Course Objective and Outcome Form
Department of Electrical and Computer Engineering
School of Engineering and Physical Sciences
North South University, Bashundhara, Dhaka-1229, Bangladesh

1. **Course Number and Title:** CSE 215 Programming Language II
2. **Number of Credits:** 3
3. **Type:** Core
4. **Prerequisites:** CSE 115 (Programming Language I), CSE 173 (Discrete Mathematics)
5. **Contact Hours:** 3 hours (theory)
6. **Course Summary:** This course introduces the basic concepts and techniques of object oriented programming. Actual computer programs are constructed by apply object oriented programming concepts and using an OOP language. Java is primarily chosen as the programming language in this course. The following topics are covered in this course: Java syntax with elementary programming, primitive data types, strings, operators, statements, arrays and methods, introduction to OOP, classes and objects, constructor, polymorphism, abstract classes and interfaces, file IO operations, handling exceptions in Java, GUI, multithreading, generics and related concepts

7. **Course Objectives:** The objectives of this course are to
    a. to become use to the basics of elementary programming such as variables, conditional and iterative execution, arrays and methods in Java;
    b. to understand the attributes of object oriented programming (encapsulation, polymorphism, etc.) and concepts of OOP such as method overloading, method overriding, static and dynamic binding, abstract class, interface, visibility modifiers;
    c. to design a programming solution using the object oriented programming concept, and apply the concepts of exception handling, graphical user interface (GUI), event-driven programming, multi-threaded programming, generics in Java;
    d. to introduce Java SDK and Java IDE tools to develop Java applications with debugging;
    e. to work in a project team to support as a team member to develop applications.

8. **Syllabus**
    1. **Fundamentals of Programming (6 Lectures) - Mostly From Liang's Book**
        - **I.** Introduction of Java
        - **II.** Elementary Programming
        - **III.** Selection Structures
        - **IV.** Loops
        - **V.** Methods
        - **VI.** Single and Multi-Dimensional Arrays

    2. **Object Oriented Programming (12 Lectures) - Mostly from Herbert Schildt's Book**
        - **I.** Introducing Classes
        - **II.** A Closer look at Methods and Classes
        - **III.** Inheritance
        - **IV.** Abstract Classes, Packages and Interfaces
        - **V.** Exception Handling

3. **Additional Topics (6 Lectures) - (Mostly from Herbert Schildt's Book)**
   - **I.** Multithreaded Programming
   - **II.** Generics
   - **III.** Event Driven Programming
   - **IV.** Applets

9. **Resources**

Text books:

No	Name of Author(s)	Year of Publication	Title of Book	Edition	Publisher's Name	ISBN
1	Herbert Schildt	2018	Java The Complete Reference	11th.	Oracle Press	9781260440249
2	Y. Daniel Liang	2015	Intro to Java Programming,	10th.	Pearson	9780133761313

Reference books:

No	Name of Author(s)	Year of Publication	Title of Book	Edition	Publisher's Name	ISBN
1	Deitel and Deitel	2017	Java How to Program	11th	Pearson	978-0134743356

10. **Weightage Distribution among Assessment Tools**

Assessment Tools	**Weightage (%)**
Quizzes and Class Performance	30
Midterm	30
Final Exam	40

11. **Grading policy:** As per NSU grading policy available in

http://www.northsouth.edu/academic/grading-policy.html