

COMPETENCY IN THE NCAE-C COMMUNITY

Vision

Students graduating from CAEs must be able to meet the demands of the workplace and to be prepared to articulate and evidence their competencies to potential employers. Developing a rigorous, evidenced approach to competency supports the CPNC initiative to:

1. Train educators to design, facilitate and assess competency events within their curricula.
2. Extend the use of the ABCDE model for designing and describing competencies in competitions, internships, tools and exercises.
3. Build an e-library of competency statements, which will become a shared resource for the NCAE-C community.
4. Build students' awareness of possible cybersecurity careers, and further their understanding of the relationships between their academic learning and the workplace.
5. Communicate with employers to ensure ongoing relevance of competency activities.
6. Ensure graduates from NCAE-C designated institutions are the best prepared for the cybersecurity workplace.

Defining Competency

We recommend a simple, flexible definition of competency which can be readily understood by educators, students and employers:

“Competency is the ability for the student to complete a task within the context of a work role.”

Competency is situational (located in an actual place and time), normative (framed by expected ways of doing things), observable, meaningful and relates to the workplace

Essential Elements (ABCDE) Framework

To facilitate effective communication between students, educators and employers, we recommend the use of a shared set of elements when discussing competency.

A Actor	Who is involved in this competency? What background knowledge/ experience/previous learning are necessary for this competency?
B Behavior/task	What is being done? Maps directly onto tasks from either the DoD's DCWF or the NICE framework.
C Context	How is this task being done? With what resources, affordances and constraints?
D Degree	How long should this task take to complete? How accurate does it need to be? What degree of completion would be acceptable to an employer?
E Employability	What professional skills are also embedded in this practice (e.g. team work, collaboration, ethics etc.)?

The Careers Preparation National Center (CPNC)



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The CPNC is the hub of NCAE-C work in ensuring graduating and completing students have the knowledge, skills and competencies required for government and industry employment based on requirements identified by participating employers.

Benefits of building competency

Evidence shows that students who are taught to connect their learning to realistic tasks better understand the relevance of their classroom activities. Furthermore, they gain insights and knowledge about the diversity of work roles in cybersecurity and therefore become more proactive in researching and building their future careers.

Educators identify increased motivation and commitment in students who understand how their classroom activities relate to possible future careers and workplaces.

Employers and recent hires report that recruitment of students to relevant positions is more effective if the student is able to make connections between what they have done in their education and the workplace.

Competency training across the CAE community

- CAE educators are able to access support and training from a body of trainers across the US. Contact zfowler@norwich.edu for more information.
- An e-handbook detailing the CAE approach to competency and containing examples of competency statements is available at https://caecommunity.org/sites/default/files/national_centers/CYBER_EDU_Competency_Handbook_2023.pdf
- Regular training workshops are held for the CAE community and these are advertised on the CAE Community website (<https://caecommunity.org/>)

Relevant links

- The DoD's DCWF describes the tasks and work roles performed by the full spectrum of the cyber workforce. It is available at: <https://public.cyber.mil/wid/dcwf/>
- The NICE Framework creates a common lexicon that describes cybersecurity work and workers regardless of where or for whom the work is performed. The framework can be found at <https://niccs.cisa.gov/workforce-development/nice-framework>
- The Montreat 360 Competencies lists the professional and human skills which surround the technical in any work role. These include the aspects which employers value most highly in their workforce, including team work, integrity and communication. <https://www.montreat.edu/student-life/montreat-360/>

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