NKU | School-Based Scholars

Cybersecurity Career Exploration Track

Program Description:

The job market is growing rapidly for people able to effectively secure computers. Computer security is a very challenging technical field, requiring hands-on knowledge of a broad range of technologies as well as an effective understanding of government laws and policies related to computer crime. Students completing this program will have demonstrated an understanding of all NSA-specified core knowledge units of computer security.

Course Plan:

Semester	Course
1st Semester	CIT 130: Information Technology Fundamentals AND CIT 171: Introduction to Linux
2nd Semester	INF 120: Elementary Programing
3rd Semester	INF 284: Intro to Networks and Data Communication
4th Semester	CYS 285: Cybersecurity Fundamentals

Course Descriptions:

CIT 130: Information Technology Fundamentals
Prerequisite: C- or better in MAT 101 or ACT Math of 22 and ACT benchmark in English
Introduction to the organization of computers, operating systems, and networks; comparison of common operating systems; hands-on experience in PC construction and configuration; command-line usage of Windows and Unix/Linux systems; data representation; overview of the information technology industry and its societal context.

CIT 171: Introduction to Linux
Prerequisite: C- or better in MAT 101 or ACT Math of 22
Students learn how to navigate and perform basic tasks in the Linux operating system command line interface through hands-on experience.

INF 120: Elementary Programing
Prerequisite: C- or better in MAT 102 or ACT Math of 25
An elementary introduction to programming for those with no previous programming experience. Emphasis on understanding how to read and write basic procedural programs, and on understanding the concepts of algorithm and execution. General Education Credit: Natural Science

INF 284: Intro to Networks and Data Communication
Prerequisite: C- or better in MAT 103 or ACT Math of 27
Introduction to computer networking principles, focusing on network applications such as HTTP, Email, DNS, SSH and DHCP. Various protocols in the TCP/IP stack and emerging networking technologies are covered. Lab exercises reinforce concepts.

CYS 285: Cybersecurity Fundamentals
Prerequisite: C- or better in CIT 130 and INF 284
An introduction to fundamental concepts and technologies in cyber-security, with lab exercises that focus on practical aspects of securing computers. Topics include risk analysis, common attacks and

defenses, authentication, access control, network security, application and data security, and cryptography.

Links:
[Computer Information Technology Program Website](#)