ATLANTIC CAPE COMMUNITY COLLEGE
Information Systems and Aviation Studies Department
SYLLABUS

COURSE TITLE:
CISM148 Problem Solving Using Scripting

COURSE DESCRIPTION:

Presents students with concepts and techniques for solving problems using a scripting language, a query language, and basic hypertext markup language. Covers data types, control structures, input/output, graphical user interface, and data access and exploration. Introduces students to application development using an integrated development environment.

PREREQUISITE:
Prerequisites: CISM125 Introduction to computers

ADA STATEMENT:

As per the Americans with Disabilities Act (ADA), reasonable accommodations can be provided to students who present current documentation (within five years) of a disability to Atlantic Cape Community College's Center for Accessibility, located on the first floor of "J" Building in the Counseling and Support Services department (Mays Landing campus). Reasonable accommodations cannot be provided for a course until the student registers with the Center for Accessibility. For more information, please contact the Center for Accessibility via email at cfa@atlantic.eduor call 609-343-5680.

STUDENT LEARNING GOALS:

Students will
1. Understand imperative programming
2. Learn Python data types
3. Explore text data, files, and exception handling
4. Learn control structures
5. Explore containers and randomness
6. Understand namespaces
7. Understand concepts of object-oriented programming
8. Explore graphical user interfaces
9. Understand recursion
10. Learn web search and data and database processing

STUDENT LEARNING OUTCOMES:

Students will be able to:

- Analyze the computing requirements for a given problem description.
- Identify the resources, key components, and algorithms required to solve a given problem.
- Design and implement a process, component, or program from a given specification.
- Evaluate a process, component, or program to assess its conformance ta given specification.
- Write technical documentation of a process, component, or program.
- Research online resources to learn and utilize new techniques, skills, and tools.

STUDENT LEARNING OBJECTIVES:

- Construct algebraic and Boolean Python expressions and assignment statements
- Construct Python expressions and statements involving strings and Python string operators
- Construct Python expressions and statements involving lists/tuples and Python list/tuples operators and methods
- Use objects and classes
- Utilize standard library
- Execute control structures
- Implement user-defined functions
- Pass arguments to functions
- Format output
- Process files
- Explain errors
- Use if statements
- Use for and while loops
- Process two-dimensional lists
- Utilize dictionaries and sets
- Use appropriate random module functions to construct functions that implement the solution to the problem
- Explain namespaces
- Define a class
- Develop classes using inheritance
- Develop classes with overloaded operators
- Design GUI
- Develop simple recursive functions
- Develop Python programs that access resources on the web and/or process HTML documents using a user-defined HTMLParser class
- Compose basic SQL queries
- Develop Python programs that access a database file and make SQL queries

- Research online resources to learn and utilize new techniques

ASSESSMENT STRATEGIES:

Student Learning Outcomes	Assessment Strategies
Demonstrate foundational computing and mathematical knowledge.	Programming Assignments; Examination
Analyze the computing requirements for a given problem description.	Programming Assignments
Design and implement a process, component, or program from a given specification.	Programming Assignment; Examination
Evaluate a process, component, or program to assess its conformance to given specification.	Programming Assignment
Write technical documentation of a process, component, or program.	Programming Assignment
Research online resources to learn and utilize new techniques, skills, and tools.	Assignment

TEXTBOOK AND MATERIALS: Text and References:

Introduction to Computing Using Python: An Application Development Focus
 (2nd Edition) Percovic
978-1-118-89094-3

Course Evaluation
Quizzes – 20%
Tests – 30%
Programming Assignments – 30%
Lab Assignments – 20%

Grading Schematic

Grade	Percentage Range	Grade Point Value
A	93-100%	4.0
A-	90-92%	3.7
B+	87-89%	3.3
B	83-86%	3.0
B-	80-82%	2.7
C+	77-79%	2.3
C	70-76%	2.0
D	60-69%	1.0
F	0-59%	0.0

Course Schedule

Week	Topic	Chapter Readings	Exams
1	Course Overview, Introduction to Computing	Chapter 1	
2	Python Data Types	Chapter 2	
3	Python Modules, Functions, Variables	Chapter 3	
4	File handling	Chapter 4	
5	Execution Control	Chapter 5	Exam 1
6	Dictionaries, lists, tuples	Chapter 6	
7	Namespaces & Object-Oriented Programming Chapters	Chapter 7 and 8	
8	Object-Oriented Programming	Chapter 8	
9	Graphical User Interface	Chapter 9	
10	Graphical User Interface	Chapter 9	Exam 2
11	Web and search	Chapter 11	
12	Web and search	Chapter 11	
13	Databases and Data processing	Chapter 12	
14	Databases and Data processing	Chapter 12	
15	Final Project		
16	Final Project due		Exam 3