

## CSC 123/123A: Introduction to Computer Science and Programming II

### CSUDH Department of Computer Science

<b>Instructor</b>	W. Peter Blankenship	<b>E-Mail</b>	<a href="mailto:wpbcs123.Fall2019@gmail.com">wpbcsc123.Fall2019@gmail.com</a>
<b>Classroom</b>	On-line via Zoom	<b>Class Time</b>	Sa 12:30 PM - 4:45 PM
<b>Office</b>	On-line; appointment via email	<b>Office Hours</b>	Sa 4:45 PM - 5:15 PM;
<b>Phone</b>	(310) 812-7981	<b>Lab/Activity</b>	Sa 3:01 PM - 4:45 PM

#### General Education Objectives:

After successful completion of this course, students will enhance their skills of programming basics especially program control structures and should be able to understand concepts of object-oriented principles and their implementations in Java. Students will be provided with computational problem solving techniques based on object-oriented programming using Java, including program design with objects and classes, inheritance and polymorphisms, encapsulation and information hiding, exceptions and handling, stream I/O and file processing, interface design and implementation using AWT and Swing, event and event listeners, and recursion.

#### Course Description:

The principle concepts of object-oriented programming in Java will be discussed. Students will be provided with a thorough conceptual grounding in object-oriented programming techniques and strategies, program design with objects and classes, inheritance and polymorphism, encapsulation and information hiding, exception handling, text processing, file processing, graphical user interface design, event-driven programming, recursion, and the object-oriented paradigm.

Two and one half hours of lecture and two and half hours of activity per week will be offered; *Sat. less*

**Prerequisite:** CSC121 or consent of basic programming skills

#### Textbook:

**Starting out with JAVA™ From Control Structure through Objects**, 6<sup>th</sup> ed., by Tony Gaddis, Pearson, 2016, ISBN: 978-0-13-395705-1.

#### Course Objectives – Student Learning Outcomes:

After successful completion of course requirements, by the end of this course, the students should:

1. understand and use object-oriented programming concepts including classes, objects, inheritance, polymorphisms, and information hiding;
2. design Java programs with classes, methods, and objects;
3. identify classes and their attributes and methods from the problem description;
4. master object-oriented programming skills and strategies such as class hierarchy and class diagrams;
5. understand and use exceptions and exception handling as well as file processing;
6. understand wrapper classes and be able to develop text processing programs in Java;
7. be able to design and implement graphical user interfaces (GUI) using Java Swing and AWT;
8. master event-driven programming and develop event listeners in Java;
9. understand Applets and be able to develop online Java programs;
10. understand recursion and be able to develop recursive methods.

## Course Requirements:

- Tests:** There will be **TWO** scheduled in-class midterm tests and **ONE** final test. Tests will cover information contained in the text as well as information presented in lecture.
- Quizzes:** **TEN** in-class pop quizzes will be randomly given at the beginning of classes. Pop quizzes will be very short and simple, and each usually takes 3 to 5 minutes to write. The pop quizzes will be graded as half for participation and half for question answering. You are encouraged to do all exercises of each chapter of the textbook as your homework, although they will not be collected or graded. The quiz questions may or may not be from these exercises. Subject to change to meet the Saturday class format.
- Assignments:** **Five** individual writing assignments will be handed out evenly during the semester. These assignments (homework) will be focusing the concepts understanding.
- Projects:** **Five** individual programming projects will be scheduled through out the semester. You can work on these projects anytime and anywhere, unless otherwise instructed. Discussion with other students and the instructor is encouraged, but copying from others' work will not be acceptable.

## Pair-programming:

This course will be based on pair-programming, which means that two students will be paired as a study group during the class and laboratory. All laboratory assignments will be pair-programming projects.

## Study Advice:

- ***Practice, practice, and practice.*** Since programing/coding is a skill, like all other kinds of skills such as swimming, skating, skiing, practice is the most important approach to improve and enhance the mastery of skills. Learning by doing also means practice.
- Team learning helps students learn from each other. Peer or peer led discussions clarify your understanding about the basic concepts and problem solving approaches.
- Be well-prepared when you come to the classroom or lab room. Preview and post-review the materials that the instructor provides.
- Complete all assignments: reading and programming, homework and projects. Check your work with sample solutions posted by the instructor to find out your strength and weakness.
- Don't be shy. Communicate with the instructor in a timely manner. Keep in mind that the instructor is always ready to help you.

## Grading Policy:

The following weights will be applied to calculate your final score:

2 Midterm Exams:	20%, 10% each
10 Pop Quizzes:	10%
5 Writing Assignments:	10%, 2% each
5 Programming Projects:	10%, 2% each
1 Final exam:	50%

The score will be mapped to your course one-letter grade as follows

[94, 100] A	[90, 94) A-	
[85, 90) B+	[80, 85) B	[75, 80) B-
[70, 75) C+	[65, 70) C	[60, 65) C-
[55, 60) D+	[50, 55) D	[0, 50) F

### Tentative Class Schedule (subject to change):

We will do our best to adhere to the following schedule. If any changes are necessary, you will be notified in class and via email. You are always expected and encouraged to have read the appropriate chapters/ sections of the text before coming to class.

Week	Chapter/Topic	Assignments/Projects
1 – 2	Review of CSC 121 topics (Chapters 1 – 7 and 16.1–2)	Wk 1: Introduction and Lab work
2 – 4	Chapter 8 A Second Look at Classes and Objects	Wk 3: HW1
5	<b>Review and Midterm Exam 1</b>	
6 – 7	Chapter 9: Text Processing and More about Wrapper Classes	Wk 6: HW2
7 – 9	Chapter 10: Inheritance	Wk 8: HW3
10	<b>Review and Midterm Exam 2</b>	
11 – 12	Chapter 11: Exceptions and Advanced File I/O	Wk 11: HW4
12 – 14	Chapter 12: A First Look at GUI Applications; includes Event-Driven Programming/Models	Wk 13: HW5
14 – 15	Chapter 16 Recursion	Wk 14: HW6
16	<b>Final Exam</b>	

### AMERICANS WITH DISABILITIES ACT

*CSUDH adheres to all applicable federal, state, and local laws, regulations, and guidelines, with respect to providing reasonable accommodations for students with temporary and permanent disabilities. If you have a disability that may adversely affect your work in this class, I encourage you to register with Disabled Student Services (DSS) and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: no accommodation can be made until you register with the DSS. For information call (310) 243-3660 or to use the Telecommunications Device for the Deaf, call (310) 243-2028 or go to: <http://www4.csudh.edu/dss/>*

### COMPUTER INFORMATION LITERACY EXPECTATIONS

*It is expected that students will:*

- *Use Microsoft Word for word processing unless otherwise approved by the instructor;*
- *Be familiar with using email as a communication tool and check your official campus email account at least every other day;*
- *Be able to access websites and online course materials which may require plug-ins;*
- *Use the library databases to find articles, journals, books, databases and other materials;*
- *Be able to create an effective PowerPoint presentation;*
- *Be able to record audio (ideally video) to share with the instructor via the web; and*
- *Have regular access to a computer and internet access for the term of this course.*

## **ACADEMIC INTEGRITY**

Academic integrity is of central importance in this and every other course at CSUDH. You are obliged to consult the appropriate sections of the University Catalog and obey all rules and regulations imposed by the University relevant to its lawful missions, processes, and functions. ***All work turned in by a student for a grade must be the students' own work.*** Plagiarism and cheating (e.g. stealing or copying the work of others and turning it in as your own) will not be tolerated, and will be dealt with according to University policy. The consequences for being caught plagiarizing or cheating range from a minimum of a zero grade for the work you plagiarized or cheated on, to being dropped from the course.

## **BEHAVIORAL STANDARDS**

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. The instructor may require a student responsible for disruptive behavior to leave class pending discussion and resolution of the problem and may also report a disruptive student to the Student Affairs Office (WH A-410, 310-243-3784) for disciplinary action.

## **RESOURCES FOR STUDENTS IN NEED**

Students occasionally have financial difficulties. There are a number of resources on campus that may be available to you if you find yourself in need of food, shelter, or other help. Food pantries are located in LSU 121 and SCC 148. You can find these and other resources through *Toro Food Pantry* on ToroLink and here: <http://www4.csudh.edu/student-services/food-shelter-resources/index>