# SECTION HEADING

## CSCI 2255: Java Programming II

### Description

Java Programming II is an intermediate to advanced study of Java as an object oriented programming language. Concepts include abstract data type with a Class, constructors, overloaded constructors, instance variable, final, superclasses, subclasses, inheritance, String class, constructors and methods, StringBuffer class, constructors and methods, Graphic Objects, Swing Components, Event Handling, Layout Managers, Exception Handling, Multithreading, Files and Streams.

### Credits

4

### Prerequisite

CSCI 2250

### Topics to be Covered

1. Classes and Objects

2. Object-Oriented Programming: Inheritance

3. Object-Oriented Programming: Polymorphism

4. Exception Handling

5. String, Characters and Regular Expressions

6. Recursion

7. Searching, Sorting and Big O

8. Customer Generic Data Structures; ArrayList, Singley Linked Lists, Class ListNode, ListTest, Stacks, Queues, Trees

### Learning Outcomes

1. Create Enum data types and employ pointers and structures in program designs.

2. Implement and use successfully in coding superclasses and subclasses with inheritance hierarchy. Protected variables and private instance variables.

3. Demonstrate polymorphism coding, abstract classes and methods, final methods and classes.

4. Describe and successfully use in coding Exception handling.

5. Describe and use successfully in coding strings, characters and regular expressions.

6. Use successfully in coding generic lists and collection methods.

7. Explain through successful coding recursion concepts and compare examples of Fibonacci Series and Towers of Hanoi.

8. Include successfully in coding projects algorithms of linear search, Big O notation, binary.

9. Include successfully in coding projects sorting algorithms of selection, insertion and merge sort.

10. Manipulate generic data structures successfully in coding linked lists, stacks queues and trees.

### Credit Details

Lecture: 4

Lab: 0

OJT: 0