



# **ILLINOIS VALLEY COMMUNITY COLLEGE**

## **COURSE OUTLINE**

**DIVISION: Workforce Development**

**COURSE: CSC 1203 Intro to Cybersecurity**

Date: Spring 2021

Credit Hours: 2

Prerequisite(s): None

Delivery Method:

<input checked="" type="checkbox"/> Lecture	1.5 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
<input checked="" type="checkbox"/> Lab	1 Contact Hours (2-3 contact = 1 credit hour)
<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)
<input checked="" type="checkbox"/> Online	
<input type="checkbox"/> Blended	

Offered:  Fall  Spring  Summer

IAI Equivalent –**Only for Transfer Courses**–go to <http://www.itransfer.org>:

### **CATALOG DESCRIPTION:**

This course is aimed to educate students about the main threats to data security. It also equips the students with the basic knowledge to keep devices and data secure in daily life. It teaches basic techniques of being secure both online and offline. This course prepares students to sit for EC Council’s entry level certification: “Certified Secure Computer User” (CSCU).

## GENERAL EDUCATION GOALS ADDRESSED

*[See last page for Course Competency/Assessment Methods Matrix.]*

### Upon completion of the course, the student will be able:

*[Choose up to three goals that will be formally assessed in this course.]*

- To apply analytical and problem solving skills to personal, social, and professional issues and situations.
- To communicate successfully, both orally and in writing, to a variety of audiences.
- To construct a critical awareness of and appreciation for diversity.
- To understand and use technology effectively and to understand its impact on the individual and society.
- To develop interpersonal capacity.
- To recognize what it means to act ethically and responsibly as an individual and as a member of society.
- To recognize what it means to develop and maintain a healthy lifestyle in terms of mind, body, and spirit.
- To connect learning to life.

### EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:

*[Outcomes related to course specific goals. See last page for more information.]*

#### Upon completion of the course, the student will be able to:

1. Outcome – Student understands the need and importance of data security.
  - a. Competency – Student will understand different kinds of threats to data.
  - b. Competency – Student can explain about the elements of security
2. Outcome - Implement Operating System security measures on their computers.
  - a. Competency – Student can explain the concept of operating system and its functionalities
3. Outcome – Student understands Malware and its symptoms.
  - a. Competency – Student can step through the Ransomware decryption process
  - b. Competency – Student can explain the reasons for Ransomware being a major threat for companies
4. Outcome – Student can make an informed decision about choosing the antivirus most relevant to their needs.
  - a. Competency – Student can explain various types of malware
  - b. Competency – Student can describe common symptoms of a virus affected machine
  - c. Competency – Student can step through the process to find and fix the viruses
5. Outcome – Student understands the risks associated with different online activities.
  - a. Competency – Student can explain the different concepts: Internet, Web browser and Internet Security
6. Outcome – Student understands why and how to secure web browsers.
  - a. Competency – Student can explain the steps involved in securing Edge, Firefox, Safari, and Chrome
7. Outcome – Student can Identify safe websites.
  - a. Competency – Student can explain the difference between a safe and dangerous website

8. Outcome – Student understands safeguards against the threats associated with online social networking.
  - a. Competency – Student can discuss phishing scams in social media
  - b. Competency – Student can discuss safety measures to avoid responding to fake messages
9. Outcome – Student understands how to make their social networking accounts secure.
10. Outcome – Student understands the threats associated with email communications and proper safeguards
  - a. Competency – Student can discuss email security
11. Outcome – Student understands the threats to mobile devices and how to safeguard against them.
  - a. Competency – Student can explain why mobile devices have become major targets for attackers
  - b. Competency – Student can explain the main security risks mobile devices face
12. Outcome – Student understands the threats associated with cloud accounts and proper safeguards
  - a. Competency – Student can explain why hackers love the cloud
  - b. Competency – Student can discuss how hackers are participating in hacking attempts to infiltrate the cloud.
13. Outcome – Student can make an informed decision about a cloud service provider to meet requirements.
  - a. Competency – Student can discuss cloud concepts and types of cloud functionality
  - b. Competency – Student can discuss the terms cloud computing and cloud services
14. Outcome – Student understands the various types of networks and the threats associated with them.
  - a. Competency – Student can identify various types of networks
  - b. Competency – Student can match threats to various networks
15. Outcome – Student can configure a home network.
  - a. Competency – Student can discuss various networking concepts
  - b. Competency – Student can explain how to setup a wireless network connection on various OS
16. Outcome – Students can make their networks secure.
  - a. Competency – Student can discuss threats associated with wireless network security
17. Outcome – Student understands the threats to data and the need for data backups.
  - a. Competency – Student can explain data backup concept and types of backups
18. Outcome – Student can explain how to backup and restore data on their computers.
  - a. Competency – Student can step through the process of backing up and restoring data on a computer
19. Outcome – Student understands how to destroy data permanently.
  - a. Competency – Student can discuss safe data destruction concepts
  - b. Competency – Student can describe how to handle data destruction as it applies to identity theft

## MAPPING LEARNING OUTCOMES TO GENERAL EDUCATION GOALS

*[For each of the goals selected above, indicate which outcomes align with the goal.]*

Goals	Outcomes
<p><b>First Goal</b></p> <p>To apply analytical and problem-solving skills to personal, social, and professional issues and situations.</p>	<p>4. Make an informed decision about choosing the antivirus most relevant to their needs.</p> <p>13. Make an informed decision about a cloud service provider to meet requirements.</p> <p>14. Understand the various types of networks and the threats associated with them.</p> <p>17. Understand the threats to data and the need for data backups.</p>
<p><b>Second Goal</b></p> <p>To understand and use technology effectively and to understand its impact on the individual and society.</p>	<p>1. Understand the need and importance of data security.</p> <p>2. Implement Operating System security measures on their computers.</p> <p>3. Understand Malware and its symptoms</p> <p>5. Understand the risks associated with different online activities.</p> <p>6. Understand why and how to secure web browsers.</p> <p>7. Identify safe websites.</p> <p>8. Safeguard against the threats associated with online social networking.</p> <p>9. Understand how to make their social networking accounts secure.</p> <p>10. Understand the threats associated with email communications and proper safeguards</p> <p>11. Understand the threats to mobile devices and how to safeguard against them.</p> <p>12. Understand the threats associated with cloud accounts and proper safeguards</p> <p>15. Configure a home network.</p> <p>16. Make their networks secure.</p> <p>18. Backup and restore data on their computers.</p> <p>19. Destroy data permanently.</p>

## **COURSE TOPICS AND CONTENT REQUIREMENTS:**

- Introduction to Data Security
- Securing Operating Systems
- Malware and Antivirus
- Internet Security
- Security on Social Networking Sites
- Securing Email Communications
- Securing Mobile Devices
- Securing the Cloud
- Securing Network Connections
- Data Backup and Disaster Recovery

## **INSTRUCTIONAL METHODS:**

- Lecture
- Lab – hands-on training
- Testing
- Case Studies
- Group Discussions

## **INSTRUCTIONAL MATERIALS:**

- Certified Secure Computer User (CSCU) Version 2 eBook
- From EC-Council Academia

## **STUDENT REQUIREMENTS AND METHODS OF EVALUATION:**

Develop an understanding and/or a comprehensive knowledge of the items listed as course content.

1. Read required material on the topic
2. Attend Live Zoom sessions on current topic
3. Complete all tests and homework
4. Ask questions about misunderstood areas in class, office hours or meetings with instructor
5. Join in discussions

A= 90-100

B= 80-89

C= 70-79

D= 60-69

F= 0-59

## **OTHER REFERENCES**

- Case studies
- White papers

## Course Competency/Assessment Methods Matrix

(Dept/# Course Name)	Assessment Options																																
<p>For each competency/outcome place an "X" below the method of assessment to be used.</p>	<b>Assessment of Student Learning</b>	Article Review	Case Studies	Group Projects	Lab Work	Oral Presentations	Pre-Post Tests	Quizzes	Written Exams	Artifact Self Reflection of Growth	Capstone Projects	Comprehensive Written Exit Exam	Course Embedded Questions	Multi-Media Projects	Observation	Writing Samples	Portfolio Evaluation	Real World Projects	Reflective Journals	Applied Application (skills) Test	Oral Exit Interviews	Accreditation Reviews/Reports	Advisory Council Feedback	Employer Surveys	Graduate Surveys	Internship/Practicum /Site Supervisor Evaluation	Licensing Exam	In Class Feedback	Simulation	Interview	Written Report	Assignment	
<p>Assessment Measures – Are direct or indirect as indicated. List competencies/outcomes below.</p>	<b>Direct/ Indirect</b>	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	I	I	I	I	D	D							
<p>1. Outcome – Student understands the need and importance of data security.</p>			X					X										X															X
<p>2. Outcome - Implement Operating System security measures on their computers.</p>			X					X																									X
<p>3. Outcome – Student understands Malware and its symptoms.</p>		X		X				X									X															X	

4. Outcome – Student can make an informed decision about choosing the antivirus most relevant to their needs.		X	X	X												X	X
5. Outcome – Student understands the risks associated with different online activities.			X	X					X							X	X
6. Outcome – Student understands why and how to secure web browsers.		X	X	X											X		X
7. Outcome – Student can Identify safe websites.			X	X					X						X		X
8. Outcome – Student understands safeguards against the threats associated with online social networking.			X	X											X		X
9. Outcome – Student understands how to make their social networking accounts secure			X	X											X		X
10. Outcome – Student understands the threats associated with email communications and proper safeguards			X	X											X		X
11. Outcome – Student understands the threats to mobile devices and how to safeguard against them.		X	X	X											X		X

12. Outcome – Student understands the threats associated with cloud accounts and proper safeguards			X	X	X																													X									X	
13. Outcome – Student can make an informed decision about a cloud service provider to meet requirements.				X	X																														X									X
14. Outcome – Student understands the various types of networks and the threats associated with them.			X	X	X																														X									X
15. Outcome – Student can configure a home network.				X	X									X																					X								X	
16. Outcome – Students can make their networks secure.				X	X									X																					X								X	
17. Outcome – Student understands the threats to data and the need for data backups.			X	X	X																														X								X	
18. Outcome – Student can explain how to backup and restore data on their computers.			X	X	X																														X								X	
19. Outcome – Student understands how to destroy data permanently.			X	X	X									X																					X								X	