CYBERSECURITY FUNDAMENTALS CERTIFICATE

This program is designed for individuals seeking to develop the skills necessary to transition into the cybersecurity field or gain foundational Cybersecurity skills. This program equips students with foundational skills in programming, cybersecurity, and cloud security architecture. Starting with object-oriented programming in Python, learners progress through secure coding, penetration testing, and system administration, culminating in advanced training in network and cloud security. Emphasis is placed on real-world application, secure design, and ethical defense of digital systems. The course curriculum is CompTIA-aligned, making it an ideal choice for those seeking to pursue cybersecurity credentials upon completion.

Related Programs

Major

- Cybersecurity (BS) (https://catalog.luc.edu/undergraduate/arts-sciences/computer-science/cybersecurity-bs/)

Certificate

- Computer Science Certificate (https://catalog.luc.edu/undergraduate/continuing-professional-studies/computer-science-certificate/)

Curriculum

Code	Title	Hours
Certificate Requirements		
COMP 170	Introduction to Object-Oriented Programming	3
COMP 301	Introduction to Computer Security	3
CPST 345	Introduction to IT: Networking, Cloud & Security	3
CPST 383	Cloud Security Strategy and Architecture	3
Total Hours		**12**

Optional:

- CPST 265 Special Topics: Advanced Topics in Cybersecurity Technology Management: The optional course is included to address up-to-the-minute topics, such as emerging threats, insider threats, latest application delivery processes, and practices, etc.

Suggested Sequence of Courses

The School of Continuing and Professional Studies provides a high-touch advising model in order to incorporate the professional and educational outcomes of the student as well as any transfer credit accepted. In order to provide students with maximum flexibility in their education and because everyone's academic background will vary, advisors will work directly with students to determine an appropriate sequence of courses starting at admission into their respective program based on their needs and expected time to completion.

Undergraduate Policies and Procedures

Please see Undergraduate Policies and Procedures (https://catalog.luc.edu/academic-standards-regulations/undergraduate/) for academic policies that supersede those of academic units within the University.

Learning Outcomes

- Design and develop secure software solutions using object-oriented programming principles, secure coding practices, and foundational software development skills.
- Analyze and protect computer systems and networks by applying core cybersecurity concepts, performing vulnerability assessments, and implementing secure configurations across various platforms.
- Implement and manage secure cloud architectures utilizing industry standards and tools, with a focus on identity management, data protection, incident response, and third-party risk mitigation.