

NEW YORK CITY COLLEGE OF TECHNOLOGY/CUNY
Computer Systems Technology Department

COURSE: CST3513 – Object-Oriented Programming in Java
(2 class hours, 2 lab hours and 3 credits)

Instructor:

Name:

Office:

Phone:

e-mail:

Office Hours:

Course Description:

This course introduces the fundamentals of object-oriented programming. Through intensive project assignments, students will master the concept and implementation of object-oriented programming which include programmer-defined data types, class inheritance and polymorphism, abstract classes and interfaces. Building upon the knowledge learned in the CST1201 Programming Fundamentals, students will implement object-oriented programming in the Java programming language. Exception handling and Binary I/O also will be introduced.

Course Objectives:

Upon successful completion of the course, students should be able to:

1. Demonstrate an understanding of basic Object-Oriented program design
2. Demonstrate an understanding of classes and objects
3. Develop applications defining classes and creating objects in Java
4. Demonstrate an understanding of the concept of inheritance
5. Develop applications using inheritance.
6. Demonstrate an understanding of the concept of polymorphism
7. Develop applications using polymorphism
8. Demonstrate an understanding of abstract classes and interfaces
9. Develop applications using abstract classes and interfaces
10. Demonstrate an understanding of exception handling and know how to use exceptions in applications
11. Develop GUI applications
12. Demonstrate an understanding of the concept of recursion

Prerequisites:

CST1201 - Programming Fundamentals

Required Materials:

Introduction to Java Programming - Comprehensive version. Y. Daniel Liang. Pearson. 10th edition. ISBN: 9780133761313

Academic Integrity Policy:

Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the College policy on Academic Integrity may be found in the catalog.

Grading Procedure:

Test1	15%
Test2	15%
Final Exam	30%
Assignments/Classwork	20%
Projects	20%
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TOTAL	100%

Letter Grade	A	A-	B+	B	B-	C+	C	D	F
Numerical Grade	93-100	90-92.9	87-89.9	83-86.9	80-82.9	77-79.9	70-76.9	60-69.9	<=59.9

Course Outline:

Week	Topics	Reading
1	Review: Control Structures	Chapters 1-5
2	Review: Methods and Arrays	Chapters 6-8
3	Objects and Classes	Chapter 9
4	Object Oriented Thinking	Chapter 10
5	Review and Test#1	Chapter 10
6	Inheritance	Chapter 11
7	Polymorphism	Chapter 11 (continued)
8	Exceptions and Text I/O	Chapter 12
9	Abstract Classes and Interfaces	Chapter 13
10	Cloneable and Comparable Interfaces	Chapter 13 (cont.)

11	Review and Test#2	
12	GUI Design: JavaFX	Chapter 14
13	Binary I/O	Chapter 17
14	Recursion	Chapter 18
15	Review and Final	

Assessment criteria:

For the successful completion of this course a student should be able to:	Evaluation methods and criteria
1. Demonstrate an understanding of basic Object-Oriented program design	Tests and quizzes
2. Demonstrate an understanding of classes and objects	Tests and quizzes
3. Develop applications defining classes and creating objects in Java	Writing programs in Java
4. Demonstrate an understanding of the concept of inheritance	Tests and quizzes
5. Develop applications using inheritance.	Writing programs in Java
6. Demonstrate an understanding of the concept of polymorphism	Tests and quizzes
7. Develop applications using polymorphism	Writing programs in Java
8. Demonstrate an understanding of abstract classes and interfaces	Tests and quizzes
9. Develop applications using abstract classes and interfaces	Writing programs in Java
10. Demonstrate an understanding of exception handling and know how to use exceptions in applications	Tests and quizzes
11. Develop GUI applications	Writing programs in Java
12. Demonstrate an understanding of the concept of recursion	Tests and quizzes

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