**Suggested by ChatGPT (after prompts)**

**Updated Course Structure: Java Fundamentals with BlueJ (11 Weeks)**

**Week 1: Introduction to Java & BlueJ**

* **Topics:**
  + What is Java? What is BlueJ?
  + Writing your first program: HelloWorld
  + Basic output and structure of a class
* **Lab:** Simple output programs, using BlueJ’s code pad and object bench

**Week 2: Variables and Data Types**

* **Topics:**
  + Primitive types: int, double, boolean, char
  + Variables and expressions
* **Lab:** Build a simple calculator or temperature converter

**Week 3: Input and Expressions**

* **Topics:**
  + Using Scanner for user input
  + Arithmetic and logic expressions
* **Lab:** Interactive input programs with calculations

**Week 4: Control Flow I – Selection**

* **Topics:**
  + if, if-else, if-else if
  + Relational and logical operators
* **Lab:** Grade calculator, or program with multiple conditions

**Week 5: Control Flow II – Loops**

* **Topics:**
  + while and for loops
  + Counters, accumulators
* **Lab:** Factorials, repeated prompts, or basic number games

**Week 6: Arrays**

* **Topics:**
  + Declaring, initializing, and iterating over arrays
  + Looping through arrays using for
* **Lab:** Average marks calculator, finding min/max values, or reversing arrays

**Week 7: Methods**

* **Topics:**
  + Defining methods with parameters and return values
  + Method overloading and decomposition
* **Lab:** Modularizing array operations using helper methods

**Week 8: Introduction to Classes & Objects**

* **Topics:**
  + Defining a class with fields, methods, and constructors
  + Creating objects and using the object bench
* **Lab:** Person, Book, or BankAccount class

**Week 9: Encapsulation and Interaction**

* **Topics:**
  + private fields, getters and setters
  + Objects interacting with other objects
* **Lab:** Enhance previous classes with data validation and interaction

**Week 10: Arrays of Objects**

* **Topics:**
  + Arrays storing class instances
  + Looping over and managing object collections
* **Lab:** Student record manager, basic inventory or contact list

**Week 11: Mini Project and Review**

* **Topics:**
  + Consolidation of topics: methods, arrays, classes
  + Project scaffolding, testing, and documentation
* **Lab:** Start-to-finish small project (e.g., event manager or student tracker)

**🧰 Tools and Enhancements**

* Use BlueJ's **code pad** and **object bench** heavily in early weeks
* Visualize object interaction through **UML view**
* Provide pre-built starter classes and stub methods where appropriate