

Integrating Industry Certifications into Four-Year Degree Programs: Cybersecurity Convening

San Jose State University

July 9-10, 2019

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Inspiring a Safe and Secure
Cyber World

(ISC)² – Brief History

- The Consortium was established as a not-for-profit organization to offer credentials in cybersecurity in 1989
- Currently offers nine certifications:
 - CISSP - HCISSP - ISSAP
 - SSCP - CSSLP - ISSMP
 - CCSP - CAP - ISSEP
- Current Membership ~ 150K Worldwide
- Headquarters – Clearwater, Florida

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How is a
Certification
Examination
Developed?

- **Foundation of Credential Exam:**
 - Job Task Analysis (JTA) :
- **Content validation process**
- **Investigates the job relevance of the certification assessment**
- **Discusses job responsibility**
- **Led by a psychometrician**

- **Job Task Analysis**
 - Creates a boundary
 - Sets eligibility requirements:
 - Education level
 - Work experience
 - Exam blueprint is finalized
- **Subject Matter Experts (SMEs) in the field participate in the process**

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**How is a
Certification
Examination
Developed?**

- **JTA Report:**
 - Outline format: 3-4 Levels
 - Analogous to Table of Content
 - 1st Level: Domains
 - 2nd Level: Tasks
 - 3rd Level: Knowledge or KSA:
 - 4th Level.....
- **Domains/Tasks are weighted for number of exam questions on the test**

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**How is a
Certification
Developed?**

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How is a Certification Examination Developed?

- **After the JTA Report :**
 - Test questions are written by SMEs
 - Question bank is created
 - Test form is built following the exam blueprint
 - Standard Setting is conducted:
 - Panel of SMEs
 - Equating – statistical method
- **ANSI/ISO 17024 Accredited**
 - Conformity assessment - General requirements for bodies operating certification of persons

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Education/ Training

Education/Training at (ISC)²

- For each credential:
 - Common Body of Knowledge (CBK) is developed
 - Updated on a regular basis
 - Education and Training is
 - broader in scope
 - to prepare for the career
 - not to “teach-to-the-test”
 - ANSI Requirement
- Certifications are accepted by many universities for course credits

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Colleges/
Universities
Course Credits

- American Council on Education (ACE) – player in college credits approval process
- ACE CREDIT® Recommendation:
 - Undergraduate Level
 - For Passing (ISC)² Examinations:
 - 3 Hours upper and lower division credits
 - For Completing an Official CBK Training Seminars:
 - 2 Hours lower division credit
- Some practical level cybersecurity programs have substituted CISSP exam for their master's thesis requirements

- Official Training Providers (OTP)
- Universities can be a partner with (ISC)² in this journey by
 - using CBK Books in cybersecurity course curriculum
 - using training materials of (ISC)² as “course work package” in course curriculum
 - aligning their course competencies with certification exams
- The goal is to allow students to get into the job market right after graduation
 - Organizations hiring cybersecurity professionals look for certifications in assessing a candidate’s overall credentials**

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Colleges/
Universities
Partnership

- Associates of (ISC)² program is available to students to fulfill work experience requirements
- (ISC)²'s International Academic Program (IAP) works with colleges and universities
- IAP works with higher education institutions:
 - to develop curriculum, teaching and course creation in cyber, infrastructure and software security.
 - through Continuing Education Division for non-credit courses

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International
Academic
Program (IAP)

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**Colleges/
Universities
Partnership**

- **Currently IAP works with the following universities worldwide:**
 - University of Suffolk, UK
 - Kingston University London
 - Tokyo Denki University
 - National University of Singapore
 - South Korean Universities:
 - Dongguk University,
 - Sangmyung University,
 - Soonchunghyang University
 - Chung-Ang University
 - Yeshiva University, New York
 - University of Idaho
 - Norwich University, Vermont
 - Bucks County Community College, PA
 - Grand Rapids Community College, MI
 - and more.....

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Question/ Comments?

- My email:
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- International Academic Program and for partnership application
 - Email: academic@isc2.org
 - Website: <https://www.isc2.org/IAP>

** Knapp, K.J, Maurer, C & Plachkinova, M. (2017). Maintaining a Cybersecurity Curriculum: Professional Certifications as Valuable Guidance. *Journal of Information Systems Education*, 28 (2)101-113.