



PURDUE
CYBER APPRENTICESHIP
P R O G R A M

CYBER SECURITY APPRENTICESHIPS

DISCUSSION FLOW

- Skills Shortage
- Labor Trends
- Workforce Development
- Apprenticeship
- PCAP
- Employer Action

CRUCIAL TALKING POINTS

3.5 MILLION UNFILLED CYBER JOBS BY 2021

...WITH A SIGNIFICANT LACK OF DIVERSITY

- 6% STEM workers are African American vs. 11% of U.S. workforce
- 7% STEM workers are Hispanics vs. 15% of US workforce
- 14% cyber workforce is female

RECRUIT FROM COMPETITION

Costly fees (and your own firm is losing talent to competition this way)

COLLEGE GRAD MARKET

Education institutions not producing enough to feed market with 4-year Bachelor's degrees

TRAIN INTERNAL CANDIDATES

Initiates by candidates, not systematic

**CURRENT
APPROACHES
NOT
SUSTAINABLE**

**HELP
WANTED**

ALTERNATIVE PATH FORWARD: APPRENTICESHIPS

FLEXIBLE TRAINING

Customized to fit current training programs and integrates into current training and human resources strategies

FORMAL DESIGNATION

Registered programs meet DOL and/or state standards and results in industry-recognized credentials.

EARN AND LEARN

Paid position from day one with on-the-job learning and mentoring by employer

APPRENTICESHIP DEFINED

EMPLOYER BUILT

Solution for industry recruitment, training and retention of a highly skilled workforce

EMPLOYER DIRECTED

Employer determined the length of the training for each candidate (or a blanket statement for the entire program)

NEED DRIVEN

Designed to support the private sector, federal government, and the U.S. military

NOT AN INTERNSHIP

Incorporates formal classroom training, mentoring, on-the-job learning, and set pay progressions when milestones are met

CORE COMPONENTS OF REGISTERED APPRENTICESHIP



BUSINESS INVOLVEMENT

Employer is the foundation for the RA program and must be directly involved and be the provider of OJT

STRUCTURED ON-THE-JOB TRAINING

Minimum of 2,000 hours, Structured and Supervised

RELATED TRAINING AND INSTRUCTION

144 hours/year
Parallel | Front-loaded |
Segmented Options

REWARDS FOR SKILL GAINS

Increases in skills brings about increases in earnings

NATIONAL OCCUPATIONAL CREDENTIAL

Nationally recognized credential showing job proficiency. Sponsor certifies individual is fully competent for career.

Intermediary Role

ACCELERATE PROGRAMS

Expand and innovate existing apprenticeships and create national models for accelerated implementation

ACT AS LIASON AND ADVISOR

Serve as a liaison between Governmental agencies and Business. Employers can take advantage of existing National Standards already approved by the DOL, and your intermediary will give you personalized advice on how to accomplish your program.

STANDARDIZE AND TAILOR

Provide standardized, industry-endorsed instruction and on-the-job training/learning for companies with sites in multiple locations across the country.

PROVIDE TECHNICAL HELP

Provide technical assistance to companies on how to take advantage of federal and state benefits and programs, assists with the registration process, and can help guide companies in the development of occupational competencies.

PROGRAM GOALS



CAREER PATHWAYS

Create post-secondary education pathway to train and prepare cybersecurity professionals



WORKFORCE DEVELOPMENT

Create recruitment methods to engage those with no prior or minimal experience in cybersecurity



DIVERSITY STRATEGY

Increase number of military veterans and underrepresented populations, networking them through a virtual community.

LEADERSHIP ACADEMY COMPETENCIES

INTERPERSONAL SKILLS

Displaying the skills to work effectively with others from diverse backgrounds

PROBLEM SOLVING AND DECISION MAKING

Generating, evaluating, and implementing solutions

TEAMWORK

Working cooperatively with others to complete work assignments

INTEGRITY

Displaying strong moral principles and work ethics

THE P-CAP TEAM

PURDUE UNIVERSITY

Program Director, Minority Outreach Program, Leadership Academy, Tier 3 Modules (via Purdue Online), cyber range, micro grants

NC STATE

Program evaluation in collaboration with Metrisk Amerique

ROFORI

Employer dashboard, aptitude and KSA assessment, talent portal

FASTPORT

DOL Intermediary responsible for apprenticeship and employer recruitment, DOL reporting, and technical assistance

BENEFITS TO APPRENTICES



**HANDS-ON CAREER
TRAINING**



**PAYCHECK AND
RAISES**



**CLEAR CAREER
PATH**



**NATIONAL
CREDENTIAL**

EMPLOYER ACTIONS

- Administer the apprenticeship program
- Set minimum qualifications
- Approve related technical instruction
- Provide supervised on the job learning
- Evaluate apprentice at regular intervals

EMPLOYER BENEFITS

- Customized training that meets industry standards, tailored to the specific needs of businesses, resulting in highly-skilled employees.
- Increased knowledge transfer through on-the-job learning from an experienced mentor, combined with education courses to support work-based learning.
- **28% higher retention rate for people in apprenticeship, even higher for military candidates**
- Retention values are even more significant for eligible Veterans able to utilize their G.I. Bill to draw a Monthly Housing Allowance (MHA) while participating in a registered apprenticeship program.
- A safer workplace that may reduce worker compensation costs, due to the program's emphasis on safety training.
- A stable and reliable pipeline of qualified workers.
- A systematic approach to training that ensures employees are trained and certified to produce at the highest skill levels required for the occupation.

APPRENTICE ROI

- Apprentices on average earn more than \$60,000 upon program completion.
- Increases worker's compensation by approximately \$300,000 over lifetime.

EMPLOYER ROI

- Employers realize an average return on investment of \$1.47 for every \$1 invested.
- Every \$1 invested in apprenticeships leads to a public return of approximately \$28 in benefits.
- Access to state and local resources.

The US Dept. of Commerce ROI Calculator for Apprenticeship:

<http://www.esa.gov/content/new-tool-help-firms-calculate-their-return-investment-apprenticeship>

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