

Based on ABET ETAC Student Learning Outcomes

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: a, d, f, l, o

- A. An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities.
- D. An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives complexity.
- F. An ability to identify, analyze, and solve broadly-defined engineering technology problems.
- L. The application of electric circuits, computer programming, associated software applications, analog and digital electronics, microcomputers, operating systems, local area networks, and engineering standards to the building, testing,

operation, and maintenance of computer systems and associated software systems.
O. The ability to apply project management techniques to computer systems.

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