SCHOOL OF ENGINEERING AND COMPUTING

BACHELOR OF SCIENCE IN CYBERSECURITY

Be a Leader in the Field of Cybersecurity

The need for cybersecurity expertise continues to grow, and this program will prepare you to enter the field with confidence. A degree in cybersecurity starts with a comprehensive understanding of information technology management concepts and fundamental security processes. To prepare you to enter the real world of cybersecurity, you’ll first become familiar with the legal and ethical issues associated with cybersecurity. You’ll learn to analyze a cyber problem and design measures to resolve it by applying best practices in cybersecurity management.

Once you complete the core cybersecurity classes, you’ll have the opportunity to take a four-class concentration in either Computer Network Defense or Digital Forensics. As a graduate of the program, you’ll be prepared to tackle a career as a security analyst, computer network defender, or computer incident responder.

Program highlights:
- Entire program can be completed online
- Understand the ethical challenges that come with cybersecurity
- Apply security control principles to develop cybersecurity solutions
- Demonstrate the communication skills expected of a cybersecurity professional
- Know how to securely administer a Windows and Linux system using security automation tools and techniques

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MAJOR IN CYBERSECURITY

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The Bachelor of Science in Cybersecurity (BSCYB) program is designed to meet the increasing demand for cybersecurity professionals. This program is designed to provide students with an understanding of basic information technology management concepts and fundamental security skills. Students will also learn the legal and ethical issues associated with cybersecurity. Graduates are prepared for positions in the areas of security analysts, computer network defenders, and computer incident responders. Once students have completed the core cybersecurity classes, they will choose a four (4) class concentration in Computer Network Defense or Digital Forensics.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:
- Analyze a problem and design the cybersecurity measures appropriate to its solution.
- Apply concepts of best practices in cybersecurity management to enterprise processes.
- Describe the ethical challenges that confront a cybersecurity professional.
- Apply security control principles in the construction of cybersecurity solutions.
- Demonstrate written and oral communication skills expected of a cybersecurity professional.
- Demonstrate the ability to securely administer a Windows and Linux system using security automation tools and techniques.
- Demonstrate knowledge of the fundamental concepts of operating systems, networks, and cloud computing.

Degree Requirements

To receive a Bachelor of Science in Cybersecurity, students must complete at least 183 quarter units, 45 of which must be completed in residence at National University, 81 of which must be completed at the upper-division level, and a minimum 70.5 units of the University General Education requirements. In the absence of transfer credit, additional general electives may be necessary to satisfy total units for the degree. Students should refer to the section on undergraduate admission procedures for specific information on admission and evaluation. All students receiving an undergraduate degree in Nevada are required by state law to complete a course in Nevada Constitution.

Introduction

(1 course; 4.5 quarter units)

CYB 200  Introduction to Cybersecurity

Foundation Technologies

(6 courses; 27 quarter units)

CYB 211  Operating System Fundamentals  
Prerequisite: CYB 200

CYB 212  Introduction to Networking  
Prerequisite: CYB 200

CYB 213  Data Fundamentals for Cybersec  
Prerequisite: CYB 200

CYB 214  Quant Tools for Cybersec Pro  
Prerequisite: CYB 213

CYB 215  Fund of Virt and Cloud Comp  
Prerequisite: CYB 211 and CYB 212

CYB 216  Programming for Cybersecurity  
Prerequisite: CYB 215

First Core Sequence

(5 courses; 22.5 quarter units)

CYB 320  Tech Writing/Proj. Mgmt. for CYB

CYB 331  Secure Linux System Admin  
Prerequisite: CYB 216

CYB 332  Secure Windows Administration  
Prerequisite: CYB 331 and CYB 332

CYB 340  Sys. Sec. Arch. for Cybersec  
Prerequisite: CYB 333

Second Core Sequence

(6 courses; 27 quarter units)

CYB 420  Sec Audit and Assessments  
Recommended: Prior completion of: CYB 340 At least 13.5 units of the first core sequence must be completed before this course.

For complete program information, see the National University Catalog 82, effective 10/2018.