



# **ILLINOIS VALLEY COMMUNITY COLLEGE**

## **COURSE OUTLINE**

**DIVISION: Workforce Development**

**COURSE: CSC 2202 Cybersecurity Scripting**

Date: Fall 2021

Credit Hours: 3

Prerequisite(s): CSO 2200, CSN 1225

Delivery Method:

<input checked="" type="checkbox"/> Lecture	2 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
<input checked="" type="checkbox"/> Lab	2 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	
<input checked="" type="checkbox"/> VCM	

Offered:  Fall    Spring    Summer

### **CATALOG DESCRIPTION and IAI NUMBER (if applicable):**

This course teaches students the basics of the Python Programming Language to understand script writing and how it is used in Cybersecurity. The students will learn the fundamentals of Python and write Python scripts demonstrating how it is used throughout the cybersecurity field.

## ACCREDITATION STATEMENTS AND COURSE NOTES:

None

## COURSE TOPICS AND CONTENT REQUIREMENTS:

1. Overview of the Python programming language
2. Fundamentals of Python
3. Automating tasks with Python
4. Analyzing files with Python
5. Search methods using Python
6. How Python is used in Cybersecurity

## INSTRUCTIONAL METHODS:

1. Lecture
2. Discussion
3. Video
4. Readings
5. Projects

## EVALUATION OF STUDENT ACHIEVEMENT:

Students must:

1. Participate in class discussions or demonstrate by work completed the recorded videos of class were reviewed
2. Complete readings, assignments, quizzes, exams, presentations, and other assignments given at the instructor's discretion
3. Ask questions about any misunderstood area either in class, during office hours, or of the tutor.

A = 90 – 100

B = 80 – 89

C = 70 – 79

D = 60 – 69

F = 0 – 59

## INSTRUCTIONAL MATERIALS:

### Textbooks

Textbooks used in Cybersecurity Scripting are at the discretion of full-time faculty.

Part-time faculty members are to use the textbook designated for Cybersecurity Scripting by the Program Coordinator for Cybersecurity and the Dean of Workforce Development.

### Resources

- Automate the Boring Stuff
- zyBooks – Python Programming
- Hacking with Python

Computer Applications:

1. Python
2. Web Browser:
  - a. zyBooks
3. Online Course Management Software
4. IVCC email account

Other:

1. Audio/video resources

## **LEARNING OUTCOMES AND GOALS:**

### **Institutional Learning Outcomes**

- ILO 1: Communication – to communicate effectively;
- ILO 2: Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- ILO 3: Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
- ILO 4: Responsibility – to recognize how personal choices affect self and society.

### **Course Outcomes and Competencies**

**Outcome 1:** Upon completion of the course, the student will learn to install a Python IDE and write simple scripts.

Competency 1.1: The student will learn about the basics of the Python language and when it should be used.

Competency 1.2: The student will write programs using Python

**Outcome 2:** Upon completion of the course, the student will be able to write scripts that can be used in cybersecurity

Competency 2.1: The student will write Python programs to script to create a simple keylogger

Competency 2.2: The student will write Python programs to demonstrate cryptography and brute force passwords

**Outcome 3:** Upon completion of the course, the student will be able to write scripts for automation in networking and cybersecurity

Competency 3.1: The student will write scripts to automate file changes

Competency 3.2: The student will write scripts to parse through log files

**Outcome 4:** Upon completion of the course, the student will write scripts analyze data.

Competency 4.1: The student will write scripts to demonstrate search data

Competency 4.2: The student will write scripts to plot data