

CyBOK Showcase Event | February 28, 2023

Educational Resources in Support of the CyBOK 1.1 Curriculum

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Welcome



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Completed Work on 2 Prior Projects

CyBOK 1.1 Case Studies

100% of CyBOK 1.1 KA Coverage 14 KAs with 3 or more case studies (each)

| Cat. | Knowledge Area | Case Study Mapping | CyBOK version |
|---|---------------------------------|--|------------------|
| | Risk Management & | ACME Water | 1.0 |
| | Governance | Archetypal Users – Personae non Gratae | 1.0 |
| | | FAA ERAM Outage | |
| Human, Organizational and Regulatory Aspects | | GPS Spoofing of UAV | |
| | | National Cybersecurity Governance | |
| | | National Grid SAP Adoption | 1.0 |
| | | Organization Risk Management: The Widget Company | 1.0 |
| | | Penetration Test | 1.1 |
| an ory | | Ransomware | 1.1 |
| Org llat | | Secure LAN | 1.1 |
| ı, (| Law & Regulation | National Cybersecurity Governance | 1.0 |
| na R | 6 | Ransomware | 1.1 |
| H Pu | Human Factors | ACME Water | 1.0 |
| П (3 | | FAA ERAM Outage | 1.0 |
| | Privacy & Online Rights | ACME Water | 1.0 |
| | | Driver Assistance System Safety & Security | 1.0 |
| | | Penetration Test | 1.1 |
| | | Role Based Access Control | 1.1 |
| Attacks and Defences | Malware & Attack | Deciphering | 1.0 |
| | Technologies | Mt. Gox Bitcoin Theft | 1.0 |
| | | Penetration Test | 1.1 |
| | | Ransomware | 1.1 |
| | | Using Malware Analysis to Improve Security Reqs | 1.1 |
| | | Wireshark | 1.1 |
| | Adversarial Behaviours | Heartland Payment System Breach | 1.0 |
| | | Mt. Gox Bitcoin Theft | 1.0 |
| | | Penetration Test | 1.1 |
| | | Ransomware | 1.1 |
| | Security Operations & | Heartland Payment System Breach | 1.0 |
| | Incident Management | Mt. Gox Bitcoin Theft | 1.0 |
| | | National Cybersecurity Governance | 1.1 |
| | No. | Penetration Test | 1.1 |
| | | Ransomware | 1.1 |
| | Forensics Mt. Gox Bitcoin Theft | | 1.0 |
| | | Wireshark | |

| Cat. | Knowledge Area | Case Study Mapping | |
|----------------------------|-------------------------------|---|-----|
| Systems Security | Cryptography | Deciphering | 1.1 |
| | eryprography | Mt. Gox Bitcoin Theft | 1.0 |
| | | Penetration Test | 1.1 |
| | Operating Systems & | Deciphering | 1.0 |
| | Virtualisation Security | Heartland Payment System Breach | 1.0 |
| | | Penetration Test | 1.1 |
| | | Secure LAN | 1.1 |
| | Distributed System Security | Driver Assistance System Safety & Security | 1.0 |
| | | Secure LAN | 1.1 |
| | | Wireshark | 1.1 |
| ten | Formal Methods for Security | Deciphering | 1.1 |
| sys | , | Tokeneer ID Station Project | 1.0 |
| •1 | Authentication, Authorisation | ACME Water | 1.0 |
| | & Accountability | Heartland Payment System Breach | 1.0 |
| | | Mt. Gox Bitcoin Theft | 1.0 |
| | | Penetration Test | 1.1 |
| | | Role Based Access Control | 1.1 |
| | | Secure LAN | 1.1 |
| | Software Security | Driver Assistance System Safety & Security | 1.0 |
| | | FAA ERAM Outage | 1.0 |
| 2 | | Penetration Test | 1.1 |
| Software Platform Security | Web & Mobile Security | Driver Assistance System Safety & Security | 1.0 |
| Sec | | Role Based Access Control | 1.1 |
| n S | | Secure LAN | 1.1 |
| , OII | Secure Software Lifecycle | ACME Water | 1.0 |
| latt | | Aircraft Service Application | 1.0 |
| P . | | Drone Swarm | 1.0 |
| are | | National Grid SAP Adoption | 1.0 |
| £ | | Secure Acquisition | 1.0 |
| So | | SQUARE | 1.0 |
| | | Tokeneer ID Station Project | 1.0 |
| | | Using Malware Analysis to Improve Security Reqs | 1.1 |
| | Applied Cryptography | Deciphering | 1.1 |
| ity | | Penetration Test | 1.1 |
| Infrastructure Security | Network Security | Role Based Access Control | 1.1 |
| Sec | | Secure LAN | 1.1 |
| IIe | | Wireshark | 1.1 |
| ctu | Hardware Security | Driver Assistance System Safety & Security | 1.0 |
| 耳 | Cyber-Physical Sys Security | Driver Assistance System Safety & Security | 1.0 |
| ras | Physical Layer & | Penetration Test | 1.1 |
| Inf | Telecommunications Secure LAN | | 1.1 |
| | | Wireshark | 1.1 |



Data on Classroom Use

Experiences and Educator Feedback of six Case Studies

Penetration Test Case Study became key driver in student enrollment, leading to direct job placements.

Quantitative Data on Classroom Application of **Driver Assistance System Case Study**

T-Test shows significant (p<0.05) difference between the 2021 and 2020 shows increase in students' learning outcome.

| | 2021 | 2020 | 2019 |
|--------------------|----------------------------|--------|--------|
| Mean | 91.88% | 74.38% | 42.15% |
| Variance | 20.38% | 28.50% | 20.86% |
| Sample Size | 16 | 16 | 31 |
| dF | 27 | | |
| F | 0.5113 (unequal variances) | | |
| Student's T 0.0318 | | | |
| Cohen's d | 0.706 (medium- | | |

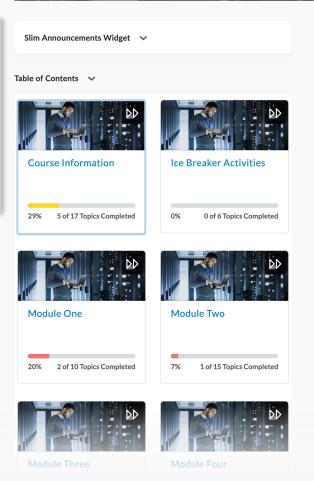


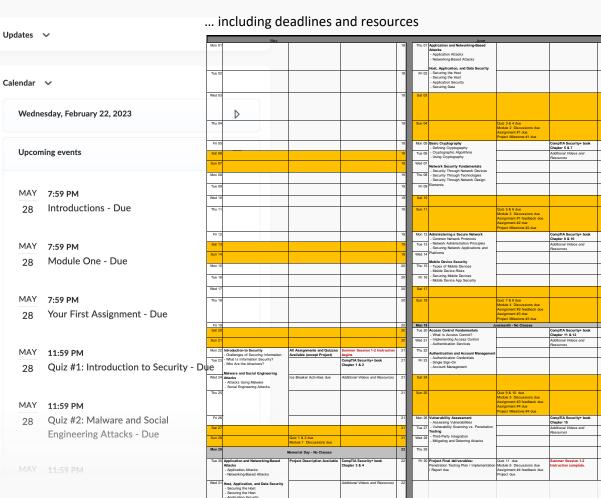
Current Project...

CSC333: Cryptography/Privacy/Security (Development)

Current Project:

- A ready-to-deploy course shell on the digital learning environment Brightspace. The course shell would contain modules for a 6-week asynchronous online course, with assignments, course readings, and course infrastructure such as discussion forums and peer review instructions. Supplement these materials with videos such as those produced by Cliff Schreuders for CyBOK.





https://www.cybok.org/resources_developed_through_funded_projects/

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              «div class» "container">
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Current Project:

- Development and analysis of a survey of industry trainers and university instructors to assess existing classroom coverage of CyBOK v1.1 topics. We would also use the survey to learn what additional resources could be brought to bear in order to help the transition of CyBOK v1.1 into broad classroom use.

https://www.cybok.org/resources developed through funded projects/



