

# Merritt College

## Infrastructure Security

### Overview

College	Merritt - Division II
Originator	Courtney Brown
Award Type	A.S. Degree

### Codes and Dates

State Approval Date	1/03/2022
Curriculum Committee Approval Date	5/14/2020
Board of Trustees Date	10/13/2020
Current Effective Date	1/03/2022
Program Control Number	33716
Top Code	0702.00* - Computer Information Systems

### Description

The Infrastructure Security Associate of Science degree confers skills and best practices in secure deployment and configuration of hardware devices that deliver connectivity and enable the exchange of information services. The graduate of this program is able to design, install and implement network and application services; detect intrusions, monitor and capture network traffic, manage and optimize security infrastructure to ensure compliance with security controls. They have completed instruction in the infiltration of information systems, baseline performance measurement, management of alerts and exception thresholds and formulation of security policies, and formation of an incident response team to investigate and respond to operational security threats and attacks. They conduct security research, analysis and review of infrastructure designs to ensure compliance with company security policies; evaluate new products and technologies to protect against existing and emerging security threats; and develop and implement information security policies and procedures.

### Career Opportunities

Career opportunities may include Information Security Analysts (SOC 15-1122), Computer and Information Systems Managers (SOC 11-3021), and Computer Systems Analysts (SOC 15-1121).

### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Install and configure infrastructure, software, and upgrades.
2. Install, configure, and test network devices, servers, and workstations.
3. Troubleshoot hardware, network, and security problems.

### Degree Requirements:

Major Core Courses		Credit Hours:	(21 Required)
CIS 052	Cloud Security Fundamentals		3
CIS 053	Intrusion Detection In-Depth: Compliance, Security, Forensics and Troubleshooting		3
CIS 054	IT Security Goals, Strategy, Policy, and Leadership		3
CIS 055	Hacker Techniques, Exploits, and Incident Handling		3

CIS 058	Hacker Guard – Baseline Training for IT Administrators and Operations	3
CIS 060	Computer Forensics Fundamentals	3
CIS 072	Systems and Network Administration	3

**Major Elective Courses List A****Credit Hours:** (3 - 5 Required)*Select one course for a minimum of 3 units.*

CIS 005	Introduction to Computer Science	5
CIS 006	Introduction to Computer Programming	5
CIS 007	Control Structures and Objects	4
CS 020	Python Application Programming	3

**Major Elective Courses List B****Credit Hours:** (3 - 4 Required)*Select one course for a minimum of 3 units.*

CIS 051	Introduction to Information Technology Project Management	4
CIS 098	Database Programming with SQL	4
CIS 178	Build Automation for DevOps and QA	4
CIS 221	Cyber Safety, Online Identity, and Computer Literacy	1 - 3
CIS 247	Information Systems Skills Challenge	1 - 4
COPED 469	Occupational Work Experience in Security Administration	1 - 4

**Elective Courses to Meet 60 Units****Credit Hours:** (14 Required)*Select degree-applicable courses for 11-14 units.***Local AA/AS General Education Courses****Credit Hours:** (19 Required)*Select general education courses for a minimum of 19 units.***Total: 60.000 - 63.000**

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