Towards Changes in Information Security Education

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Abstract

In the ACM guidelines for curricula at educational institutions, the recommendations for Information Security Assurance (ISA) education do not specify the topics, courses, or sequence of courses. As a consequence, there are numerous ISA education models and curricula in existence at educational institutions around the world. Therefore, it is appropriate to evaluate the quality of academic information security programs and suggest changes or improvements in the curricula to ensure that undergraduates and graduates have gained the required skills after completing their studies. Despite a variety of ISA curricula and diverse educational models, universities often fail to provide their graduates with skills demanded by employers. In this paper, we make suggestions for the actions that should make the ISA curricula in the universities responsive to the needs of the general population and the industry in which graduates with ISA skills and specialization will be employed.

Keywords: information security assurance, education, curriculum.

Biographies

Dr. Mariana Hentea is an Associate Professor in the Department of Computer Science at Southwestern Oklahoma State University. She received a MS and Ph.D. in Computer Science from the Illinois Institute of Technology at Chicago, Illinois and a B.S. in Electrical Engineering and MS in Computer Engineering from Polytechnic Institute of Timisoara, Romania. Dr. Hentea has been involved in the research and development of novel products based on various emerging technologies, engineered networks and security systems for telecommunications industry and government for almost thirty years. Her research focuses in computer and network security, network design and architecture, and wireless technologies, and Artificial Intelligence techniques for intrusion and prevention systems, information security management, quality of service, and intelligent control. For the past four years, Dr. Hentea has been involved in security awareness education and academic curricula related to information security and networking programs.

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Dr. Dhillon is a Health Information Technology consultant for a number of medical information systems development companies.

Manpreet Dhillon is a doctoral candidate in the School of Business at The George Washington University. She is currently working on her doctoral dissertation for the PhD degree in Information and Decision Systems. Her primary research interests include Information Quality and the Decision Making Process and Technology Adoption and Use in Healthcare. Prior to starting her graduate studies, Ms. Dhillon worked as a business process analyst at HCA Corporation and a research associate at The Advisory Board Company.