

Brooklyn College
Department of Computer & Information Sciences

CISC 7124 [*709.2X] Object-Oriented Programming

37½ hours plus conference and independent work; 3 credits

Object-oriented programming concepts and techniques: data abstraction and encapsulation, classes, inheritance, overloading, polymorphism, interfaces. Introduction to and use of one or more object-oriented languages such as C++ or Smalltalk. An introduction to object-oriented design.

Syllabus

- Procedural programming in Java
- Introduction to object-oriented design and programming
- View classes as abstract data types
 - Int class
 - Rectangle class
 - Stack class
 - Queue class
- Object-oriented programming in Java (Classes, Methods, Messages, and Instances)
 - Built-in classes
 - Boolean, Character, Byte, Short, Integer, Long, Float, Double, String & StringBuffer, Vector, Hashtable
- Interfaces and Packages
- Collections
- Inheritance
- Midterm exam (BinaryTree.java | SumLines.java)
- I/O
 - Echo.java
 - CopyTextFile.java
- Graphics programming with AWT (Components & Graphic & Layout managers)
 - TestDrawString.java
 - TestImage.java
- Event handling
 - TestEvent.java
 - TestCardLayout.java
 - TestImageCards.java
- Applets
- Advanced topics
 - Network programming with sockets
 - Multithreaded programming and animation

- DigitClock.java
- Greeting1.java
- AnimatedImage.java
- PingPong.java
- ProducerConsumer.java
- Clocks.java
- JDBC and MySql
- Servlet programming

Textbook :

[The Java Tutorial: A Short Course on the Basics, 4th Edition](#)

Bibliography:

Big Java: Programming and Practice, by Cay S. Horstmann, Wiley, 2002.

A Programmer's Guide to Java (tm) Certification -- Khalid Azim Mughal, Rolf Rasmussen, 2000.

[Core Java 2, Volume I -- Fundamentals](#), by Cay S. Horstmann and Gary Cornell, Prentice Hall, 1999.

[Introduction to Programming Using Java : An Object-Oriented Approach](#), by David M. Arnow, Gerald Weiss, Addison-Wesley, 1998.

Java 2 Exam Guide, Barry Boone & William Stanek, McGraw-Hill, 2000.

[The Java Programming Language \(Java Series\)](#), by Ken Arnold, James Gosling, Addison-Wesley, 1997.

[Object-Oriented Programming with Java](#), by David J. Barnes, Prentice Hall, 2000.