NATIONAL UNIVERSITY

COLLEGE OF PROFESSIONAL STUDIES

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-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 180 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
(5 courses; 22.5 quarter units)

CYB 211	Operating System Fundamentals
CYB 212	Introduction to Networking
CYB 213	Data Fundamentals for Cybersec
	Prerequisite: CYB 200
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. Mgnt. for CYB
CYB 331	Secure Linux System Admin
	Prerequisite: CYB 216
CYB 332	Secure Windows Administration
CYB 333	Security Automation
	Prerequisite: CYB 331, 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.
CYB 450	Cyber Threat Intelligence
	Prerequisite: CYB 340
CYB 451	Incident Handling/Response
	Prerequisite: CYB 340
CYB 452	Intro to Ethical Hacking
	Prerequisite: CYB 340
CYB 453	Network Defense
CYB 454	Cybersec Planning and Policy
	Prerequisite: CYB 340

Project
(3 courses; 13.5 quarter units)

CYB 499A	Cybersecurity Project I
	Prerequisite: Completion of Computer Network Defense Concentration (CYB 460, CYB 461, CYB 462, CYB 463) or completion of Digital Forensics Concentration (CYB 470, CYB 471, CYB 472, CYB 473)
CYB 499B	Cybersecurity Project II
	Prerequisite: CYB 499A
CYB 499C	Cybersecurity Project III
	Prerequisite: CYB 499B

Concentration in Computer Network Defense

The concentration in Computer Network Defense provides for greater focus on the security issues for computer networks.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:
- Demonstrate the ability to set up, implement, and assess cybersecurity status of a computer system.
- Apply security controls affecting virtualized computing environment, a wireless network and an operating system.

Requirements for the Concentration
(4 courses; 18 quarter units)

CYB 460	Operating System Security
	Prerequisite: CYB 420 and completion of all core CYB classes before starting the concentration, CYB 450, CYB 451, CYB 452, CYB 453, CYB 454
CYB 461	Wireless and Mobile Security
	Prerequisite: CYB 460
CYB 462	Cloud and Virtualization Sec
	Prerequisite: CYB 460
CYB 463	Advanced Network Defense
	Prerequisite: CYB 460

Concentration in Digital Forensics

The concentration in Digital Forensics provides for greater focus on investigation and analysis of computers and networks.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:
- Demonstrate the ability to conduct a digital forensics investigation on a server or workstation using commonly accepted standards and tools.
- Demonstrate the ability to preserve digital evidence using federal rules of digital evidence.
- Demonstrate the ability to conduct a digital forensics investigation on a mobile device using commonly accepted standards and tools.
- Examine digital evidence for indications of illegal malicious activity or malfeasance.

Requirements for Concentration
(4 courses; 18 quarter units)

CYB 470	Intro to Digital Forensics
	Prerequisite: CYB 420 and completion of all core CYB classes before starting the concentration, CYB 450, CYB 451, CYB 452, CYB 453, CYB 454
CYB 471	Operating Systems Forensics
	Prerequisite: CYB 470
CYB 472	Network Forensics
	Prerequisite: CYB 470
CYB 473	Mobile Device Forensics
	Prerequisite: CYB 470