Course Title: Concurrency Programming Fundamentals in Java

Course Description:
Use concurrency to exploit hardware advances for better performance.

Course Prerequisite(s):
Java Programming I and II

Course Objectives:
Demonstrate concurrency fundamentals, including thread objects, synchronization, and liveness; apply concurrency primitives in Java.

Textbook(s):
Java Threads, Third Edition
O'Reilly Media; ISBN: 0596007825

Lesson Plan – by week or session
Session 1: Introduction to Threads
  Thread Creation and Management
  Data Synchronization
Session 2: Data Synchronization, cont’d
  Thread Notification
  Minimal Synchronization Techniques
Session 3: Advanced Synchronization topics
  Threads and Swing
  Threads and Collection Classes
Session 4: Threads and Collection Classes cont’d
  Thread Scheduling
  Thread Pools
Session 5: Task Scheduling
  Threads and I/O
  Miscellaneous Thread Topics
Session 6: Miscellaneous Thread Topics cont’d
  Thread Performance
  Parallelizing Loops for Multiprocessor Machines