Based on ABET CAC 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, 12th Edition, Daniel Liang, 2019
   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: 1, 2, 4**
      1. An ability to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.;
      2. An ability to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline;
      4. An ability to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

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