Department of Electrical and Computer Engineering
CSE 215: Programming Language II
Sec – 9
Course Outline – Spring 2025

Instructor: Silvia Ahmed
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Office Hour:

ST, MW	**4:20 AM – 5:50 PM**

Credit: 3 Credit Hours

Course Outline:

This course introduces the basic concepts and techniques of object-oriented programming. Actual computer programs are constructed by applying 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.

Tentative Marks Distribution:

Attendance	5%
Homework	15%
Quizzes	20%
Mid Term	25%
Final Exam (comprehensive)	35%

Text Book:

1. **"Introduction to JAVA programming", Y. Daniel Liang, 10th Edition, Pearson.**

Reference Materials:

1. "Java: The Complete Reference", Herbert Schildt.
2. জাভা প্রোগ্রামিং - আ ন ম বজলুর রহমান
3. Java Standard Documentation: https://docs.oracle.com/javase/tutorial/tutorial-LearningPaths.html

4. Eclipse IDE: https://www.eclipse.org/

Course Objectives:

The objectives of this course are

a. to become familiar 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.

Course Outcomes:

Upon Successful completion of this course, students will be able to:

Sl.	**CO Description**	**Weightage (%)**
CO1	apply the basics of elementary programming such as variables, conditional and iterative execution, arrays and methods in Java;	10%
CO2	apply 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;	30%
CO3	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;	30%
CO4	use Java SDK and Java IDE tools to develop Java applications with debugging;	25%
CO5	support as a team member to develop applications as a project team;	5%

General Guidelines:

1. The recommended reading part and the pre-recorded video lectures should be read and viewed as much as possible before the corresponding live lecture takes place.
2. Attentive attendance in classes is mandatory.
3. Distracting others in class is violating others rights to be attentive. Therefore, your mic and camera need to be turned off during online classes unless instructed by your teacher. You should also use the chat window responsibly.
4. **No make-up exams** will take place for missed quizzes and mid-term. If you miss a quiz, you will get zero for that.
5. You should maintain the deadline of the assignments and offline quizzes. There will be a penalty of **20% for delay submission under 24 hours** and **50% penalty for delay under 48 hours**. Any **more delay** will result in **100% penalty** for that submission.
6. **Final exam** will be **comprehensive**.
7. Any means of unauthorised assistance in preparing materials which a student submits as original work is deemed to be cheating and constitutes grounds for disciplinary action. Serious instances may be referred to the Disciplinary Committee in the Office of the Vice Chancellor.

Grading Policy:

As per NSU grading policy available in http://www.northsouth.edu/academic/grading-policy.html

Tentative Schedule

Lec No	Topic	Recommended reading	Exams
1	Introduction to Computers, Programs, and Java	Ch – 1	
2	Elementary Programming	Ch – 2	
3	Selections	Ch – 3	
4	Loops	Ch – 5	
5	Methods	Ch – 6	
6	Arrays	Ch – 7, 8	Quiz 1
7	Arrays (contd.)		
8	Objects and Classes	Ch – 9	
9	Object Oriented Thinking	Ch – 10	
10	OOP Concepts (contd.)		
11	Inheritance	Ch – 11	
12	Polymorphism		
13	*Reserve class for reviewing*		Quiz 2
14	***Midterm (Ch 1 -11)***		
15	Abstract Classes	Ch – 13	
16	Interfaces		
17	Use of Abstract class and Interfaces		
18	Exception Handling	Ch – 12	
19	Exception Handling (Contd.)		
20	Text I/O and Binary I/O	Ch – 12, 17	Quiz 3
21	Generics	Ch – 19	
22	Multithreading and Parallel Programming	Ch – 30	
23	*(Open Topics)*		Quiz 4

24	*Reserve class for reviewing*		