

CYBERSECURITY (APB)

Exploration and Discovery

Overview

The Applied Bachelor of Science in Cybersecurity is not just a degree – it is a solution to one of the most pressing challenges of our time: protecting digital assets in an increasingly interconnected world. PSU's program addresses the critical talent gap, aligns with industry needs, and leverages cutting-edge resources to produce skilled professionals ready to make an immediate impact. By bridging academic learning with practical application, the program ensures that graduates are well-equipped to meet the demands of the cybersecurity landscape.

Degree Requirements

Course	Title	Credits
Major Requirements		
CS 2010	Computing Fundamentals (TECO)	3
CS 2370	Introduction to Programming	4
CS 3240	Data Communication and Computer Networks	3
CS 3600	Database Management Systems & Security	4
CS 3720	Systems Analysis and Design	3
CS 4230	System Administration	4
CS 4400	Computer Networks and Protocols	4
CS 4520	CyberEthics (DICO,WRCO)	3
CY 2020	Cybersecurity Fundamentals	4
CY 3010	Ethical Hacking & Pentesting	4
CY 3020	Network Security	4
CY 3030	Digital Forensics & Incident Response	4
CY 3040	Cloud Security and Privacy	4
CY 3100	Red Team/Blue Team Capstone	4
MA 2210	Finite Math with Business Statistics (QRCO)	4
MGM 3100	Cybersecurity and Privacy for Business	4
General Education (https://coursecatalog.plymouth.edu/general-education/)		
EN 1400	Composition	4
IS 1115	Tackling a Wicked Problem	4
MA 1800	College Algebra	3
CTDI (https://coursecatalog.plymouth.edu/general-education/#CTDI)	Creative Thought Direction	3-4
PPDI (https://coursecatalog.plymouth.edu/general-education/#PPDI)	Past and Present Direction	3-4
SIDI (https://coursecatalog.plymouth.edu/general-education/#SIDI)	Scientific Inquiry Direction	3-4

SSDI (https://coursecatalog.plymouth.edu/general-education/#SSDI)	Self and Society Direction	3-4
IS 4220	Signature Project (INCO,INCP)	4
Electives		9-12
Total Credits		96

Recommended Course Sequence

Course	Title	Credits
Year One		
Fall		
IS 1115	Tackling a Wicked Problem	4
MA 1800	College Algebra	3
CS 2010	Computing Fundamentals (TECO)	3
Directions (choose from CTDI, PPDI, SIDI, SSDI) (https://coursecatalog.plymouth.edu/general-education/)		3-4
Directions (choose from CTDI, PPDI, SIDI, SSDI) (https://coursecatalog.plymouth.edu/general-education/)		3-4
Credits		16-18
Spring		
MA 2210	Finite Math with Business Statistics (QRCO)	4
CY 2020	Cybersecurity Fundamentals	4
CS 2370	Introduction to Programming	4
EN 1400	Composition	4
Credits		16
Year Two		
Fall		
Directions (choose from CTDI, PPDI, SIDI, SSDI) (https://coursecatalog.plymouth.edu/general-education/)		3-4
CS 3240	Data Communication and Computer Networks	3
MGM 3100	Cybersecurity and Privacy for Business	4
CS 3600	Database Management Systems & Security	4
Directions (choose from CTDI, PPDI, SIDI, SSDI) (https://coursecatalog.plymouth.edu/general-education/)		3-4
Credits		17-19
Spring		
Elective		3-4
Elective		3-4
CY 3010	Ethical Hacking & Pentesting	4
CS 4400	Computer Networks and Protocols	4
Credits		14-16
Year Three		
Fall		
CY 3020	Network Security	4
CS 4230	System Administration	4
CY 3030	Digital Forensics & Incident Response	4
CS 4520	CyberEthics (DICO,WRCO)	3
Elective		3-4
Credits		18-19

Spring

CY 3040	Cloud Security and Privacy	4
CS 3720	Systems Analysis and Design	3
IS 4220	Signature Project (INCO,INCP)	4
CY 3100	Red Team/Blue Team Capstone	4
	Credits	15
	Total Credits	96

Learning Outcomes

Students who complete the Cybersecurity program at PSU will graduate with:

- A strong theoretical background as well as applied hands-on experience creating, maintaining, diagnosing, and solving Cybersecurity systems, situations, and problems. They will know how to build, design, develop, and maintain systems and networks.
- Tried and tested experience working with Cybersecurity incidents through the experience they gain with the planned NIST-specified Cyber Range.
- Recognized and desired expertise in this dynamic and complex field, as well as a level of innovation and entrepreneurship gained through their experience in our Clusters environment.
- The knowledge to recognize and identify threats, categorize them, and address them in a timely manner.
- Proven professional and social skills needed to work both self-directed, or in teams, to succeed in their careers.

Career Pathways

Cybersecurity jobs are growing as per data from the U.S. Bureau of Labor Statistics (<https://nam12.safelinks.protection.outlook.com?url=https%3A%2F%2Fwww.bls.gov%2Ffoo%2Fcomputer-and-information-technology%2Finformation-security-analysts.htm&data=05%7C02%7Cclking2%40plymouth.edu%7Cb70ef1cc804b486307a508dd4c6d4e0e%7Cd6241893512d46dc8d2bbe47e25f5666%7C0%7C0%7C638750754525675952%7CUnknown%7CTWFpbgZsb3d8eyJFbXB0eU1hcGkiOnRydWUslYiOiIwLjAuMDAwMCIlIiAiOjJXaW4zMilslkF0ljoiTWFpbiIldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=RmcGfbWR6cE2h8yE0HadliOkBTJpqAzb3Rl9agEfr7g%3D&reserved=0>), and the cybersecurity program is designed for entry-

level positions. Example job titles may include:

- Cybersecurity Analyst
- Security Analyst
- Incident Response Analyst
- Cybersecurity Consultant
- Cybersecurity Specialist
- Information Security Analyst
- Information Security Specialist
- Network Security Analyst
- Penetration Tester
- Red Team/Offensive Security Analyst