## **CYBR 410L: Cybersecurity Professional Certificate (1 credit)**

This course provides students with the knowledge and skills required to protect and defend computer systems and networks from cyber threats. It will prepare students to take a professional certificate in cybersecurity that covers a range of topics related to cybersecurity, including network security, cryptography, security standards, and cybercrime. The course also includes hands-on laboratory exercises and real-world case studies to provide students with practical experience in cybersecurity. *(Prerequisite: Senior Level (90 Credits))*

**Course Learning Outcomes:**

By the end of the course, students will be able to:

A1. Demonstrate a critical understanding of the principles and concepts of cybersecurity, including key areas such as threats, network security, and cryptography.

A2. Demonstrate an in-depth understanding of cybersecurity standards and their significance in maintaining secure computing environments.

A3. Apply cybersecurity knowledge to real-world scenarios, demonstrating practical proficiency in addressing cyber threats.

B1. Implement network security measures to protect against unauthorized access and data breaches.

C1. Develop advanced readiness for launching a successful career in cybersecurity by acquiring and applying sophisticated skills and knowledge.

**Course Learning Materials:**

* D. Kim and D. Solomon, "CompTIA Security+ Study Guide," 7th ed., Sybex, 2021.
* M. E. Whitman and H. J. Mattord, "Management of Information Security," 5th ed., Cengage, 2016.

**Course Content:**

1. Compare Security Roles and Security Controls
2. Explain Threat Actors and Threat Intelligence and Perform Security Assessments
3. Identify Social Engineering and Malware and Summarize Basic Cryptographic Concepts
4. Implement Public Key Infrastructure and Authentication Controls
5. Implement and Identity Account Management Controls
6. Troubleshooting Techniques
7. Implement Secure Network Designs and Network Security Appliances
8. Customer Service and Professionalism in IT Support
9. Input/Output Systems and Peripherals
10. Implement Secure Network Protocols
11. Implement Host Security Solutions and Secure Mobile Solutions
12. Summarize Secure Application Concepts
13. Implement Secure Cloud Solutions
14. Explain Data Privacy and Protection Concepts
15. Summarize Risk Management Concepts