SAMUEL GINN COLLEGE OF
ENGINEERING
COMPUTER SCIENCE AND
SOFTWARE ENGINEERING

AUBURN
UNIVERSITY

Undergraduate Certificate in Cyber Defense

Prepare for a secure future

The Undergraduate Certificate in Cyber Defense equips students with the knowledge and skills needed to enter the workforce prepared to reduce the vulnerabilities in our national information infrastructure.

Curriculum

The following 16 hours of coursework are required to earn the Certificate:

- COMP 5350 Digital Forensics
- COMP 5370 Computer and Network Security
- COMP 5530 Secure Cloud Computing
- COMP 5700 Secure Software Process
- COMP 5830 Cyber Threats and Countermeasures
- COMP 5870 Security Integration and Application

Learning Outcomes

CDE 1: Students have an understanding of fundamental concepts of cybersecurity.

CDE 2: Students know prevalent cybersecurity threats, threat models (such as Man-in-the-Middle), and canonical defenses.

CDE 3: Students have the ability to identify, assess, and defend against cybersecurity threats; develop defendable and resilient network and software mechanisms; and detect and investigate cybersecurity breaches.

CDE 4: Students are versed in techniques for gathering and preserving digital forensic evidence relating to a cyber event.

CDE 5: Students possess a knowledge of computer science (e.g. algorithms, operating systems, computer architectures, ethics, etc.), and have the ability to leverage this knowledge for a deeper contextualized understanding of cybersecurity.

CDE 6: Students communicate cybersecurity issues effectively.

CDE 7: Students have the ability to apply their cybersecurity capabilities in an integrated manner to address specific cybersecurity problems.

Requirements

Applications for the Undergraduate Certificate in Cyber Defense program are considered on a competitive basis. Minimum GPA requirements are not advertised, because the Admissions Committee uses a holistic approach when reviewing a candidate's application package. The Committee considers the quality of the candidate's academic background, grade point averages, campus involvement, and desire to work in the security area.

Applicants are expected to have a strong foundation in computer science and software engineering, as demonstrated by past performance in the following courses (or equivalent courses):

- COMP 1210 Fundamentals of Computing I
- COMP 2210 Fundamentals of Computing II
- COMP 3220 Principles of Programming Languages
- COMP 3270 Introduction to Algorithms
  COMP 3350 Computer Organization and Assembly Language Programming
- COMP 3500 Introduction to Operating Systems
- COMP 3700 Software Modeling and Design
- COMP 4320 Introduction to Computer Networks
- COMP 4730 Computer Ethics
- COMP 5120 Database Systems

CONTACT US

HARI NARAYANAN, Department Chair

Clint Lovelace, Student Services Coordinator
3101 Shelby Center
Auburn, AL 36849
334.844.6313
clint@auburn.edu
www.eng.auburn.edu/csse

Office of Engineering Student Services
1161 Brown-Kopel Center
Auburn, AL 36849
334.844.4310
engineering@auburn.edu
www.eng.auburn.edu/ess