National Initiative for Cybersecurity Education (NICE) Working Group

K-12 Subgroup

K-12 Cybersecurity Educational Instructional Professional Development (PD) Series
Project Team Lead(s):
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1. Project Team Purpose

The purpose of this project is to determine the professional development needs of K-12 educators in delivering K-12 cybersecurity content and to outline "best practices" for deliverer of cybersecurity instruction in the K-12 setting that have proven effective in use similar disciplines.

To address the current NICE Strategic Plan Goal #1 - Accelerate Learning and Skills Development and #2 - Nurture a Diverse Learning Community, this PD project team will determine what cybersecurity educational instruction is most needed by K12 educators and will develop a series of professional development opportunities available for free to the general public.

This effort also directly aligns to multiple Pathways within the Federal STEM Strategic Plan and addresses the NICE K-12 Cybersecurity Education Implementation Plan elements:

#2. Infuse Cybersecurity Across the Education Portfolio: Design Cybersecurity Education for the future STEM and Cybersecurity Workforce

a. Infuse cybersecurity concepts into classroom instruction that align to the NICE Cybersecurity Workforce Framework.

b. Develop and replicate programs that support youth obtaining knowledge, skills, and abilities required for success in the future STEM and Cybersecurity Workforce.

#3 Stimulate Innovative Educational Approaches: Improve K-12 Cybersecurity Education Instruction

a. Increase coordination among teacher preparation, professional development, support, and recognition efforts within existing and proposed cybersecurity educator programs.

b. Stimulate innovative educational approaches to accelerate learning and skills development.

2. Project Team Objectives

Increase awareness and dissemination of high-quality K-12 cybersecurity educational instructional strategies that inspire cybersecurity career awareness with students in elementary school, stimulate cybersecurity career exploration in middle school, and enable cybersecurity career preparedness in high school. Connection between the NICE Workforce Framework and other nationally recognized K-12 standards will be emphasized. Project deliverables will aid in adoption of proven instructional strategies and techniques that promote infusion of cybersecurity content across the education portfolio and improve K-12 Cybersecurity education instruction.

3. Project Team Deliverables

Deliverables proposed for this effort include:

- Survey key stakeholders to determine what cybersecurity educational instruction is most needed by K-12 educators
- Literature brief of best or proven practices in cybersecurity instruction and similar disciplines
- Working in partnership with NICE K-12 sub-group members, develop and deliver a series of professional development opportunities available for free to the general public
- Working with the NICE K-12 Cybersecurity Education Conference Project Team/Planning Committee share findings from survey and help in development and selection of workshops and concurrent sessions that address the needs revealed by the survey
- Archive PD opportunities for future access – Record and archive webinars and videos
- Develop a one-pager and/or a guide sharing best or promising practices to integrate cybersecurity education into multiple K-12 settings.

SAMPLE MONTHLY WEBINARS

K-5 Resources / Best Practices

Work-Based Learning Opportunities (Physical/Virtual)

Curriculum Options

Certification Preparation

Teacher Professional Development

Standards Alignment

Data Reporting

Competition Opportunities

What is the NICE Framework and how to use it?

Virtual Learning and Online Software Tools and Resources for Instructors/Students