**Session 1: Introduction to OOP and Basic JAVA programming.**

**Intended Learning Outcome:**a. Learn about basic syntax of JAVA and get Idea on JVM.  
b. Appreciate the concept of OOP and can realize its importance.   
c. Apply OOP general concept to model to real life scenarios.

real life scenariosc. Can do program with java

**Expected skills:**a. Java Beginner b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Basic Java ( Hello world print, perform calculation, do scan, use main method)**

**2. Little discussion about OOP( just let students know what is it? Why it used? and How work with it?)**

**Post Lab Exercise:**

**Further Readings:**

**1. Brief ideas on Java. (** <http://www.javatpoint.com/java-tutorial> **)**

**2. OOP concept(** <http://www.javatpoint.com/java-oops-concepts> **)**

**2. UML Model. (** <http://creately.com/blog/diagrams/uml-diagram-types-examples/> **)**

**Session 2: Session Title  
Intended Learning Outcome:**a. Can write java program.

b. Have Brief idea on OOP.

c. Problem Solving ability with java language.

**Expected skills:**a. Can do java programming b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. OOP concept(in detail)**

**2. UML Model**

**3. Encapsulation**

**Post Lab Exercise:**

**Further Readings:**

**1. Class & Objects (** <http://www.javatpoint.com/object-and-class-in-java> **)**

**2. Method (** <https://www.tutorialspoint.com/java/java_methods.htm> **)**

**3. Constructor(** <http://www.javatpoint.com/constructor> **)**

**Session 3: Session Title  
Intended Learning Outcome:**a. Create Class & Use Objects

**Expected skills:**a. OOP newbie b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Class & Object**

**2. Method & Constructor**

**3. Access Modifier**

**4. this keyword**

**Post Lab Exercise:**

**Further Readings:**

**1.**

**Session 4: Session Title  
Intended Learning Outcome:**a. …

**Expected skills:**a. …. b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Inheritance**

**2. Method Overloading**

**3. Method Overriding**

**4. Array in JAVA**

**5. super keyword**  
**Post Lab Exercise:**

**Further Readings:**

**Session 5: Session Title  
Intended Learning Outcome:**a. …

**Expected skills:**a. OOP newbie b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Polymorphism**

**2. Abstract Class**

**3. JAVA String**  
**Post Lab Exercise:**

**Further Readings:**

**1.**

**Session 6: Session Title  
Intended Learning Outcome:**a. …

**Expected skills:**a. OOP newbie b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Polymorphism**

**2. OOP review( from first lab to 5th lab)**

**3. Recursion using JAVA**  
**Post Lab Exercise:**

**Further Readings:**

**1.**

**Session 7: Session Title  
Intended Learning Outcome:**a. …

**Expected skills:**a. OOP newbie b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Exception Handling**

**2. Java IO( FILE, …. , …. )**  
**Post Lab Exercise:**

**Further Readings:**

**1.**

**Session 8: Session Title  
Intended Learning Outcome:**a. …

**Expected skills:**a. OOP newbie b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Multithreading**

**2. Data Base( intro with database using cmp)**

**2. Exercise**  
**Post Lab Exercise:**

**Further Readings:**

**1.**

**Session 9: Session Title  
Intended Learning Outcome:**a. …

**Expected skills:**a. OOP newbie b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Database**

**2. Swing**  
**Post Lab Exercise:**

**Further Readings:**

**1.**

**Session 10: Session Title  
Intended Learning Outcome:**a. …

**Expected skills:**a. OOP newbie b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Networking**

**2. Swing**  
**Post Lab Exercise:**

**Further Readings:**

**1.**

**Session 11: Session Title  
Intended Learning Outcome:**a. …

**Expected skills:**a. OOP newbie b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Swing**

**2. Applet**  
**Post Lab Exercise:**

**Further Readings:**

**1.**

**Session 12: Session Title  
Intended Learning Outcome:**a. …

**Expected skills:**a. OOP performer b.  
  
**Tools Required:**a. JVM b. ECLIPSE / NETBEANS  
  
**Session Detail:**

**1. Collection**

**2. Generics**

**3.**    
**Post Lab Exercise:**

**Further Readings:**

**1.**