

## CS/IS186 : Workstation Security And Support

### General Information

Author:	• Simon Mirzayan
Course Code (CB01) :	CS/IS186
Course Title (CB02) :	Workstation Security And Support
Department:	CSIS
Proposal Start:	Fall 2024
TOP Code (CB03) :	(0708.00) Computer Infrastructure and Support
CIP Code:	(11.1003) Computer and Information Systems Security/Auditing/Information Assurance.
SAM Code (CB09) :	Clearly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000222127
Curriculum Committee Approval Date:	10/25/2023
Board of Trustees Approval Date:	12/19/2023
Last Cyclical Review Date:	10/25/2023
Course Description and Course Note:	CS/IS 186 familiarizes students with workstation security measures and workstation operations. Students learn to recognize threats and to combat multiple security issues that can affect the workstation. This course prepares students to maintain workstation operations and security in a medium and large network environment. This course includes labs to provide hands-on training.
Justification:	Mandatory Revision
Academic Career:	• Credit
Author:	• Simon Mirzayan

### Academic Senate Discipline

Primary Discipline:	• Computer Information Systems (Computer network installation, microcomputer technology, computer applications)
Alternate Discipline:	No value
Alternate Discipline:	No value

### Course Development

Basic Skill Status (CB08)	Course Special Class Status (CB13)	Grading Basis
Course is not a basic skills course.	Course is not a special class.	• Grade with Pass / No-Pass Option
	Pre-Collegiate Level (CB21)	Course Support Course Status (CB26)

Allow Students to Gain Credit by Exam/Challenge

Not applicable.

Course is not a support course

## Transferability & Gen. Ed. Options

### General Education Status (CB25)

Not Applicable

### Transferability

Not transferable

### Transferability Status

Not transferable

## Units and Hours

### Summary

**Minimum Credit Units (CB07)** 3

**Maximum Credit Units (CB06)** 3

**Total Course In-Class (Contact) Hours** 90

**Total Course Out-of-Class Hours** 72

**Total Student Learning Hours** 162

### Credit / Non-Credit Options

#### Course Type (CB04)

Credit - Degree Applicable

#### Noncredit Course Category (CB22)

Credit Course.

#### Noncredit Special Characteristics

No Value

#### Course Classification Code (CB11)

Credit Course.

#### Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience Education Status (CB10)

Variable Credit Course

### Weekly Student Hours

	In Class	Out of Class
Lecture Hours	2	4
Laboratory Hours	3	0
Studio Hours	0	0

### Course Student Hours

<b>Course Duration (Weeks)</b>	18
<b>Hours per unit divisor</b>	0
<b>Course In-Class (Contact) Hours</b>	
Lecture	36
Laboratory	54
Studio	0
<b>Total</b>	90

### Course Out-of-Class Hours

Lecture	72
Laboratory	0
Studio	0
<b>Total</b>	<b>72</b>

## Time Commitment Notes for Students

No value

## Pre-requisites, Co-requisites, Anti-requisites and Advisories

### Advisory

CS/IS101 - Introduction To Computer and Information Systems

#### Objectives

- Explain the concept of a network; identify hardware and software needed to create a network; compare and contrast wired vs. wireless networks; describe network security issues.
- Demonstrate the importance of the technology infrastructure in an organization; identify major hardware components of a computer system; explain how to evaluate hardware components; compare open vs. proprietary platforms.
- Describe distinctions between system software and application software; explain common functions of system software; identify types of application software; understand how to evaluate software when planning a system; compare open vs. proprietary software.

## Entry Standards

Entry Standards

No value

## Specifications

### Methods of Instruction

Methods of Instruction                      Lecture

Methods of Instruction                      Laboratory

Methods of Instruction                      Discussion

Methods of Instruction                      Multimedia

<b>Methods of Instruction</b>	Tutorial			
<b>Methods of Instruction</b>	Collaborative Learning			
<b>Methods of Instruction</b>	Demonstrations			
<b>Out of Class Assignments</b>				
<ul style="list-style-type: none"> <li>• Research projects (i.e. latest methods of image broadcasting for recovery purposes)</li> <li>• Practical exercises (i.e. create a PC image for broadcast to workstations)</li> </ul>				
<b>Methods of Evaluation</b>	<b>Rationale</b>			
Exam/Quiz/Test	Final examination			
Project/Portfolio	Lab work - Students are to use NetLab to secure and troubleshoot systems			
Project/Portfolio	Projects - Students are to develop a use/security policy for a fictional organization			
Writing Assignment	Role-play - Students are to respond as a chief information officer to an event within a fictional organization			
<b>Textbook Rationale</b>				
No Value				
<b>Textbooks</b>				
<b>Author</b>	<b>Title</b>	<b>Publisher</b>	<b>Date</b>	<b>ISBN</b>
Ciampa, Mark D.	Security Awareness: Applying Practical Security in Your World	Cengage Learning	2017	9781305500372
<b>Other Instructional Materials (i.e. OER, handouts)</b>				
<b>Description</b>	Open Educational Resources			
<b>Author</b>	No value			
<b>Citation</b>	No value			
<b>Online Resource(s)</b>				
<b>Materials Fee</b>				
No value				

## Learning Outcomes and Objectives

## Course Objectives

Use various software to detect and remove viruses.

Install and maintain software firewalls.

Build and maintain workstations in a modern business environment.

## SLOs

**Use the internet to research viruses and spyware and implement solutions on a workstation.**

Expected Outcome Performance: 70.0

<i>ILOs</i> Core ILOs	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.  Recognize an information need and develop a research question or topic; strategically explore information in context using library and other resources; investigate the authority of information sources and the credibility of claims; locate, evaluate, and use information to create new knowledge in an ethical and legal manner.
<i>CSIS</i> Information Technology Certificate	Demonstrate installing, configuring and maintaining computer and mobile devices, including diagnosing, resolving and documenting common hardware and software.
<i>CSIS</i> Information Technology - A.S. Degree Major	Demonstrate installing, configuring, and maintaining computer and mobile devices, including diagnosing, resolving, and documenting common hardware and software.
<i>CSIS</i> Computer Science - A.S. Degree Major	Prepare a software project to implement a single scientific, mathematical, business, or technical function.
<i>CSIS</i> Computer Science - Certificate	Prepare a software project to implement a single scientific, mathematical, business, or technical function.
<i>CSIS</i> Computer Software Technician	demonstrate the ability to independently create, save, modify and print a document using a word processing program and appropriate assistive technology
<i>CSIS</i> Web Development - A.S. Degree Major	use industry standard tools and techniques to produce, publish and maintain Web sites and Web content.
<i>CSIS</i> Web Development - Certificate	use industry standard tools and techniques to produce, publish and maintain Web sites and Web content.

**Apply group policy objects (GPO) to manage a workstation.**

Expected Outcome Performance: 70.0

<i>ILOs</i> Core ILOs	Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.  Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
<i>CSIS</i> Information Technology - A.S. Degree Major	Demonstrate installing, configuring, and maintaining computer and mobile devices, including diagnosing, resolving, and documenting common hardware and software.  Demonstrate the proper server operation procedures, maintenance procedures and managing risks associated with real world networks.

CSIS Information Technology Certificate	Demonstrate the proper server operation procedures, maintenance procedures and managing risk associated with real world networks.
CSIS Computer Science - A.S. Degree Major	Prepare a software project to implement a single scientific, mathematical, business, or technical function.
CSIS Computer Science - Certificate	Prepare a software project to implement a single scientific, mathematical, business, or technical function.
CSIS Computer Software Technician	demonstrate the ability to independently create, save, modify and print a document using a word processing program and appropriate assistive technology
CSIS Web Development - A.S. Degree Major	use industry standard tools and techniques to produce, publish and maintain Web sites and Web content.
CSIS Web Development - Certificate	use industry standard tools and techniques to produce, publish and maintain Web sites and Web content.
<b>Modify, add, remove, and troubleshoot a workstation in a network environment.</b>	
Expected Outcome Performance: 70.0	
ILOs Core ILOs	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
CSIS Information Technology Certificate	Demonstrate installing, configuring and maintaining computer and mobile devices, including diagnosing, resolving and documenting common hardware and software.  Demonstrate the proper server operation procedures, maintenance procedures and managing risk associated with real world networks.
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## Additional SLO Information

**Does this proposal include revisions that might improve student attainment of course learning outcomes?**

No

**Is this proposal submitted in response to learning outcomes assessment data?**

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

#### **SLO Evidence**

No Value

## **Course Content**

### **Lecture Content**

#### **Antivirus and Malware Software (2 hours)**

- Industry standard antivirus and malware software products
- Installation
- Configuration
- Updating

#### **Computer and Network Attacks (2 hours)**

- Current examples
- Why these attacks are conducted

#### **Social Engineering (2 hours)**

- Phishing
- Fake web sites
- Shoulder surfing

#### **Spyware and Ransomware (2 hours)**

- Infection methods
- Infection removal
- Why marketing organizations are using spyware

#### **Data Backup and Recovery (2 hours)**

- Backup strategies
- Backup procedures
- Recovery procedures

#### **Workstation Recovery Software (2 hours)**

- Setting recovery points
- Recovery strategies

#### **Workstation Installation and Configuration (8 hours)**

- Why build a master?
- Considerations in building the master
- Testing the master

#### **Over-the-wire Installation and Update (8 hours)**

- Remote installation techniques
- Updates and Upgrades

#### **Helpdesk and Support Strategies (4 hours)**

- Telephone and remote support techniques
- Tools and methods for troubleshooting computer problems
- Onsite support

#### **Workstation Maintenance (4 hours)**

- Software and operating system issues
- Hardware and network issues

**Total hours: 36**

### **Laboratory/Studio Content**

#### **Antivirus and Malware Software (3 hours)**

- Industry-standard antivirus and malware software products
- Installation
- Configuration
- Updating

**Computer and Network Attacks (3 hours)**

- Current examples
- Why these attacks are conducted

**Social Engineering (3 hours)**

- Phishing
- Fake web sites
- Shoulder surfing

**Spyware and Ransomware (3 hours)**

- Infection methods
- Infection removal
- Why marketing organizations are using spyware

**Data Backup and Recovery (3 hours)**

- Backup strategies
- Backup procedures
- Recovery procedures

**Workstation Recovery Software (3 hours)**

- Setting recovery points
- Recovery strategies

**Workstation Installation and Configuration (12 hours)**

- Why build a master?
- Considerations in building the master
- Testing the master

**Over-the-wire Installation and Update (12 hours)**

- Remote installation techniques
- Updates and Upgrades

**Helpdesk and Support Strategies (6 hours)**

- Telephone and remote support techniques
- Tools and methods for troubleshooting computer problems
- Onsite support

**Workstation Maintenance (6 hours)**

- Software and operating system issues
- Hardware and network issues

**Total hours: 54**