Course Description

Java[tm] Programming for Non-Programmers provides first-time programmers an excellent choice for learning programming using the Java programming language. This course helps students understand the significance of the Java programming language. With this knowledge, students will develop programming skills in the areas of object orientated and Java technology. By the end of class, students will be able to create simple programs using Java technology ("Java programs") and read and edit Java technology source code.

Course Content

Module 1: Computer Principles and Components

- Logical components of a computer
- Binary arithmetic

• Creating programs: machine code, other languages, and the Java programming language.

Module 2: Software Development

- Programming paradigms
- Product development
- Software development
- Primary components of a Java technology program
- Procedural and object-oriented Java technology programs.

Module 3: The Java Technology Language Rules and Tools

- Comments, statements, codeblocks, and whitespace
- Identifiers, keywords, and reserved words
- Variables and constants
- Primitive and reference types
- Literal values
- Naming conventions.

Module 4: Simple Java Programming Constructs • if and while constructs.

Module 5: Advanced Java Programming Constructs

- for and do loops
- switch, break, and continue statements.

Module 6: Object Orientation

- Encapsulation
- Restricting data access (public and private modifiers).

Module 7: Methods

- Writing and invoking methods
- Object methods
- Static methods
- this reference
- Passing parameters
- Writing generic method
- Overloading methods.

Module 8: Arrays

- Declaring and instantiating arrays
- Initializing arrays
- Array bounds and size
- Multi-dimensional arrays
- Arrays of objects.

Module 9: Advanced Object Orientation

- Constructors
- Inheritance and the "is a" relationship
- Containment and the "has a" relationship
- Abstract classes
- Polymorphism.