

How to Teach Cybersecurity Risk Management from a Multidisciplinary Perspective

O. Keskin, U. Tatar, O. Poyraz, A. Alfaqiri, and C. Pinto, Ph.D.
Old Dominion University, Norfolk, VA

THE PROJECT GOAL & OBJECTIVES

This course is designed to prepare students to the federal job market for postings require knowledge of cyber security risk management.

At the conclusion of this course, students will be able to:

- Adapt risk management methods and skills to their current area of expertise in cybersecurity
- Communicate cybersecurity risks to a decision maker of any level (i.e. tactical, operational and strategic) in an understandable manner
- Apply cybersecurity risk management standards and best practices

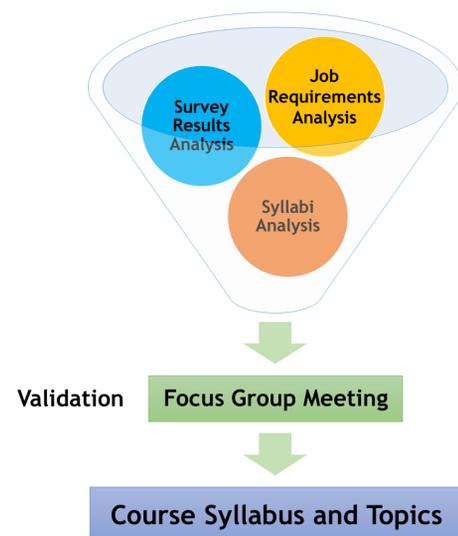
COURSE STRUCTURE

- Three modules, 12 sessions, 36 contact hours
- Interdisciplinary perspective for holistic view of risk
- Applied part: Case studies, projects
- Modular structure to be used by different courses
- Appropriate for self-paced learning
- Appropriate for both undergraduate level programs and graduate level programs with its additional case studies, projects, and readings
- Pilot studies are designed to get feedback from instructors and students.

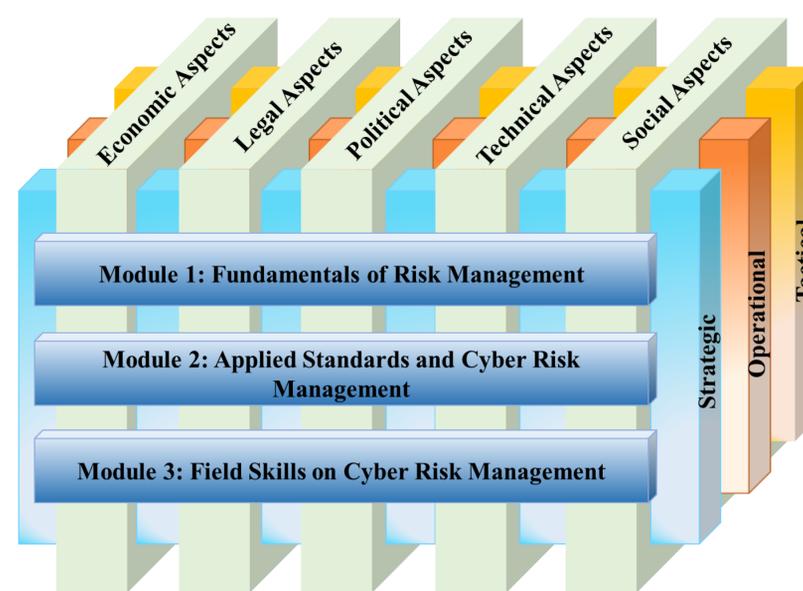
Requirements Analysis

To determine the course content, a *Requirements Analysis* is conducted to identify the course topics and prepare the syllabus. *Requirements Analysis* includes:

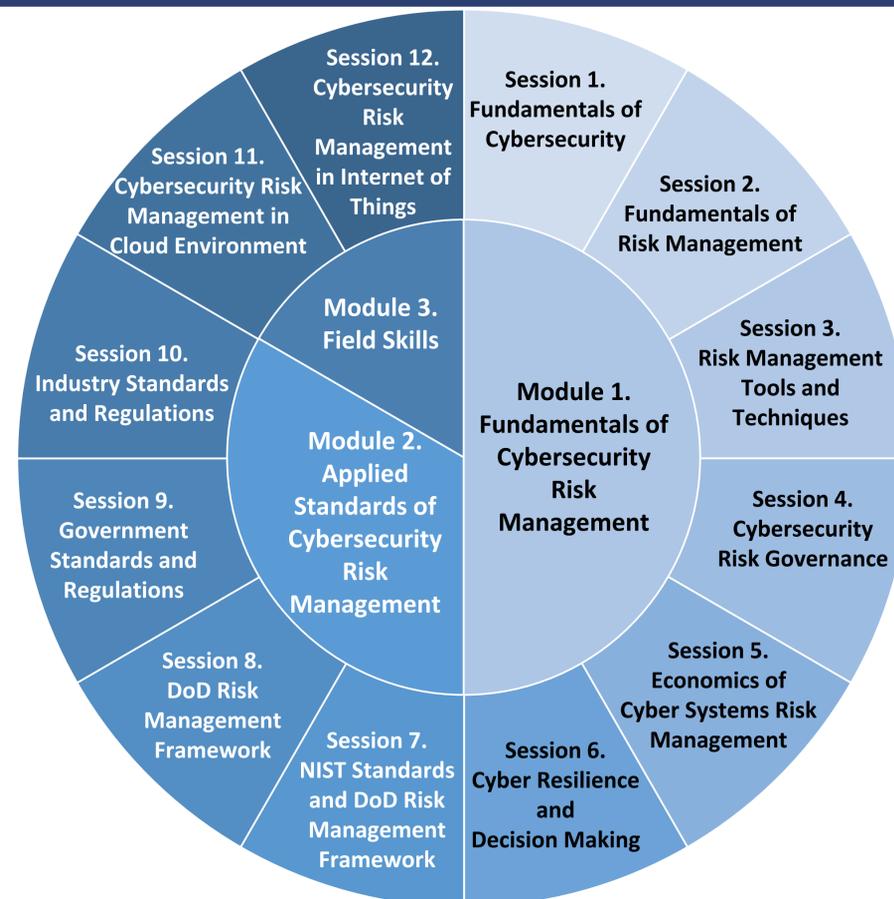
- **Syllabi analysis:** Courses from other universities are analyzed.
- **Job requirements analysis:** Online job announcements are analyzed.
- **Survey results analysis:** Survey results of HRCyber project are reviewed. HRCyber is a collaborative partnership between educational institutions, government agencies, non-profit organizations, and private employers focused on developing educational pathways for cybersecurity workforce development.
- **Focus group meeting:** A diverse set of cyber training professionals, and practitioners consulted to validate the outcomes of the previous analyses.



MULTI LEVEL MULTIDISCIPLINARY APPROACH



TOPICS



FINDINGS FROM THE FOCUS GROUP MEETING



What are the important knowledge, skills, and abilities for an employee involved in Cyber Security Risk Management?



What are the important organizational issues in managing cyber security risks?



IMPACT ON CYBERSECURITY EDUCATION

Impact 1: Multidisciplinary Cybersecurity Risk Management Methodology

Cybersecurity risk management is a necessary tool for decision making for all levels from tactical to strategic and for all domains including legal, economic, political, social, etc. Risk management is independent of any discipline. However, most of the available cybersecurity risk management courses focus on technical aspect of cybersecurity. The contents of such courses are not suitable for people from domains other than technical. The proposed course will provide a holistic, multidisciplinary cybersecurity risk management approach scientifically grounded in systems theory. Consequently, the course will also help to create a common language for fostering communication and management of risks between tactical, operational and strategic level decision makers from different domains.

Impact 2: Bridging the Gap Between Theory and Practice

The proposed course will help students to bridge the gap between theory and practice. In order to shorten the orientation adaptation duration of new graduates in their jobs, they need to know how to apply theoretical knowledge in real work situations. Case studies which will be provided with modules of the course will help students to comprehend how to manage risks in the real world.

Knowledge and applications of the federally or globally approved cybersecurity risk management standards will also help students to shorten the time required for adapting and responding to the real-life cases they encounter in their jobs.

Acknowledgement

This course was developed by Old Dominion University with grant funding provided by the National Security Agency's National Cybersecurity Curriculum Program.



Contact: ERI@odu.edu