

# NICE

NATIONAL INITIATIVE FOR **CYBERSECURITY** EDUCATION



## NICE Component 3

Professionalizing the Nation's Cybersecurity Workforce

September 19, 2013

# Defining Professionalization

A profession arises when any trade or occupation transforms itself through *"the development of formal qualifications based upon education and examinations, the emergence of regulatory bodies with powers to admit and discipline members, and some degree of monopoly rights."*\*

*\* (Bullock and Trombley, 1999).*

# Elements of Professionalization

Professional Education	College and/or university programs for a particular field
Accreditation	College or university accreditation by one or more oversight bodies
Skills Development	Period of actual work practice and performance
Certification	Examination of knowledge, skills, or task ability
Licensing	Regulation through governed authority
Professional Development	Professional education; critical in cybersecurity due to rapid changing body of knowledge
Professional Societies	Group of individuals who put professional standards above their individual or employer self-interests
Code of Ethics	Imposition of behavioral standards and ethics; can be mandatory and/or aspirational

# Professionalizing the Nation's Cybersecurity Workforce: Criteria for Future Decision-Making

***To evaluate different approaches and tools for professionalization, DHS has commissioned the National Academy of Science (NAS) to:***

- Establish an expert committee to conduct a nationally based study to examine the application of professionalization, certification, and licensing standards on the field of cybersecurity.
- Examine the dynamics of preparation, proficiency, and competence of cybersecurity professionalization.
- Conclude with a report characterizing the current landscape for cybersecurity workforce development and set forth criteria that could be used to identify tools, approaches, and cybersecurity professionalization pathways.

# National Public Workshops

- Three public workshops will be held throughout the country and will be open to participation by all cybersecurity professionals across federal, State, Local, tribal and territorial governments, industry and academia.
- The workshops will be an initial starting point for gathering insights into the application of professionalization, certification, governance, and licensing standards on cybersecurity career fields.
- Upcoming public workshop for Cybersecurity Professionalization currently planned:
  - San Antonio, TX: March 27 & 28, 2013
  - Registration:  
<http://www8.nationalacademies.org/EventRegistration/public/Register.aspx?event=8D2D0ABC>
- Two workshops completed: Washington, D.C and San Francisco, CA

# NAS Workshop Themes

- Debating the field of cybersecurity
  - Is it stand alone or a subset of information technology (IT)?
- Collaborating to bridge the importance of partnerships
  - What is the intersection between federal, private, academia, state, local within cybersecurity professionalization?
- Academic preparation and professional alignment
  - How do we shape the current academic curricula to produce capable cybersecurity professionals?
  - How do federal and private organizations contribute to student development? At what levels should they participate?
- Certification and Licensing
  - Has the field developed to a point where certification/licensing is needed or will certification/licensing restrict a rapidly changing profession?

# For Further Information

NICE will continue to share information and materials with cybersecurity professionals across the nation in the public, private, and academic sectors through our NICCS portal:  
[www.niccs.us-cert.gov/](http://www.niccs.us-cert.gov/)

For more information on the National Academy of Science's Professionalization study please visit: [http://sites.nationalacademies.org/CSTB/CurrentProjects/CSTB\\_070783](http://sites.nationalacademies.org/CSTB/CurrentProjects/CSTB_070783)

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