

Cybersecurity, Undergraduate Certificate

The Undergraduate Certificate in Cybersecurity is a ~~six-course~~ **five-course** (~~18~~ **15** credit hours) interdisciplinary studies program. It is designed to help students from all backgrounds achieve a foundation in information security. It provides students the flexibility to focus on technical and/or managerial aspects of computer, software, network, and information security. With primary courses offered by Computer Science and Information Systems **and Technology** departments, the program also allows students to choose from a range of electives based on student interests. This certificate serves a broad group of managers, technical specialists, and professionals with or without a bachelor's degree. A prior background in information security is not required to enter this program. A minimum GPA of 2.5 is required for admission.

Requirements

All students must take three required courses and **two electives**. ~~three electives (at least one elective must be in Computer Science)~~

Required Courses		
INFSYS 3848	Introduction to Information Security	3
or CMP SCI 3702	Introduction to Cyber Threats and Defense	
CMP SCI 4730	Computer Networks and Communications	3
or INFSYS 3842	Data Networks and Security	
CMP SCI 4782	Information Security	3
or INFSYS 3858	Advanced Security and Information Systems	

Electives

Choose ~~three~~ two of the following (~~at least one must be a CMP-SCI course~~):

9 6

~~CMP-SCI 3702~~ ~~Introduction to Cyber Threats and Defense~~

CMP SCI 3780 Software Security

CMP SCI 4020 Introduction to Android Apps:
Android Fundamentals

CMP SCI 4200 Python for Scientific Computing and
Data Science

CMP SCI 4222 iOS Apps

CMP SCI 4700 Computer Forensics

CMP SCI 4732 Introduction to Cryptography for
Computer Security

CMP SCI 4750 Introduction to Cloud Computing

~~CMP-SCI 4780~~ ~~Computer and Network Security~~

CMP SCI 4792 Introduction to Mobile Computing,
Networking, and Security

CMP SCI 4794 Introduction to Security of IoT
Systems

INFSYS 3830 Data Programming

INFSYS 3862 Artificial Intelligence Applications
for Business

INFSYS 3864 Applied Cryptography for Business

INFSYS 3866	Cloud Security for Business
INFSYS 3868	Secure Software Development
INFSYS 3878	Information Security Risk Management and Business Continuity
Total Hours	18 15

Students may substitute the above courses with other courses upon approval by the program adviser in either the Computer Science or Information Systems department. In all cases, 18 15 hours are needed to complete the Undergraduate Certificate in Cybersecurity. A minimum of four three courses must be taken in-residence-at from UMSL. Students may not receive both the Undergraduate and the Graduate Certificate in Cybersecurity.

For more information, students can contact the program directors at cybersecurityUMSL@umsl.edu.

Sign-offs from other departments affected by this proposal

Department	Contact Person	Phone #	Objections
S005150	Dinesh Mirchandani	7354	No

Rationale Reducing all undergraduate certificates to 15