Objectives:
1. To introduce student’s basic concepts of object oriented language.
2. To become familiar with the three phases of the software life cycle.
3. To understand compilation, execution, and interpretation of Java program.
4. To understand the basic data structures such as syntax, semantic, and identifier.

Reading Assignment:
1. Nell/Chip/Mark, Chapter 1 and 2.

Concepts:
1. Discuss Class Syllabus
2. Programming Life Cycle Phases
3. Basic Programming Terminologies
4. Java Program Translation and Execution
5. Data and Control Structures Overview
1. Discuss Class Syllabus
   - Course expectations and expected outcomes.
   - Keys to success.
   - Methods of Instruction.
   - Grading, Cheating, and Late Assignment policies.
   - Materials and Resources – Textbooks, Online resources, Course website, discussion forums, Computer lab, etc.

2. Programming Life Cycle Phases
   - Problem Solving and Design Phase.
   - Implementation Phase – Programming.
   - Implementation Phase – Testing, Debugging and Documentation.
   - Maintenance Phase.

3. Basic Programming Terminologies
   - Object – What is an object? and its role in Java programming.
   - Algorithm - Give e.g. of Algorithm that determines total cost of list of items.
   - Program – Show a sample of Java program, “Hello World’.
   - Programming Languages – Machine, Assembly, and High-level languages
   - Code – What is a code?
   - Compilation and Linking – Compilation Framework overview
   - Classes – Demonstrate an example of Class “Time” program.

4. Java Program Translation and Execution
   - Structure of Java Program.
   - Overview of Java Virtual Machine (JVM) Interpreter and Java Compiler.
   - Java Runtime Framework - Java compilation and execution process.
   - Show an example of running a sample Java program, “Hello World”.

5. Data and Control Structures Overview
   - Basic Control Structures – Sequence, Selection, Loop, Subprogram.
   - Definition, explanation, and an example of Data Type.
   - Syntax and Semantics role in Java programs.
   - Java Identifiers - What is Java Identifier?, Java reserved words, Java Identifiers in Backus-Naur Form (BNF).
   - Writing a Java Program.
CS 115
Week 1: Lab

- No Lab assigned this week.