It Is NICE to Have a Cybersecurity Staffing Program
Leveraging NICE in Higher Education

Agenda

• What is NICE?
  – Oh my, this is not very nice...
• Why is it a NICE idea?
  – It doesn’t look very nice...
• How can NICE benefit institutions?
• How can we operationalize NICE?
What is NICE?

- **NICE**: National Initiative for Cybersecurity Education
- **NIST SP 800-181**
- Categorizes and describes Cybersecurity work
- Standardizes terminology describing cybersecurity work
- Applicable across business sectors; government, military, industry, academic
Name that Job

- Inconsistent job titles & responsibilities
- Almost 7,700 different cybersecurity-related job titles were represented in recent searches of advertisements
- 822 variations on thematic titles
- How do these map to your job titles?

Name That Job

- Senior Information Security Assurance Consultant
- Senior IT Security Operations Specialist
- Regional Information Security Analyst
- Principal Cyber Security Manager
- Chief Information Security Consultant
- Principal Information Assurance Officer
- Senior Information Security Risk Officer
- Information Security Assurance Analyst
- Senior Security Operations Advisor
- Senior Security Risk Officer

- Chief Information Security Officer
- Chief Security Advisor
- Cyber Security Advisor
- Cyber Security Specialist
- Data Auditor
- Data Investigator
- Data Security Administrator
- Information Assurance Analyst
- Information Security Architect
- Information Security Auditor
Cybersecurity Bingo

Career Path

- Career progression based on several factors
  - Education
  - Experience
  - Expertise
  - Certifications
  - Interest/Aptitude
NICE Details

- Categorizes cybersecurity into seven high-level functions
- Describes 31 specialty areas of cybersecurity work
- Defines 52 work roles in four dimensions:
  - Knowledge
  - Skills
  - Abilities
  - Tasks

Cyber Jobs Pyramid
The NICE Approach

Categorizes cybersecurity into seven high-level functions:

- Securely Provision
- Operate and Maintain
- Oversee & Govern
- Protect & Defend
- Collect & Operate
- Analyze
- Investigate

Classification by Workforce Segment
**KSATs**

- **Knowledge** – Body of information used to perform a certain role
- **Skill** – Expertise using tools, frameworks, controls and processes
- **Ability** – Capacity to do something
- **Tasks** – Individual duties of work

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**Seven Functional Cybersecurity Areas**

- **Securely Provision**
  - Conceptualize, design, and build cybersecurity systems
- **Operate & Maintain**
  - Support, administer, and maintain effective and efficient cybersecurity systems
- **Oversee & Govern**
  - Lead, manage, direct, and strategize cybersecurity efforts
- **Protect & Defend**
  - Identify, analyze, and mitigate cybersecurity threats
- **Analyze**
  - Review and evaluate cybersecurity intelligence
- **Collect & Operate**
  - Collect cybersecurity intelligence; perform denial and deception operations
- **Investigate**
  - Investigate cybercrime and cyber events
Some Specialty Areas

- Acquisition & Program Mgmt.
- Training, Education, Awareness
- Operational Management
- Strategic Planning
- Legal Advice
- Executive Management
- Cyber Defense Analysis
- Cyber Defense Infrastructure
- Incident Response
- Vulnerability Mgmt.
- Threat Analysis
- Language Analysis
- All-source Analysis
- Collection Operations
- Systems Architecture
- Software Development
- Risk Management
- Systems Development
- Technology R&D
- Test & Eval
- Systems Requirements Planning
- Database Administration
- Knowledge Management
- Customer Service/Tech Support
- Network Services
- Systems Administration
- Systems Analysis
- Forensics

A NICE Tool

- Let’s examine one way of expressing the NICE framework in an actionable way
- New tools have recently been introduced to operationalize NICE
  - Mostly apply to OPM application