

## Course Syllabus

**Course Title:** Java Programming III

**Course Description:**

Expand your Java and Object-Oriented knowledge base and take your Java programming to a higher level. Topics to be covered include: unit testing and debugging, multithreading and concurrency, advanced collections, generic programming, graphical user interfaces (Swing) and Java reflection and Type information, and other advanced topic to be decided.

**Course Prerequisite(s):**

Java Programming II or a fundamental knowledge of Java

**Course Objectives:**

Upon completion, you will:

- Be able to design and develop efficient complex Java applications
- Understand Java best-practice design and development concepts
- Have a firm foundation of all important Java concepts
- Be able to develop Java applications with a graphic user interface

**Textbook(s): OPTIONAL**

Murach's Java Programming 4th ed.  
Prentice Hall; Joel Murach  
ISBN: 978-1-890774-65-3

**Next Class Possibilities**

Introduction to Spring, Design Patterns, Agile Design with Test-Driven Development

**Instructor Notes:**

Do not purchase text before first class meeting

**Lesson Plan – by week or session**

Session 1: Unit-testing and debugging  
Session 2: Multithreading and Concurrency 1  
Session 3: Multithreading and Concurrency 2  
Session 4: Generics and Collections in depth  
Session 5: Reflection, Class class, and Type information  
Session 6: Best practice discussion, practical Java examples and exercises  
Session 7: Graphical user interfaces using Swing 1  
Session 8: Graphical user interfaces using Swing 2