

Cybersecurity, B.S.

The Bachelor of Science in Cybersecurity aims to equip students with in-depth cybersecurity knowledge and advanced defensive and offensive technical skills that are necessary for administering and maintaining secure information systems, identifying vulnerabilities, defeating cyber threats, and managing the risk associated with operating these systems. Graduates from the program would have the knowledge, skills, and abilities to pursue roles and careers in cybersecurity in both private and public sector organizations.

Program Requirements

Code	Title	Credit Hours
Total Credit Hours		122
General Education Requirements		38 Credits
ENGL 1010 or ENGL 1005	Introduction to Academic Writing CC Literacies and Composition Across Contexts CC	3
ENGL 2010	Intermediate Academic Writing CC	3
MATH 1050 or MATH 1055	College Algebra QL College Algebra with Preliminaries QL	4
Complete one of the following:		3
HIST 2700 & HIST 2710	US History to 1877 AS and US History since 1877 AS (6)	
HIST 1700	American Civilization AS (3)	
HIST 1740	US Economic History AS (3)	
POLS 1000	American Heritage AS (3) (recommended for Forensics emphasis)	
POLS 1100	American National Government AS (3)	
Complete the following:		
PHIL 2050	Ethics and Values IH	3
HLTH 1100 or EXSC 1097	Personal Health and Wellness TE Fitness for Life TE	2
Distribution Courses:		
Biology Distribution		3
Physical Science Distribution		3
PHYS 2010 & PHYS 2015	College Physics I PP and College Physics I Lab (fulfills Additional Biology or Physical Science Distribution)	5
Fine Arts Distribution		3
ENGL 2100	Technical Communication HH WE	3
Social/Behavioral Science Distribution ¹		3
Discipline Core Requirements		45 Credits
Math Requirement:		
CS 2300	Discrete Mathematical Structures I	3
STAT 2050 or MGMT 2340	Introduction to Statistical Methods Business Statistics I	3
Cybersecurity Core Requirements:		
INFO 1120	Information Systems and Technology Fundamentals	3
INFO 1200	Computer Programming I for IS IT	3
IT 1510	Introduction to System Administration--Linux/UNIX	3
IT 1600	Computer Architecture and Systems Software	3
INFO 2200	Computer Programming II for IS IT	3
INFO 2410	Database Fundamentals	3
IT 2530	Introduction to System Administration--Windows Client	3
IT 2600 or CS 2600	Data Communication Fundamentals Computer Networks I	3

CYBR 2700	Information Security Fundamentals	3
CYBR 2800	Computer Forensic Fundamentals	3
INFO 3300	Web Systems Development	3
INFO 3430	Systems Analysis and Design WE	3
INFO 405G	Global Ethical and Professional Perspectives in IS and IT GI WE	3

Cybersecurity Major Requirements: **21 Credits**

CS 3110	Applied Cryptography	3
CYBR 3700	Ethical Hacking and Countermeasures	3
CYBR 4150	Data Security Analytics	3
CYBR 4350	Web and Application Security	3
CYBR 4550	Threat Hunting and Incident Response	3
CYBR 4700	Enterprise Cybersecurity Management	3
CYBR 4750	Cybersecurity Capstone	3

Cybersecurity Elective Requirements: **9 Credits**

Complete 9 credit hours from the following:		9
CS 3140	Network and Cloud Security (3)	
CYBR 3350	Intellectual Property and Cyber Law (3)	
CYBR 4250	Database Security and Auditing (3)	
CYBR 4450	Internet of Things Security (3)	
CYBR 4650	Industrial Control Systems Security (3)	
CYBR 4760	Case Studies in Cyber Security (3)	
CYBR 4800	Advanced Mobile Devices Forensics (3)	
CYBR 459R	Current Topics in Cybersecurity (3)	
CYBR 481R	Internship (undefined)	
CYBR 3750	Malware Reverse Engineering (undefined)	

Discipline Elective Requirements: **9 Credits**

Complete 9 credit hours from the following:		9
INFO 3130	Introduction to Applied Data Analytics (3)	
INFO 3330	Client-Side Web Development (3)	
INFO 3360	Server-Side Web Frameworks (3)	
INFO 3410	Database Systems and Warehousing (3)	
INFO 4410	Database Administration (3)	
IT 3510	Advanced System Administration--Linux/UNIX (3)	
IT 3530	Advanced System Administration--Windows Server (3)	
IT 3600	Internetworking and Router Management (3)	
IT 4600	Enterprise Network Architectures and Administration (3)	

Graduation Requirements

1. Completion of at least 122 semester credits required in the BS degree; at least 40 credit hours must be upper-division courses.
2. Overall grade point average 2.0 or above with a minimum of 2.5 GPA in all discipline core, specialty core, and elective courses with no grade lower than a "C-."
3. Residency hours: Minimum of 30 credit hours through course attendance at UVU, with at least 10 hours earned in the last 45 hours.
4. Completion of GE and specified departmental requirements. Students are responsible for completing all prerequisite courses.
5. Completion of GE global intercultural requirement. INFO 405G Global Ethical and Professional Perspectives in IS and IT GI WE satisfies this requirement.
6. Successful completion of at least one Global/Intercultural course.
7. Successful completion of at least two Writing Enriched (WE) courses.

Graduation Plan

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in Wolverine Track (<http://www.uvu.edu/wolverinetrack/>).

First Year

Semester 1		Credit Hours
ENGL 1010	Introduction to Academic Writing CC	3
MATH 1050 or MATH 1055	College Algebra QL or College Algebra with Preliminaries QL	4
Social/Behavior Science		3
INFO 1120	Information Systems and Technology Fundamentals	3
IT 1510	Introduction to System Administration--Linux/UNIX	3
Credit Hours		16

Semester 2

ENGL 2010	Intermediate Academic Writing CC	3
Fine Arts Distribution		3
PHYS 2010	College Physics I PP	4
PHYS 2015	College Physics I Lab	1
INFO 1200	Computer Programming I for IS IT	3
IT 1600	Computer Architecture and Systems Software	3
Credit Hours		17

Second Year

Semester 3

MGMT 2340	Business Statistics I	3
PHIL 2050	Ethics and Values IH	3
INFO 2200	Computer Programming II for IS IT	3
INFO 2410	Database Fundamentals	3
IT 2600	Data Communication Fundamentals	3
Credit Hours		15

Semester 4

HLTH 1100 or EXSC 1097	Personal Health and Wellness TE or Fitness for Life TE	2
CYBR 2700	Information Security Fundamentals	3
CYBR 2800	Computer Forensic Fundamentals	3
INFO 3300	Web Systems Development	3
IT 2530	Introduction to System Administration--Windows Client	3
Credit Hours		14

Third Year

Semester 5

Biology Distribution		3
ENGL 2100	Technical Communication HH WE	3
CS 2300	Discrete Mathematical Structures I	3
CS 3110	Applied Cryptography	3
Discipline Elective		3
Credit Hours		15

Semester 6

Physical Science Distribution		3
CYBR 3700	Ethical Hacking and Countermeasures	3
CYBR 4350	Web and Application Security	3
Discipline Elective		3
Major Elective		3
Credit Hours		15

Fourth Year

Semester 7

American Institutions		3
INFO 3430	Systems Analysis and Design WE	3
CYBR 4550	Threat Hunting and Incident Response	3
CYBR 4700	Enterprise Cybersecurity Management	3
Discipline Elective		3
Credit Hours		15

Semester 8

INFO 405G	Global Ethical and Professional Perspectives in IS and IT GI WE	3
CYBR 4150	Data Security Analytics	3
CYBR 4750	Cybersecurity Capstone	3
Major Elective		3
Major Elective		3
Credit Hours		15
Total Credit Hours		122

Program Learning Outcomes

1. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgements in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply security principles and practices to maintain operations in the presence of risks and threats.