

Maintaining a Cybersecurity Curriculum:  
Professional Certifications as Valuable  
Guidance.

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## Maintaining a Cybersecurity Curriculum: Professional Certifications as Valuable Guidance

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**Abstract:** Much has been published about developing a cybersecurity curriculum for institutes of higher learning (IHL). Now that a growing number of IHLs globally offer such programs, a need exists on how to guide, maintain, and improve the relevancy of existing curricula. Just as

cybersecurity professionals must hone their skills continually to keep up with a constantly shifting threat landscape, cybersecurity programs need to evolve to ensure they continue to produce knowledgeable graduates. In this regard, professional certifications in the cybersecurity industry offer an opportunity for IHLs to maintain a current curriculum. Governing bodies that manage professional certifications are highly motivated to ensure their certifications maintain their currency in the competitive marketplace. Moreover, employers who hire security professionals look for certifications in assessing a candidate's overall credentials. This paper attempts to fill a void in the literature by exploring the use of professional certifications as helpful input to shaping and maintaining a cybersecurity curriculum. To this end, we offer a literature analysis that shows how changes made to professional certifications are applicable and relevant to maintaining a cybersecurity curriculum. We then provide a case study involving an undergraduate cybersecurity program in a mid-sized university in the United States. Before concluding, we discuss topics such as experiential learning, cybersecurity capstone courses, and the limitations to our approach.

**Keywords:** Cybersecurity, Curriculum design & development, Security, Certifications

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