



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. Merging the strengths of the St. Bonaventure Department of Computer Science and Hilbert College Department of Computer Security and Information Assurance, 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.

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.
- Courses shared between St. Bonaventure and Hilbert College are offered via Lifesize conferencing technology. SBU Students use this distance-learning technology to attend a course as it is being taught at Hilbert. There is no need to travel between schools.
- The innovative curriculum of the SBU/Hilbert College cybersecurity degree is unique to the region.
- 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. The Department of Cybersecurity is a CISCO and EC Council Academy. Through partnerships with these professional bodies our students are eligible for discounts and gain access to online training material.

- 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 and a student operated Security Operations Center, affording students the opportunity to gain valuable knowledge and experience.
- Students may graduate with majors in both cybersecurity and computer science by completing the requirements for each program.
- Students are allowed to take graduate courses from our Master of Cybersecurity Program (maximum 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
- credit card fraud investigator
- health insurance special investigator
- money laundering analyst
- network administrator
- bank security compliance officer



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- compliance, risk management and fraud supervisor
- digital forensics examiner

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 2012 and 2022, information security analyst positions will grow at a rate of 37%.
— *Bureau of Labor Statistics*

Requirements

NOTE: Courses with “H” in parentheses are taught at Hilbert College and offered to St. Bonaventure students via distance-learning technology. No travel to Hilbert is required.

CYBERSECURITY REQUIREMENTS	CREDITS
CS/CSL 131. Computer Science I	4
CYB 102. Ethical/Profess. Cybersec. Skills	4
CSIA 101. Intro. to Information Security (H)	3
CS/CSL 231. Computer Organization	4
CS/CSL 254. Computer Networks	4
CS/CSL 354. Intro. to Network Security	4
ECI 333. Information Security (H)	3
ECI 355. Computer Crime (H)	3
CS/CS: 490. Software Engineering	3
CS 491. Internship in CS/Cybersecurity	3
Two Cybersecurity Electives*	6-8
Mathematics	3
Foreign Language**	3
General Education Requirements	34
General Electives	<u>33-35</u>
	120

* Must be taken from the following: CS/CSL 243, CS 255, CS/CSL 346, ECI 360 (H), ECI 365 (H), CYB380B, ECI 410 (H), CS 492, SOC 325, any 2 graduate courses from CYB501-CYB510.

** 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, contact Dr. Hossein Sarrafzadeh, department chair, at asarrfz@sbu.edu or 716-375-2089. Visit us on the web at <http://www.sbu.edu/cybersecurity>.