

# Community Initiative Center of Excellence for Secure Software (CICSS)

## Apprenticeship Curriculum

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By

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# Overall Curriculum and Training

- Academic curriculum
- Standardized core apprenticeship curriculum
- On the job training (OJT)
- Mentoring
- Importance of mentoring



## Academic curriculum

- Classroom instruction
- Based on the SEI Software Assurance curriculum
- Associate of Applied Science (AAS) in Secure Software Development degree
  - Community college modified current computer science courses
  - Incorporated input from:
    - Computer science faculty
    - Employers
    - SEI
    - Four-year undergraduate degree program department
- Multi-week blocks of classroom instruction
  - More classroom hours in the beginning



## Standardized core apprenticeship curriculum

- Standardized across employers and apprentices for quality control
- Focused on discipline and self management
- Defined by employers and aligned with CMU/SEI requirements for secure software
- Focused on standard industry certifications
- Supports competencies identified in the DoL standards
- Incorporated in OJT
- “Train the Trainer” option for employer mentors



## On the job training

- Ensure individuals receive more than just classroom training and internship
  - Obtain buy-in
  - Plan meaningful work in advance
  - Monitor progress
- Guide an individual's progression through competency levels and certification



# Mentoring

- Maximum ratio of six apprentices to one mentor
- Implement one-on-one coaching with checklist
- Identify and involve other mentors as needed
- More than on the job mentoring
  - Be a guide to other areas such as academics
  - Support and encourage to reach objectives



# Importance of mentoring

- Highly beneficial to organization, apprentice, and mentor
  - Organization level
    - Opportunity to “mold” to organization’s culture at the lowest cost
    - Offsets “undoing” bad habits at high costs
    - Productive individuals in a year
  - Apprentice
    - Leads to improved performance in the workplace
    - Comprehensive knowledge
    - Gained competencies and better prepared for certifications
  - Mentor
    - Sense of fulfillment
    - Personal and professional growth



# Contact Information

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