

Choose  
UMSL

And your major.

# Cybersecurity BS

## Information Systems and Technology Emphasis

*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

- Cybersecurity specialist
- Cyber defense analyst
- Cloud security specialist
- Information security analyst
- IT/security auditor
- Security architect
- Information systems security manager

### 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.

**4-YEAR ACADEMIC MAP**

*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.*

**UMSL** Business  
University of Missouri–St. Louis

**College of Business Administration**  
**Department of Business Administration**  
202 Anheuser-Busch Hall  
314-516-5882  
[umsl.edu/divisions/business](http://umsl.edu/divisions/business)

**Academic Advising**  
107 Anheuser-Busch Hall  
**Phone: 314-516-5888**  
**Email: [business@umsl.edu](mailto:business@umsl.edu)**

# BS in Cybersecurity, Information Systems Emphasis

Year

1

## FALL SEMESTER (16 credit hours)

INTDSC 1003: University Studies (1)  
 MATH 1030: College Algebra (3)  
 ENGL 1100: First-Year Writing (3)  
 CRIMIN 1100: Introduction to Criminology and Criminal Justice, OR  
 GED ED CORE: U.S. History and Government (3)  
 INFSYS 2800: Information Systems Concepts and Applications  
 (must pass INFSYS 1800 waiver exam beforehand) (3)  
 PHIL 2254: Business Ethics, OR  
 GEN ED CORE: Humanities & Fine Arts (3)

## SPRING SEMESTER (15 credit hours)

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

## SUMMER SEMESTER (6 credit hours)

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

Year

2

## FALL SEMESTER (15 credit hours)

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

## SPRING SEMESTER (15 credit hours)

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

## SUMMER SEMESTER (3 credit hours)

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

Year

3

## FALL SEMESTER (15 credit hours)

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

## SPRING SEMESTER (15 credit hours)

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

Year

4

## FALL SEMESTER (15 credit hours)

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

## SPRING SEMESTER (12 credit hours)

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



2021-2022

## 4-YEAR ACADEMIC MAP

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.



### 1 – University Studies

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



### – Milestone courses

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



### – Summer and

**Interession 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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888-GO-2-UMSL

314-516-5451

[admissions.umsl.edu](mailto:admissions.umsl.edu)

Degree completed!