New Jersey Institute of Technology

Digital Commons @ NJIT

Fall 2023

CS 602: Java Programming

Donald Hsu

Follow this and additional works at: https://digitalcommons.njit.edu/cs-syllabi

CS 602-103: Java Programming, Saturday 9:00 – 11:50 am, CKB Room 204

Instructor: **Donald Hsu, PhD,** yanyou@hotmail.com, Office: Saturday 8:30 - 9:00 am

Course Description --- Students learn how to create and deploy Java Programming. Topics are: Classes, Objects, OOP, Files Streams, Swing, Data Structures & JDBC. Hands-on exercises and programming projects are required.

Course Learning Outcomes:

After completion of the course, students will be able to:

•   Learn object-oriented programming, encapsulation, inheritance, and polymorphism

•   Create Java programs via integrated development environments

•   Understand control statements, logical operators, array and lists

•   Create files, stream, Lambda, XML serialization

•   Develop client-server application with database component

•   Write multithreaded programs with synchronization

•   Implement advanced features: networking and sockets, Java database connectivity, multi-threading, Swing & AWT, JavaFX and JShell

Textbook: Java, How to Program, Late Objects, 11th Edition, Paul Deitel and Harvey Deitel, ISBN#978-01347-91401, Pearson, Upper Saddle River, NJ (2018)

Grading: ***Attendance/active participation -- 30%, Homework -- 34%, Final Project -- 36%***

9/09/2023   Chap. 1 Introduction to Computers, the Internet and Java
Chap. 2 Java Application Input, Output, Operations
9/16   Chap. 3 Control Statement, Part I: Assignment, ++ and – Operators
Chap. 4, Control Statement, Part II: Logical Operators, assign HW#1
9/23   Chap. 5, Methods, Chap. 6. Arrays and ArrayLists
9/30   Chap. 7, Class and Objects, Chap. 8 Classes and Objects: A Deeper Look
10/07   Chap. 9, Object-Oriented Programming: Inheritance, HW#1 due
Chap. 10, Object-Oriented Programming: Polymorphism and Interface
10/14   Chap. 11, Exception Handling: A Deeper Look, assign HW#2

	Chap. 12, Java FX Graphical User Interface: Part I
10/21	Chap. 13, Java FX GUI, Part II
	Chap. 14, Strings, Characters, Regular Expressions
10/28	Chap. 15, Files, Input/Output Streams, NIO and XML Serialization
	Chap. 16, Generic Collections
11/04	Chap. 17, Lambdas and Streams, HW#2 due
	Chap. 18, Recursion, assign Final Project
11/11	Chap. 19, Searching, Sorting and Big Om
	Chap. 20, Generic Classes and Methods: A Deeper Look, assign HW#3
11/18	Chap. 21, Custom Generic Data Structure
	Chap. 22, JavaFX Graphics, Animation and Video
11/25	Chap. 23, Concurrency
	Chap. 24, Accessing Databases with JDBC
12/02	Chap. 25, JShell: Java 9 for Interactive Java, HW#3 due
12/09	Final Project Presentation
12/16	Final Project Presentation

NJIT Honor Code --- Violations of the honor code will be dealt with seriously and reported immediately to the Dean of Students.

Late Policy --- Late Homework **will not be accepted**.

Prerequisites ---- Python, C, C++ or permission of the instructor