ITEM	DETAILS	
1. Title of subject	OBJECT ORIENTED PROGRAMMING WITH JAVA	
2. Subject code	STC202	
3. Status of subject	Core	
4. Stage	Year 2	
5. Credit Hour	4	
6. Pre-Requisite	STC 103 Structured Programming	
7. Assessment	**40% Coursework** Test 1 – 10% Test 2 – 10% Assignments – 20% **60% Examination**	
8. Semester	Semester 1	
9. Objective of subject	To enable students to: Understand the importance of JAVA principles. To provide a good and effective design application using the JAVA structure.	
10. Synopsis of subject	Introduction to the course; Background and history of JAVA language and its main paradigms; Compiling environment, books, references; Differences between JAVA and C++ (optional); Fundamental programming structures in JAVA; Classes and Objects in JAVA; JAVA object design and programming; JAVA special OO features.	
11. Details of subject	**Contents**	**Hours**
Week 1 and 2	**Topic:** **Introduction to the JAVA language** • Introduction • History of Java • Basic of a Typical Java Environment • A first program in Java • Memory Concepts	8

	Learning Outcomes: At the end of the lessons, students will be able to: Understand the basic concepts of JAVA.	
	Further reading for this lesson: Deitel & Deitel. (2002). Java: How To Program. Chapter 1, 2.	
Week 3 and 4	**Topic:** **Control Structures** • Algorithm • Pseudocode • Control Structures • Selection Structure • Repetition Structure • Multiple-Selection Structure	8
	Learning Outcomes: At the end of the lessons, students will be able to: Comprehend the usage of algorithm and control structures.	
	Further reading for this lesson: Deitel & Deitel. (2002). Java: How To Program. Chapter 3, 4 and 5.	
Week 5	**Topic:** • Primitive Data Types • Statements • Operators	4
	Learning Outcomes: At the end of the lessons, students will be able to: Understand the different data types and how to use statements and operators in programs.	
	Further reading for this lesson: Deitel & Deitel. (2002). Java: How To Program. Chapter 5.	
Week 6	**Topic:** **Methods** • Methods Definition • Math Class Methods • Argument Promotion	4
	Learning Outcomes: At the end of the lessons, students will be able to: Demostrate the understanding of methods and math class in Java program.	
	Further reading for this lesson: Deitel & Deitel. (2002). Java: How To Program. Chapter 6.	

Week 7	**Topic:** • Duration of Identifiers • Scope Rules • Method Overloading	
	Learning Outcomes: At the end of the lessons, students will be able to: Understand the java concept Method overloading and the usage of identifiers.	
	Further reading for this lesson: Deitel & Deitel. (2002). Java: How To Program. Chapter 6.	
Week 8 and Week 9	**Topic:** **Arrays** • Declaring and Allocating Arrays • Examples using Arrays • References and References Parameters • Passing Arrays to Methods • Multiple-Subscripted Arrays	8
	Learning Outcomes: At the end of the lessons, students will be able to: Understand the Arrays and different types of Arrays, how to pass arrays into methods.	
	Further reading for this lesson: Deitel & Deitel. (2002). Chapter 7.	
Week 10 and Week 11	**Topic:** **Object-Oriented Programming (Part I)** • Classes • Objects • Constructors • Class Scope • Controlling Access to Members • Creating Packages • Using Overloading Constructors	12
	Learning Outcomes: At the end of the lessons students will able to: Understand about the usage of Classes, objects and packages.	
	Further reading for this lesson: Deitel & Deitel (2002). Java: How To Program. Chapter 8.	
Week 12	**Topic:** • The “this” Reference • Finalizer • Static Class Members • Data Abstraction and Encapsulation • Garbage collection	4

	Learning Outcomes: At the end of the lessons, students will be able to: Comprehend the OOP concepts data abstraction and encapsulation.	
	Further reading for this lesson: Deitel & Deitel. (2002). Java: How To Program. Chapter 8.	
Week 13 and Week 14	**Topic:** **Object-Oriented Programming (Part II)** • Superclasses and Subclasses • Protected Members • Inheritance • Polymorphism • Abstract Classes	8
	Learning Outcomes: At the end of the lessons, students will be able to: Understand the concepts like inheritance, polymorphism, and usage of superclasses and subclasses.	
	Further reading for this lesson: Deitel & Deitel. (2002). Java: How To Program. Chapter 9 and 10	
	Total	56

12. Text	**Compulsory**	1. Deitel, H. M., & Deitel, P. J. (2002). *Java: How To Program* (5th ed.). Prentice Hall.
	Reference	Heller, P., & Roberts, S. (2005*). Complete Java 2 Certification Study Guide* (5th ed.). Sybex.