

### SW409 - Java For Programmers II

#### Description

A second Java programming course covering more advanced Java programming. Topics include: Using Javadoc, Exceptions, Threads, Packages, nested and inner classes with an emphasis on sound object-oriented design using design patterns, Introspection, I/O, Persistence and advanced API topics, as time permits.

Prereq: Sw408, or permission of the instructor. Offered Spring term annually

<b>Prerequisite:</b> .....	Sw 408
<b>Textbook:</b> .....	Java for Programmers, by D. Lyon
<b>E-mail</b> .....	Send me an e-mail to be added to the course list.

## Professor D. Lyon, Ph.D.,

Chairman..... Computer Engineering Department  
Co-Director ..... ECE MS Program

#### Contact Information

**Phone** .....(203)641-6293  
**Fax** .....(203)877-4187  
**E-mail:**..... lyon@DocJava.com  
**Web:** ..... http://www.DocJava.com

#### Office Hours

Monday, Tuesday..... 1:00 pm - 2:00 pm  
Wednesday ..... 5:00 pm - 6:30 pm

#### Course Offerings

CR311, Image Processing ..... Mc 203 Mon 2:00-4:30  
CR 325, Computer Graphics ..... Mc 203 Tues 2:00-4:30  
SW 409, Java Programming II..... Mc 203 Wed 6:30-9:20  
CR311 -> ECE 430  
CR324 -> ECE 440.  
ECE510, Thesis I..... By Appointment  
ECE420, Readings ..... By Appointment



#### Pre-req by Topic

1. Java, the Basic Idea
2. Primitive Data Types

3. Operators
4. Base Conversion
5. Control Structures
6. Reference Data Types
7. Static, Abstract and Final Modifiers
8. Arrays and Vectors
9. Wrapper Classes and Strings
10. Exceptions

**The following topics may be covered in SW409, time permitting:**

11. Packages, Imports and Visibility
12. Nested Classes and Interfaces
13. Threads
14. Files
15. Streams
16. Readers
17. Writers
18. Intro to Swing
19. Introducing Events
20. Design Patterns and Events
21. Viewing HTML in Swing
22. Using the Keyboard
23. Mouse Input
24. Reflection
25. Automatic Message Forwarding
26. Introduction to Drawing Shapes

**The following topics are typically covered in SW410, time permitting:**

27. Business Graphics with Color and Images
28. JDBC
29. Network Programming
30. Servlets
31. JSP
32. XML
33. More XML Techniques
34. Bean Properties
35. Introspection
36. FeatureDescriptors
37. Introduction to Enterprise Java Beans
38. EJB Container
39. Session Beans
40. Session Bean Deployment
41. Entity Beans
42. EJB Security
43. RMI

Grading:

- 1/3 Homework and Projects
- 1/3 Midterm
- 1/3 Final

References:

*The Java Class Libraries* by Chan and Lee, Addison Wesley (c) 1997. See <http://www.docjava.com> for ordering this and other books.  
Java Source Book by Ed Anuff, The John Wiley and Sons, Inc., First Edition, (c)1996.  
Course Notes, as required, available on-line at <http://www.docjava.com> or by purchase of copies.  
The Java Programming Language, Second Edition, by Ken Arnold and James Gosling,  
Publisher: Addison-Wesley, ISBN: 0-201-31006-6  
Java 1.1 Unleashed, by Morrison, ISBN 1575213613  
Core Java 2 Volume 1: Fundamentals by Cay Horstmann, Gary Cornell, ISBN: 0130819336  
Java 1.2 Developer's Handbook by Philip Heller Simon Roberts, ISBN: 0782121799  
Digital Signal Processing Recipes in Java by D. Lyon and H. Rao, M&T Books, (c) 1998.  
Image Processing in Java by D. Lyon (c) 1999.

**Goals:**

To learn how to design large-scale software systems using Java. Object orientation and packaging are stressed. Testing and coding of several projects, with a variety of modern techniques.

Assignments will be due at the beginning of class. Assignments handed in after the beginning of class will lose 5 points. Assignments handed in after the end of class will lose 10 points. Late homeworks lose 10 points per day late, weekends and holidays included. Missed tests result in a zero unless a written excuse is presented.

**Homework requirements:**

Print out a listing of the program. Print out the program input and output. You may need to do this at various levels of detail. Hand in a labeled disk with a printout. Place the disk in a #10 letter envelope and staple the envelope to the printout.

In the event that you *must* miss class, you may hand the homework in via a friend or another student. Should you find that you cannot find anyone in time, you must fax the homework in. Attachments will not be accepted.

**A message From the Dean;**

Tell the students, in no uncertain terms, that you will not try to accommodate students without the proper prerequisites, except reviewing material as needed, as a refresher to make sure that everyone is on the same page. If there are indeed students in your class without proper preparation and opt to stay in your class in spite of all your warnings, remind them again that if they end up with a C in your class they would be on probation for the following semester when they must earn an A to make up for the C. Any grade below C, i.e., D or F, means that they will be dismissed from the graduate program. If they insist on staying in spite of everything, then proceed with your class as scheduled without making concessions to these students' inadequate preparation.