



B.S. in Cybersecurity

Prepare For an Exciting Career

Cybersecurity is a dynamic field that offers students the opportunity to use their education to detect, investigate, and prevent technology related crimes.

The Bachelor of Science in cybersecurity prepares students with the sophisticated tools necessary to pursue careers in computer crime investigation, information assurance, and digital forensics.

Early Assurance in our Master's Program

Our Early Assurance Cybersecurity program guarantees qualified high school seniors placement in our master's degree in cybersecurity. Students who successfully complete the program earn their bachelor's and master's degrees.

Early Assurance program students may begin taking graduate-level courses during their senior year of undergraduate studies. This not only provides a financial savings on the overall cost of the master's degree, but because the master's program is entirely online, it provides the opportunity to work and earn a salary while completing the degree.

Program Highlights

- Emphasis in the technical and managerial sides of cybersecurity prepares students for careers in business, government, and law enforcement.
- Ethics content is integrated at all levels of the curriculum to prepare students for the challenges of technology leadership.
- Small classes: 11:1 student to faculty ratio.
- Gain practical, hands-on experience with the latest hardware and systems.
- Innovative curriculum aligned with ABET accreditation. (Expected to be accredited in 2024; only 14 programs nationally have been accredited as of January 2021.)

- Highly qualified program aligned with the National Security Agency and Department of Homeland Security. (Expected to be designated in 2022.)
- Program faculty include accomplished professors of cybersecurity and computer science as well as those with professional industry experience.
- Cybersecurity students gain the knowledge required to pass industry recognized cybersecurity certifications such as the ComptTIA Network+, ComptTIA Security+ and Certified Ethical Hacker (CEH), and various CISCO examinations.
- Our graduates have the option of continuing their studies in our master's program and strengthening their skills in offensive, defensive and enterprise security, as well as machine learning and data mining, as applied to cybersecurity.
- St. Bonaventure is the home of the WNY Cybersecurity Center, affording students the opportunity to gain valuable knowledge and experience.
- Students may graduate with double majors in cybersecurity and computer science by completing the requirements for each program.
- Students are allowed to take graduate courses from our 100% Master of Cybersecurity Program (maximum of 2 courses with departmental approval).

Cybersecurity Careers

Cybersecurity jobs are in high demand. Students at St. Bonaventure are prepared for high-paying careers including:

- intelligence analyst
- computer crimes special investigator
- information assurance specialist



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- credit card fraud investigator
- health insurance special investigator
- money laundering analyst
- network administrator
- bank security compliance officer
- compliance, risk management and fraud supervisor
- digital forensics examiner

CYB 333. Information Security	3
CYB 355. Computer Crime	3
Two Cybersecurity Electives*	7
Math 151. Calculus I	4
Math 207. Discrete Mathematics I	3
General Education Requirements	37
Foreign Language**	3
General Electives	<u>35</u>
Total	120

Why Cybersecurity?

- Average starting annual salary of \$95,700 for information assurance specialists.
— *CNN/Money*
- Demand for cybersecurity experts is expected to rise to 6 million globally by the end of 2019, with a projected shortfall of 1.5 million. (This is expected to increase to 3 million by 2021.)
— *Michael Brown, CEO at Symantec*
- Security analyst is ranked third among the best technology jobs, eighth among the top 100 professions and 15th among the highest paying jobs.
— *U.S. News & World Report*
- Between 2019 and 2029, information security analyst positions will grow at a rate of 31%.
— *Bureau of Labor Statistics*

* *Must be taken from the following: CS 243, CS 255, CS 346, CYB 360, CYB 365, CYB 410, CS 492, and SOC 325. CS 101 may count as an elective only if taken prior to CS 131.*

** *The School of Arts and Sciences requires all majors to complete a foreign language course at the 202 level or higher. Students not prepared to begin at this level will need to take additional courses in the language, which count as general electives.*

For more information about cybersecurity at SBU, email Dr. Huihui Wang, program director, at hwang@sbu.edu, or 716-375-2089. Visit us on the web at <http://www.sbu.edu/cybersecurity>.

Requirements

CYBERSECURITY REQUIREMENTS	CREDITS
CS/CSL 131. Computer Science I	4
CS/CSL 132. Computer Science II	4
CS/CSL 231. Computer Organization	4
CS/CSL 254. Computer Networks	4
CS 354. Introduction to Internet System Security	3
CS/CSL 490. Software Engineering	4
CS 491. Internship in Computer Science	3
CYB 101. Introduction to Information Security	3