

# CYBERSECURITY SPECIALIZATION - COMPUTER INFORMATION SYSTEMS TECHNOLOGY, BACHELOR OF APPLIED SCIENCE

**Program Code:** CTBSCSCT

**Meta-Major:** STEM

**Location(s):** Palm Bay, Titusville, Online

**Delivery Method(s):** On-Campus, Hybrid

**Previous Degree Required:** AS/AA

**Eligible for Financial Aid:** Yes

**Additional Limited Access Application Process Required:** No

**Program Testing Requirements:**

**Classification of Instructional Programs (CIP) Code:** 11.0401

**Florida Department of Education CIP Code:** 1101104011

Students can only select one major and one specialization. Students may receive a specific A.S./B.A.S. degree only one time. While students may take courses from multiple specializations, however, the degree will be awarded only once.

The Cybersecurity Bachelor's Degree specialization at Eastern Florida State College prepares students for entry-level positions involving the fast-expanding field of computer security.

Students will gain a fundamental understanding of cybersecurity and can specialize in one or more of the following areas.

- Database security
- Network security
- Application software security
- Forensics

Potential career positions include Software Developer, Database Administrator, Web Developer, Computer Forensics Technician and Network Security Analyst. [Visit the program page for more details and how to apply.](#)

## Specialization Requirements

Code	Title	Credit Hours
<b>Associate Degree</b>		
	Complete Associate Degree	60
<b>General Education or Technical Concentration</b>		
	General Education (for A.S. degree students) or Technical Concentration (for A.A. degree students) <sup>1</sup>	21
<b>Computer Information Systems Technology - Major Courses</b>		
GEB 3213	Foundations of Managerial Communications	3
ISM 3011	Introduction to Information Technology Management	3
ISM 4300	Information Systems Operations Management	3
MAN 4504	Operational Decision Making	3
<b>Cybersecurity Specialization Major Courses</b>		
CISC 3391	Computer Forensics	3

CISC 3392	Windows Forensics	3
CNT 3403	Network Defense Security	3
COP 3703	Database Design and Architecture	3
ISM 3321	Cybersecurity Fundamentals	3
ISM 3322	Advanced Cybersecurity Concepts	3
<b>Cybersecurity Specialization Electives (Choose 9 Credits)</b>		<b>9</b>
CEN 4341	Platform Technologies	
CEN 4949	Internship	
CNT 4704	Network Planning and Design	
COP 3330	Object Oriented Programming	
COP 3813	Internet Programming	
COP 4849	Web Applications Programming	
ISM 3113	Information Systems Analysis and Design	
ISM 3324	Applications in Information Security	
<b>Total Credit Hours</b>		<b>120</b>

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**The BAS in Computer Information Systems Technology has two Common Program Prerequisites. These courses must be completed before being admitted to 3000 and 4000 level courses and students will need to earn a grade of "C" or higher.**

Students must take STA 2023 Statistics and COP 2334 Introduction to C+ Programming .

**Important Notes:** The prerequisite for STA 2023 is MGF 1106 or MAC 1105 with a grade of "C" or higher. MAC 2311 is the alternate approved course to STA 2023. No other substitutions are permitted. The prerequisite for COP 2334 is COP 1000. The Common Program Prerequisite, COP 2334 may also be satisfied by any COP Computer Programming course. No other course substitutions are permitted.

## Learning Outcomes: Cybersecurity BAS

1. Demonstrate the ability to use current techniques, skills, and tools necessary for the evaluation of information systems.
  - *Core Ability Supported: Think Critically and Solve Problems*
2. Systematically analyze data to improve organizational input and output processes, productivity and quality of work for users.
  - *Core Ability Supported: Process Information*
3. Demonstrate comprehensive understanding for information and network security; planning, risk management, security technologies, and personnel
  - *Core Ability Supported: Think Critically and Solve Problems*
4. Apply techniques for network design and network security defense.
  - *Core Ability Supported: Think Critically and Solve Problems*
5. Apply techniques for collecting and analyzing forensic data, computer systems and media using readily available open forensic investigative source tools available for popular commercial operating systems.
  - *Core Ability Supported: Think Critically and Solve Problems*
6. Apply techniques for storage and retrieval of data to support the organization's functional units and external customers.
  - *Core Ability Supported: Process Information*
7. Demonstrate the ability to design and write high quality computer programs that are well organized and documented.
  - *Core Ability Supported: Think Critically and Solve Problems*
8. Apply tools and techniques for mitigating security breaches in the Software Development Life Cycle (SDLC), considering security and privacy concerns in establishing system requirements, analysis

- and design artifacts, source code, quality assurance testing plans, installation and deployment strategies, and maintenance techniques.
- *Core Ability Supported: Think Critically and Solve Problems*
9. Explain the fundamentals of cybersecurity and its impact on information systems, identify various types of cybersecurity threats, explain cybersecurity management methods and identify current security resources.
    - *Core Ability Supported: Think Critically and Solve Problems*
  10. Assess network security controls and determine security concerns, authentication protocol services, network monitors, and secure data communication techniques.
    - *Core Ability Supported: Think Critically and Solve Problems*
  11. Determine lab requirements for live acquisition analysis and list current tools, compare current tools for data collection and analysis, explain forensically sound data collection and storage techniques and create a live response testing environment.
    - *Core Ability Supported: Think Critically and Solve Problems*
  12. Design implementation strategies for securing web information, apply techniques for securing information in web applications and web servers, examine vulnerabilities, threats and attacks and recommend strategies for securing web information.
    - *Core Ability Supported: Think Critically and Solve Problems*