

Spokane Community College

COURSE LEARNING OUTCOMES (CLO) AND OUTLINE

Course Title: Programming Principles I

Prefix and Course Number: CIS 282

Version Date: 1/24/2022

Course Learning Outcomes

By the end of this course, a student should be able to:

1. Understand object-oriented terminology
2. Approach, plan for and solve a problem using object-oriented techniques
3. Use abstract data types
4. Store and retrieve data from files
5. Write simple to complex console-based applications

Course Outline:

- I. Review of object-oriented Languages and Tools
 - A. Kotlin
 - B. Installation of Kotlin IDE's and associated libraries and SDK's
- II. Object Oriented Programming
 - A. Basic Data types
 - B. Classes
 - C. Properties
 - D. Methods
 - E. Public vs Private
- III. Selection Structures
- IV. Looping Structures
- V. Arrays and Hashes
 - A. Creation
 - B. Initialization
 - C. Traversal
 - D. Searching
 - E. Sorting
 - F. Array of objects
- VI. File I/O
 - A. Opening/Closing Files
 - B. Reading/Writing to files
 - C. Using files for storage of program components
 - D. Directory/File manipulation
- VII. Regular expressions
 - A. Creating regular expression search patterns
 - B. Learning to read existing patterns
 - C. Using patterns for adding searching capabilities to applications
- VIII. Creating and using Classes to hold objects and methods
 - A. Encapsulation
 - B. Inheritance