Great Zimbabwe University

Faculty of Agriculture and Natural Sciemce

Course Outline:

Department of Mathematics and Computer Science

Subject Area: Computer Science

Course Name: Object Oriented Programming 2 (Java)

Course Code: HCSM 411

Campus: GZU Main Campus

Semester 2, 2012

Contact Details for Instructors:

Lecturer: Mr. C. Manjeese	**Teaching Assistant:**
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Course Synopsis

1. 1. **Basic Elements of Java**
    - Symbolic, Identifiers, Data Types, Operators, Expressions
    - Input and Output
    - Class String
    - Creating a Java Application Program

2. **Control Structures**
    - Relational Operators
    - Logical operators and Expressions
    - Selection (I) If …….else
      (II) Switch Structure
    - Repetition (1) While loop
      (2) For loop
      (3) do.. while loop

3. **Classes**
    - Constructors and Finalizers
    - Variable Declaration and Object Instantiation
    - Methods and Classes
    - Accessor and Mututor Methods

4. **Graphical User Interfaces**
    - Creating a Window, JFrame,
    - JLabel, JTextField, JButton

5. **Arrays**
    - One Dimensional Arrays
    - Two Dimensional Arrays
    - List Processing : Searching, Sorting
    - Class Vector

6. **Inheritance and Polymorphism**
    - Inheritance
    - Polymorphism
    - Interfaces
    - Composition

7. **Handling Exceptions and Events**
    - try/catch/finally block
    - java Exception classes
    - Throwing and Rethrowing an Exception
    - Exception handling techniques
    - Creating your own Exception classes

8. **Advanced GUI and Graphics**
    - Applets – class font, class color, class Graphics
    - Additional GUI Components
    - JTextArea, JCheckBox, JRadioButton, JList
    - Menus
    - Key and Mouse Events

Objectives

This course introduces the student to object oriented programming using the Java programming language.

Teaching and Learning Methods

1. Giving notes
2. Giving tests, exercises and assignments
3. Presentations
4. Group discussions

Assessment

Assessment	Course work mark
Two tests and two assignments	30%

Recommended Texts and Reading Materials

Materials covered in the course are dealt with in most Introduction to Computers texts:

However, the following are the generally recommended texts available in the library:

1. Malik, D.S., Java Programming: From Problem Analysis to Program Design, 2ND Edition, Thomson Course Technology

Course Prerequisites

Object oriented programming 1