National Center for Supply Chain Automation

MASTER SYLLABUS

Internet of Things and Cybersecurity

Semester Credit Hours: 3.00

Prerequisites: Networking

## COURSE DESCRIPTION

Course presents the skills and knowledge necessary to install and configure systems to secure applications, networks and IoT devices. Cyber threat analysis and risk management techniques demonstrate the Information vs. Operation Technology relationships. The NIST Cybersecurity Framework describes contingency plans for backups and other components of incident management.

## STUDENT LEARNING OUTCOMES

Upon successful completion of the course, students should be able to perform the following:

* Compare and contrast types of cyber attacks;
* Troubleshoot common security issues;
* Summarize secure application development and deployment concepts;
* Describe the components of the NIST Cybersecurity Framework;
* Distinguish between information technology and operation technology systems;
* Identify the technological layers (hardware, software, communications, cloud platform and cloud applications) that establish a transformative IoT application.

**COURSE OUTLINE**

* IoT and network layers
  + Device hardware
  + Device software
  + Communications
  + Cloud platform
  + Cloud applications
* Edge computing
* Impact of cyber attacks
  + On businesses, manufactures and supply chains
* Information Technology merged with Operational Technology
* NIST Cybersecurity Framework and assessment
* Asset management