

Careers Preparation National Center

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NCAE-C Careers Preparation National Center (CPNC) Tasks

- **Pull together** NCAE-C efforts in development of graduating and completing students with the knowledge, skills and competencies required for **government** and industry employment based on requirements identified by participating employers
- **Collaborate with the CAE Community** to compile employer entry-level workforce requirements
- **Publish a reference database** to guide academic programs and match NCAE-C designated institution programs to cybersecurity career opportunities in government and industry.
- **Compile requirements** to address **federal**, state and local government and industry requirements from published documents and tools, and from collaboration with departments, agencies, and industry partners.
- **Coordinate** the work and deliverables



2.1.1
Careers Matching
(Univ of North Texas)

PI: Dr. Ram Dantu

2.1.4
Cooperative Education
(Norwich)

Lead: Dr. Barbara Endicott-Popovsky
PM: Mr. Ran Hinrichs

2.1.5
Competency Development
(CSUSB)

PI: Dr. Sharon Hamilton
PR: Dr. Zoe Fowler, Norwich
Dr. Dan Manson, Norwich

2.1.5.1/2.5.1.2
Regional Exercises/SOC in a Box
Mr. John Kunelius (NUARI)

2.1.5.3/2.1.5.4
Integrate ABCDE/Develop e-library
PI: Dr. Vincent Nestler (CSUSB)

2.1.5.4
Competency Constructor
PI: Dr. Sidd Kaza (SecurEd)

2.1.5.5 Evaluate Comp Tools
PI: Dr. Susanne Wetzel (Stevens)

2.1.6
Student Development
(Montreat College)

PI: Ms. Kelli Burgin

2.1.8
Credit Transfer
(Purdue NW; Forsyth Tech)

2.1.8
Credit Transfer TF
PI: Dr. Michael Tu (PNW)

2.1.8.1
Articulation Agrmnt Database
PI: Mr. Thomas Brown (Forsyth Tech)

CPNC Team & Tasks



Competency Development & Documentation

**2.1.5
Competency Development**

PI: Dr. Sharon Hamilton, shamilto@norwich.edu
Principal Researcher: Dr. Zoe Fowler, zfowler@norwich.edu

**Regional Exercises/SOC in a Box
Mr. John Kunelius (NUARI)**

jkuneliu@norwich.edu

**Integrate Competencies/ABCDE
PI: Dr. Vincent Nestler (CSUSB)**

vnestler@csusb.edu

**Assess Competition Competencies
Dr. Dan Manson (Norwich)**

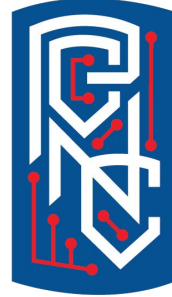
dmanson1@norwich.edu

**Competency Constructor
PI: Dr. Sidd Kaza (SecurEd)**

paige.zaleppa@secured.team

**Evaluate Competency
Learning Environments
PI: Dr. Susanne Wetzel (Stevens)**

swetzel@stevens.edu



Careers
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Center

Competency Work

“Competency is the ability for students to complete a task or tasks in the context of a work role.”

Applying competency statements to experiential learning

ABCDE

An actor (A) performs a behavior (B*) within a context (C) to an acceptable degree (D) according to the normative expectations of an employer (E).

*Behaviors cross-reference existing frameworks which position tasks within work roles. For example, the DCWF or NICE Framework.



Competency E-handbook and Train the Trainers

Dr. Vincent Nestler & Dr. Zoe Fowler

Tasks

- Integrate competency development activities and resources into established and new curricula
- Develop recommendations for inclusion of competency development in CAE-C requirements

Recent Accomplishments

- Continuing development of Essential Elements (ABCDE) framework
- Produced e-handbook (final draft) for educators to link competency statements to learning objectives
- Delivering “train-the-trainers” program
- Conducting action research to produce evidence on impact of writing competency statements upon practitioners and educators

Community Support

- Sign up for next 'train the trainer' sessions September 2023 (ICW the ECAC)
- Join the Monthly working group meetings!



Develop E-library & Competency Constructor

Dr. Sidd Kaza & Ms. Paige Zaleppa

Task

Develop system that will allow for the creation, storage, and maintenance of CAE-C's competency statements

Recent Accomplishments

- Designed, developed, and tested data model, low fidelity prototype, and alpha version. Closed beta will be available in May 2023.
- Coordinating with all competency task partners to evaluate development of prototype and discuss fitness-for-purpose in relation to different types of experiential learning.
- Participating in Competency Working Group and 'train the trainer' workshop events, and contributing section to e-handbook

Community Support

- Attend a Train the Trainer Workshop and start developing competency statements!
- Provide feedback on Competency Constructor



Competition Competencies

Dr. Dan Manson

Tasks

- Conduct interviews with participants in CAE-C related competitions (NCL, CCDC, CPTC, CAE Cyber Games, DOE Cyber Force) to discuss benefits, growth opportunities, and enhancements to an individual's cybersecurity competence
- Conduct discussions with CAE-C competition organizers to better map competition scoring and activities to competencies and framework work roles and tasks (DCWF & NICE)

Recent Accomplishments

- Conducted 27 in-depth interviews with cyber competition competitors
- Entered 15 ABCDE Competencies into Competency Constructor
- Began discussions with competition organizers on mapping to competencies

Community Support

- Identify potential interview subjects with competition experience (current students and alumni. last 5 years)
- Identify competition organizers to discuss mapping to competencies

Learning Environment

Dr. Susanne Wetzel

Tasks

- Develop a suitable comprehensive process to evaluate non-commercial and freemium learning environments
- Provide pertinent information to the NCAE-C community

Recent Accomplishments

- Exploring the best ways to publish the information gathered
- Moving forward with questionnaires for freemium learning environments
- Exploring how learning environment evaluations fit into the e-library using the ABCDE elements

Community Support

Seeking tool nominations for the freely available and freemium tools you use!

Collection & Compilation of Data (CCD)

Dr. Ram Dantu (ram.dantu@unt.edu)



Tasks: Collect, compile, and manage data to feed database

- Use published information (DCWF, NICE Framework, OPM, Indeed, ...)
- Rake knowledge, entry-level competency requirements, and expectations defined by the employers
- *Classify, map, format, and automatically feed data to database*

Recent Accomplishments

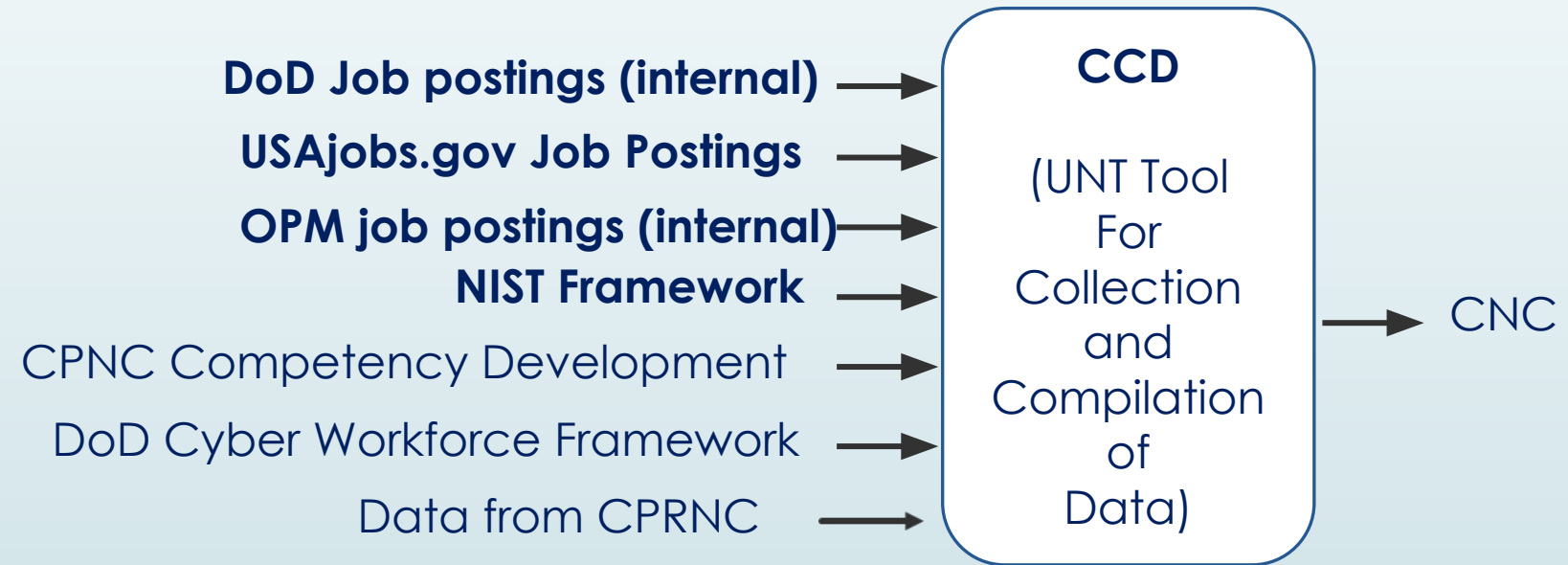
- Met with federal/state/industry partners
- Identifying and documenting entry-level workforce requirements for data collection
- Identifying contacts, links, and websites (issues, permissions, rate limiters, etc.)

Community Support

- Identify federal/state/industry partners

The objective is to match academic programs offered by designated NCAE-C participating institutions to job postings

Outreach, data collection, and compilation





Cooperative Learning

Dr. Barbara Endicott-Popovsky (bendicot@norwich.edu)

Mr. Ran Hinrichs (rhinrich@norwich.edu)

Task

Collaborate with employers and NCAE-C institutions to establish at least one cooperative education program in each NCAE-C region.

Recent Accomplishments

- Currently being piloted in Pacific Northwest
- Leverages snap in/out co-op content (CompTIA, RedHat, EC-Council)
- Uses rubric based on CAE-C Competency elements, NICE Framework (DCWF in the future), and regional employer requirements
- Leverages world-wide faculty, mentors, apprentices, companies.



Cooperative Learning Approach

Cybersecurity in a box: self-contained, sustainable, and holistic approach to teaching CAE-C certified curriculum with:
Competencies / Mentors / Corporations / Work product / Wellness

Components

- Assessment: cybersecurity competency assessment
- Baseline: NCAE-C certificate in risk management
- Industry: integration of EC-Council & iQ4
- Mentors: stipend-based milestone delivery with industry
- Apprenticeship: Optiv: consulting, architecture, SOC, & GRC
- Placement: CyberWallet

Community Support

AY 23/24, develop one in each NCAE region.

Looking for partners!

Student Professional Development

Kelli Burgin (kelli.burgin@montreat.edu)



Task

Provide students' access to programs that develop and document the employability skills necessary for success in a cybersecurity career

Recent Accomplishments

- Completing Cybersecurity Ethics Book and Cybersecurity Curriculum
- Embedding Cybersecurity Ethics/Professional Skills challenge into Cyber Competency initiatives
- Creating a Professional and Ethics "Toolbox" for students/schools to use for Professional Development Skills
- Completing Guide for Professionalism/Ethics Curriculum Pilot Project to additional CAE Schools

Community Support

- Extending the student professionalism pilot program to at least one school in each region via virtual/hybrid train-the-trainer. **Need volunteer CAEs!**
- Feedback once products are disseminated

NCAE-C Cybersecurity Credit Transfer Agreement (CTA)

Dr. Michael Tu (Michael.Tu@pnw.edu)

Task 1

- Compile an initial set of cybersecurity credit transfer agreements
 - 2Y to 4Y CAE programs CTAs, K-12 to CAE Institutions CTAs
- **Recent Accomplishments**
 - CTA status survey created, IRB approved, and distributed to CAE community
 - CAE-C community Team, CAE regional Hubs, NSA CAE PMO (**Thank you!**)
 - Response received: **93** CAE institutions

Task 2

- Facilitate cybersecurity credit transfer agreement development
- **Recent Accomplishment**
 - New CTA development promotion material under development (Posters)

Task 3

- Establish a database of the of the credit transfer agreements
- **Recent Accomplishment** collecting survey responses

Community Support

Respond to the CTA status survey!

Rebuild K-12 Database with CAE-C Institutions

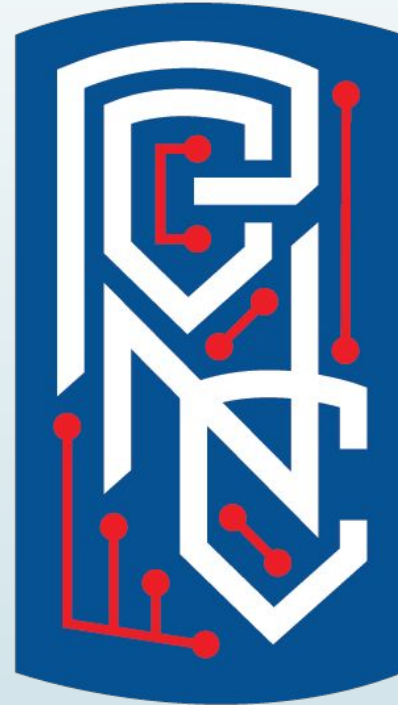
Thomas (Tony) Brown (tbrown@forsythtech.edu)

Recent Accomplishments

- Rebuilt K-12 Database. 400+ schools are now in the Database!
- Previous schools that did not redesignate were eliminated

Community Support

- Talk with CAE community leaders to incorporate the K-12 Database within the Ring Project Section (<https://www.caecommunity.org/initiative/k12-ring>)
- Work with Purdue NW and Dakota State to create a space for Articulation Agreements within the database



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CPNC External Coordination & Outreach

