHTS

THE CCN WELCOMED FOUR NEW MEMBER SCHOOLS

In 2023, the Carolina Cyber Network (CCN) again expanded its membership, welcoming four new institutions dedicated to bridging the cybersecurity workforce gap in North Carolina. The University of North Carolina Wilmington, Cleveland Community College, Isothermal Community College, and Johnston Community College joined the network, bringing the CCN's total membership to 18 colleges and universities. The new members embody CCN's core values of imparting practical technical skills, life skills, and work-based learning experiences to prepare students for cybersecurity roles in public and private sectors.

UNC Wilmington, a National Security Agency-designated Center for Academic Excellence, brings a strong interest in maritime and transportation cybersecurity to the CCN. Since launching its Center for Cyber Defense Education in 2018 and introducing an undergraduate cybersecurity degree in 2022, UNCW has shown a strong commitment to cybersecurity and integrating cyber as an interdisciplinary skill set in logistics and other disciplines. Chancellor Dr. Aswani K. Volety of UNCW expressed a strong interest in aligning with the CCN and enhancing cybersecurity education across the state. Similarly, the other new members, Cleveland, Isothermal, and Johnston community colleges are eager to enhance their cybersecurity programs through the CCN's network, aligning with their respective missions of driving student success through innovative learning to strengthen community economic development.



THE SOC EXPERIENCED IMPRESSIVE GROWTH IN ITS SECOND YEAR.

The CCN continues to fund real-world work experiences for students from the CCN member colleges. Over 90 students from eight institutions were employed by the Carolina Cyber Center (C3) to gain 200+ hours of work experience in the Security Operations Center (SOC). This program has been enthusiastically endorsed by State and Federal Cyber agencies and provides resume-worthy work experience. The CCN is proud to announce C3 will be expanding the program to increase the contract hours for students and expand the range of work.

C3 RECEIVED \$1 MILLION GRANT FROM DOGWOOD HEALTH TRUST

During the past year, C3 was awarded a 3-year grant from the Dogwood Health Trust to train 100 underserved individuals from Western North Carolina in cybersecurity through its Academy. The grant also includes an outreach component to reach k-12 students in the region.

FIRST STRATEGIC SUMMIT DESIGNED FOR THE C-SUITE HOSTED BY C3

To address business leadership concerns about cyber threats, C3 developed a program designed to translate highly technical cybersecurity information into a usable format for the C-suite to enhance their abilities to make well-informed mission-critical decisions. The Summit was held this past September at the Grove Park Inn in Asheville with over 60 participants, speakers, and staff in attendance. Speakers from Google, State Agencies, and other key corporate entities presented at this annual event.



Lynne Clark, Chief of the NSA/DHS National Centers for Academic Excellence in Cyber Defense, receiving the 2023 CCN award for exemplary service to the cyber community

THE CCN CONTINUES STRONG SUPPORT FOR THE CENTER OF ACADEMIC EXCELLENCE

The Carolina Cyber Network requires colleges interested in membership would either have the Center of Academic Excellence in Cybersecurity (CAE-C) designation by the National Security Agency (NSA) and Department of Homeland Security (DHS) or be committed to becoming a CAE institution. The CAE Program was developed to increase the cyber workforce and to address the growing dearth of cyber skills in the US. The CAE designation is held by the top 450 schools in the country offering cybersecurity programs. The CCN chose the CAE Program as a benchmark to establish a foundational curriculum to which each member college must align. A team of experienced consultants are assisting member institutions with designation and re-designation requirements. The CCN has conducted educational seminars and assessments to complete a gap analysis to help our members close existing gaps and meet CAE requirements. The CCN has developed aggressive timelines and milestones to accelerate vetting by NSA/DHS to successfully meet designation requirements. Through these efforts, the CCN helped the following members achieve CAE designation: Gaston College, Wayne Community College, Blue Ridge Community College, Forsyth Technical Community College, Richmond Community College, Stanley, and Community College. In addition, CCN has assisted in the redesignation efforts for Fayetteville Technical Community College, Montreat College, UNC Wilmington, and Forsyth Community College. The remaining member schools are on track for designation within 18 months with the assistance of the CCN. For colleges with new programs, the CCN provides mentoring and coaching to enable a successful outcome.



MEMBER SCHOOL NEWS

BLUE RIDGE COMMUNITY COLLEGE

Enrollment in BCC's cybersecurity program increased by 58% this year. The College hired a third faculty member and, with support from the CCN, upfitted two labs to support the cybersecurity program. Blue Ridge CC's cyber competition team, the HIVE, participated in the National Cyber League Team Game for the first time, placing 394th out of 4,680 teams. Blue Ridge plans to construct a fully-automated greenhouse that will be utilized to provide training for the automation component of greenhouse management and provide cyber "hygiene" awareness training to address risks in the supply chain for the food system.

CLEVELAND COMMUNITY COLLEGE

Cleveland Community College is in its second year of building its cybersecurity program. Using a grant from the CCN, the College is creating new courses and course materials, providing professional development for faculty, upgrading a lab, and funding scholarships and work-based learning opportunities for students.

CATAWBA COMMUNITY COLLEGE

With a grant from the CCN, CVCC hired a Director for the Cybersecurity Center of Excellence, as well as a cyber faculty member. In addition, the College developed a Cybersecurity Apprenticeship pathway, which provides students with hands-on experiences and industry exposure to bridge the gap between academic learning and real-world application.

FAYETTEVILLE TECHNICAL COMMUNITY COLLEGE

Fayetteville Tech is engaged in a curriculum redesign process to better align with industry needs. Two additional courses are included: Cloud Security and Critical Infrastructure Security. A student lab is open daily each week to provide space for students to work on assignments and study for exams. The lab is staffed by faculty and a student lab tech. With support from the CCN, Fayetteville Tech is providing certification exam vouchers to help students earn certifications required by employers. A team of FTCC students participated in NSA's Codebreaker Challenge finishing 49th out of 449 participants. FTCC was one of three community colleges to finish in the Top 50.

FORSYTH TECHNICAL COMMUNITY COLLEGE

Forsyth Tech won the National SecureUS Collegiate Cyber Challenge Exercise for CAE-C Institutions last September and finished 6th in the Center of Academic Excellence Community Outreach Competition. This year, Forsyth Tech also had three students receive the Cyber Corps Scholarship for Service award. These students will complete their AAS degree at Forsyth Tech, then transfer to UNC Charlotte to pursue a bachelor's degree in computer science with a cybersecurity concentration. Upon graduation, students commit to three years of service in government cybersecurity roles.

GASTON COLLEGE

Gaston College's Networking and Cyber Defense program has experienced steady growth in enrollment with a 123% increase from Fall 2017 to Fall 2023. This year, the College is designing, renovating, and equipping new cyber-labs on all three of its campuses. With support from the CCN, Gaston College was able to hire a consultant with industry knowledge to assist with room designs, furniture selection, equipment procurement, and more.

JOHNSTON COMMUNITY COLLEGE

Johnston celebrated the first graduates from their cybersecurity program in 2023. A grant from the CCN allowed Johnston to create a satellite Security Operations Center to provide students a realistic training environment.

MONTREAT COLLEGE

Montreat College is actively involved in shaping the re-designation requirements for the National Centers of Academic Excellence in Cyber Defense (NCAE-CD) by participating in the Careers Preparation National Center and the 'NCAE-C Student Code of Ethics and Professional Conduct' Initiative to develop materials for "Student Professionalism." Kelli Burgin is the co-chair of the 'NCAE-C Student Code of Ethics and Professional Conduct' Initiative, which developed the Student Code of Ethics and Professional Conduct during 2023. This code of conduct will be a model for all CAE-designated colleges and universities. In the Spring, Montreat hosted Jim Weaver, North Carolina's Secretary and Chief Information Officer, and his staff to tour the College's cyber facilities and the Carolina Cyber Center Security Operations Center. Montreat also hosted CCN's Spring convening and held its 9th annual Cyber RETR3AT.



ISOTHERMAL COMMUNITY COLLEGE

Isothermal joined the CCN in 2023. This was also the first year for their cybersecurity degree program. The College hired its first full-time cybersecurity instructor who is working to build a program aligned with the criteria required to be designated a Center for Academic Excellence by the NSA. ICC also offered its first Online Safety Fundamentals course through continuing education and is developing a Cybersecurity Pathway Certificate for dual credit high school students to begin in Fall 2024.



NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY

This year, NC A&T enhanced an undergraduate cybersecurity course, Applied Network Security (Comp420), by incorporating hands-on, attack-defense demonstrations. Students engaged in a variety of cyber-attacks and gained practical experience in detection techniques and mitigation strategies, which gave them the new skills and knowledge required to compete in the dynamic cybersecurity job market.

RICHMOND COMMUNITY COLLEGE

Richmond experienced record enrollment in its 14-week continuing education course focused on Network+ and Security+ certificate training. In addition, a new course was developed to provide cybersecurity training as a part of SCADA knowledge skill set for students enrolled in the Electric Utility and Substation Relay Technology Program. This course will cover the fundamentals of Supervisory Control and Data Acquisition (SCADA) systems and corresponding security implications to equip students with the skills and knowledge needed to protect critical infrastructure from cyber threats.

UNIVERSITY OF NORTH CAROLINA WILMINGTON

UNC Wilmington launched its BS degree in Cybersecurity in 2022-2023 with 20 students. This year, enrollment ballooned to 141. A new maritime cybersecurity concentration is planned for 2025-2026. Two courses for this concentration were offered for the first time this year: Maritime Cybersecurity and Industrial Systems Control Cybersecurity.

PIEDMONT COMMUNITY COLLEGE

Piedmont Community College is partnering with Vance-Granville Community College to share resources, faculty expertise, and instructors to increase the focus on cybercrime and cyber investigation in the 5-county area served by the two colleges. PCC and VGCC have established a Level-Two Instructional Service Agreement (ISA) that begins in January 2024 to jointly offer courses.

STANLY COMMUNITY COLLEGE

Stanly Community College's (SCC) Cisco Academy Support Center/Instructor Training Center (ASC/ITC) earned the Premier+ Award by Cisco Systems, Inc. The Center provides Cisco Network Academy instructor training in various formats, including online, blended, and distance learning. In addition to instructor training, SCC offers Fast Track testing and classes for those pursuing Cisco certifications, including the Cisco Certified Network Associate (CCNA) and Cisco Certified Network Professional (CCNP).

WAKE TECHNICAL COMMUNITY COLLEGE

In 2022, Wake Tech received a sub-award from the CCN to support a redesign of the Security Capstone course to align it with the CompTIA CySA+ certification, provide student internships, and expand faculty certifications related to cybersecurity. In addition, the grant will support Cyber Aware events aimed at engaging students, industry partners, and the broader community in the realm of cybersecurity. The events will culminate with a cybersecurity competition.

WAYNE COMMUNITY COLLEGE

Enrollment in Wayne Community College's cybersecurity program has increased by 26% over the last two years. This year, faculty updated the curriculum, adding EC-Council courses that lead to CompTIA certifications and created additional hybrid courses to accommodate growing enrollment.

COMPETITIONS

The CCN encourages its members to promote participation in cyber competitions as a way for students to sharpen their skills and capabilities. In 2023, students from eight CCN schools participated in competitions. Highlights include:

- The CCN covered the registration fees for eight CCN schools to compete in the National Cyber League competition. In their first National Cyber League Team Game, the team from Blue Ridge Community College, The HIVE, placed 394th out of 4,680 teams, the top 7%.
- Fayetteville Technical Community College finished 49th out of 449 teams in the NSA Codebreaker Challenge, and was one of only three community colleges finishing in the top 50.
- Forsyth Technical Community College was the overall winner in the first National SecureUS Collegiate Challenge Exercise for CAE-C Institutions.

■ Subgrants ■ Education and Training
■ Member Services ■ Core Services



BUDGET ALLOCATION

- 41.8%** **SUBGRANTS TO MEMBER SCHOOLS**
 Awarded to Eight Member Schools
- 23.1%** **EDUCATION AND TRAINING**
 Academies, ELS, Scholarships, SOC
- 20.8%** **MEMBER SERVICES**
 CAE Support, Shared Resources, Convenings
- 14.3%** **CORE SERVICES**
 Finance and Accounting, Marketing, Grant Administration, Project Management

LOOKING AHEAD

Projects Coming in 2024

ASSESSMENTS

The SOC is now offering a new, simple cyber security report and assessment for schools, municipalities and other organizations, which provides the results of a passive scan, a rapid fire assessment (in simple language,) industry references, and clear paths to improve their security.

TRAIN-THE-TRAINER

The CCN is developing a Train-the-Trainer program to increase the number of cyber faculty in the state. The effort will be led by Forsyth Tech, Fayetteville Tech, and Montreat College. Forsyth will focus on training K-12 teachers to teach cyber in K-12 programs as well as to be adjunct faculty at community colleges. Fayetteville Tech will prepare IT and Business faculty to teach cyber security courses and train cyber professionals to teach college courses. Montreat will focus on developing adjunct instructors for 4-year colleges.

PLACEMENT SERVICES

Dubbed “the last mile,” the CCN is in discussions with various employment agencies that specialize in Cybersecurity to enhance our support for graduates entering the job market. Efforts are also underway to develop an “off-boarding” process to prepare students with the necessary tools and practice to prepare them for jobs in the cybersecurity sector.

SATELLITE SOCS IN EVERY MEMBER SCHOOL

Funds have been allocated to develop satellite SOCs in existing classrooms on member campuses connecting to the C3 SOC to facilitate an environment that provides students a real-world work experience.

COMPETITIONS

Member colleges have done very well competing in various regional and national competitions. In 2024 the CCN is supporting sponsorships, entry fees and travel costs for member college teams to participate in more competitions.

CLUBS AND CYBER CENTERS

The CAE expects applicants to support cyber education through clubs and centers dedicated to cyber workforce preparation. The CCN already provides extensive support to help members obtain CAE designation, and in 2024, the CCN's will provide assistance to further support these two activities.

NETWORKING

The CCN is willing to openly share lessons learned and successes with other organizations. To further develop resiliency and sustainability, the CCN is creating pathways for partnerships, resource sharing, communications, and other means to strengthen cyber postures in NC and nationally.



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF THE NATIONAL CYBER DIRECTOR
WASHINGTON, D.C. 20503

December 12, 2023

Mr. David Thompson
Mr. Lawrence Young
Dr. Mark Sorrells
Montreat, North Carolina

Dear Messrs. Thompson and Young and Dr. Sorrells,

As we approach the holidays and the start of a new year, I want to take the opportunity to thank

We are especially grateful for your support in the development of the NCWES and your commitment to expand our nation's cyber workforce, evident through the impact you have already made in North Carolina. You are helping us reinforce the vision that people are a crucial element of cyberspace and a strong cyber workforce is essential to strengthening national security, enhancing economic prosperity, and bolstering technological innovation on behalf of the American people.

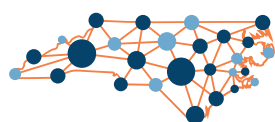
On behalf of the whole ONCD team, we appreciate your meaningful cooperation. We look forward to continuing our work together and wish you a safe, peaceful, and productive New Year.

Jacob H. Braun
Acting Principal Deputy National Cyber Director

**The Carolina Cyber Network
is a first-of-its-kind
national demonstration
project enabling a high-
performance, holistic
cybersecurity workforce
pipeline for public and
private entities, with major
funding from the State of
North Carolina.**

**THE CCN THANKS THE FOLLOWING FOR THEIR
INVOLVEMENT IN OUR SECTOR GROUPS:**

BrightFarms
Gaia Herbs
Tri-Hishtil
Van Wingerden International
Wells Fargo
Bank of America
Capital One
Ally Bank
Regional Council
of Governments
NC League of Municipalities
HIMSS
ValleySim
MxD



**CAROLINA
CYBER
NETWORK**

ANNUAL REPORT 2023

Contact

Carolina Cyber Network
www.carolinacybernetwork.net