

1. Course Number and Name:

CSET 1200 Object Oriented Programming and Data Structures

2. Credits and Contact hours:

Credits: 3 hours, Contact: 3 lecture hours

3. Instructor's or course coordinator's name:

Jared Oluoch

4. Text book, title, author, and year:

Introduction to Java Programming, 10th Edition, Daniel Liang, 2014

a. Other supplemental materials:

None

5. Specific Course Information:

a. Brief description of the content of the course (catalog description):

Introduction to Windows-based programming for engineering technology applications. Topics include Windows Application Program Interface (API), message processing, Windows Procedures, using Windows resources, modal and modeless dialog boxes and the graphics device interface.

b. Pre-requisites, or co-requisites:

CSET 1100

6. Specific goals for the course:

a. Specific outcomes of instruction:

1. Understand the OO Programming concept
2. be able to build Java OO classes using appropriate design principles
3. be able to write Java programs that properly use inheritance polymorphism, abstract classes, exception handling and template classes and functions
4. Be able to compare and contrast these basic data structures: linked lists, stacks, queues, tree.
5. Be able to write classes implementing these data structures.

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course: b, c, i, j

- B. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
- C. An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs and to apply design and development principles in the construction of software systems of varying complexity.
- I. An ability to select and apply current techniques, skills, and tools necessary for computing practice.
- J. An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.

7. Brief list of topics to be covered:

1. Introduction
2. Decision, looping, function, array
3. Events
4. String class
5. File operations
6. Classes
7. Inheritance, Polymorphism and Virtual
8. Exceptions
9. Template
10. List, stack and queue
11. Binary trees