



Cybersecurity BS

with an emphasis in Information Systems and Technology

The Bachelor of Science in Cybersecurity (IST emphasis) provides students both technical and business skills. The program focuses on applied aspects of cybersecurity utilizing state-of-the-art physical and virtual cybersecurity labs and is suitable for students interested in pursuing cybersecurity management and analyst roles in industry and government. The University of Missouri-St. Louis is designated as a National Center of Academic Excellence in Cyber Defense Education (CAE-CDE), making students eligible for grants, scholarships, and numerous job opportunities at government agencies.

Career Outlook

Industry and government reports indicate a continued severe shortage of skilled cybersecurity talent across both public and private sectors. The U.S. Bureau of Labor Statistics projects cybersecurity analyst jobs to increase 31 percent through 2029, which is more than seven times the average projected employment growth for other occupations. Due to the value they bring, graduates of the program are hired by local and national companies and quickly rise in cybersecurity management roles. They enjoy high job satisfaction and compensation in their careers.

Future Career Options

- Cloud Security Specialist
- Cybersecurity Specialist
- Cyber Defense Analyst
- Information Security Analyst
- Information Systems Security Manager
- IT/Security Auditor
- Security Architect

Skills Developed By Degree Completion

- Analyze a complex cybersecurity problem and apply principles of cybersecurity and business decision-making to identify potential solutions
- Design, implement, and evaluate a cybersecurity-based solution to meet a given set of cybersecurity and business requirements
- Communicate cybersecurity issues effectively in a variety of professional contexts
- Recognize professional responsibilities and make informed judgments in cybersecurity practice based on legal and ethical principles
- Function effectively as a member of a team engaged in activities appropriate to the cybersecurity discipline
- Apply security principles and practices to maintain business operations in the presence of risks and threats

Successful alumni have gone on to fulfill many of the opportunities above. Additional possibilities are taken from the Bureau of Labor Statistics. Contact an advisor to discuss additional future career options.

IT STARTS RIGHT NOW

This is a sample academic map for the courses to take each academic semester/session. This map is not a substitute for academic advisement. Contact your advisor when making final selections.

UNIVERSITY STUDIES

University studies is required for all first-year students and those with less than 24 credit hours.

MILESTONE COURSES

Milestone courses should be taken in the order shown to ensure you stay on a timely and accurate path toward graduation.

SUMMER AND INTERSESSION COURSES

Don't forget that summers and winter breaks are a way to fast-track your route to degree completion – and lighten your load during fall and spring!

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2024-2025 4-YEAR ACADEMIC MAP

Bachelor of Science in Cybersecurity with an emphasis in Information Systems and Technology

Year
1

FALL SEMESTER (16 credit hours)

CRIMN 1100: Intro to Criminology and Criminal Justice (3) or GEN ED CORE: US History and Government (3)
ENGL 1100: First-Year Writing (3)
INFSYS 2800: Information Systems Concepts and Applications (3)
MATH 1030: College Algebra (3)
PHIL 2254: Business Ethics (3) or GEN ED EXPLORE: Humanities and Fine Arts (3)
INTDSC 1003: University Studies (1)

SPRING SEMESTER (15 credit hours)

ECON 1001: Principles of Microeconomics (3)
INFSYS 3820: Introduction to Systems Administration (3)
MATH 1100: Basic Calculus (3)
PHIL 1160: Critical Thinking (3) or GEN ED EXPLORE: Humanities and Fine Arts (3)
GEN ED EXPLORE: Humanities and Fine Arts (non-Philosophy course) (3)

SUMMER SEMESTER (6 credit hours)

CMP SCI 1250: Introduction to Computing (3)
MATH 1105: Basic Probability and Statistics (3)

Year
2

FALL SEMESTER (15 credit hours)

ACCTNG 2400: Fundamentals of Financial Accounting (3)
CMP SCI 2250: Programming and Data Structures (3)
ECON 1002: Principles of Macroeconomics (3)
INFSYS 3806: Managerial Applications of Object-Oriented Programming (3)
SCMA 3300: Business Analytics and Statistics (3)

SPRING SEMESTER (15 credit hours)

ACCTNG 2410: Managerial Accounting (3)
BUS AD 2900: Legal Environment of Business (3)
COMM 2240: Persuasive Communication (3)
CMP SCI 2261: Object-Oriented Programming (3)
INFSYS 3848: Introduction to Information Security (3)

SUMMER SEMESTER (3 credit hours)

ENGL 3120: Business Writing (3) OR ENGL 3130: Technical Writing (3)

Year
3

FALL SEMESTER (15 credit hours)

CMP SCI 2700: Computer Organization and Architecture (3)
CMP SCI 2750: System Programming and Tools (3)
INFSYS 3842: Data Networks and Security (3)
MGMT 3600: Management and Organizational Behavior (3)
SCMA 3301: Introduction to Supply Chain Management (3)

SPRING SEMESTER (15 credit hours)

FINANCE 3500: Financial Management (3)
INFSYS 3845: Database Management (3)
MKTG 3700: Principles of Marketing (3)
Cybersecurity Elective (3)
Cultural Diversity Requirement (3)

Year
4

FALL SEMESTER (15 credit hours)

CMP SCI 4732: Introduction to Cryptography for Computer Security (3)
INFSYS 3815: Object-Oriented Applications in Business (3)
INFSYS 3858: Advanced Security and Information Systems (3)
INFSYS 3868: Secure Software Development (3)
Cybersecurity Elective (3)

SPRING SEMESTER (12 credit hours)

CMP SCI 4700: Computer Forensics (3)
INFSYS 3878: Information Security Risk Management and Business Continuity (3)
MGMT 4219: Strategic Management (3) and MGMT 4220: Business Assessment (0)
SCMA 4347: Introduction to Project Management (3)

Check once completed