

**CMPS 370: Object Oriented Programming**  
**(3 credit hours)**

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**Note:** Please e-mail me using both e-mail accounts. This insures that I receive your message. Thanks for your cooperation and understanding.

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## **Course Objectives**

In this course, as specified in Southern University and A&M 2004-2006 Undergraduate Catalog, the Course Description section of the Department of Computer Science, we will study the fundamentals of Java object oriented programming language (OOP). The topics included are control structure, functions, arrays, abstraction and encapsulation, classes and abstract classes and objects, inheritance, polymorphism, constructors, access control and overloading, Generics, Collections, and API.

OOP is the new way of approaching the job of programming. It is the most widely employed technique for developing robust, reusable software. Students will learn the concept of algorithm design and implementation. In addition, they will write Java codes using both console or command-line and dialog box or graphical user interface styles. Finally, students will use the Netbeans Integrated Development Environment tool to write, compile, execute, and debug their Java programs

## **Prerequisite**

Student MUST earn credit in CMPS 300.

## **Required Textbook**

**Title:** Daniel Y. Liang, “Introduction to Programming with JAVA – Comprehensive Version”, 7<sup>th</sup> Edition, *Prentice-Hall*, Inc., 2009.  
ISBN-10: 0136012671  
ISBN-13: 9780136012672

## **References**

- 1) Ralph Morelli and Raplh Walde, “Java, Java, Java, Object-Oriented Programming” 3<sup>rd</sup> Edition, *Prentice-Hall*, Inc. 2006. ISBN: 0131474340
- 2) Russel Winder and Graham Robert, “Developing Java Software,” 3<sup>rd</sup> Edition. John Wiley and Sons, Ltd. 2006. ISBN: 0-470-09025-1

# Projected Course Schedule

Topic Covered
<p style="text-align: center;"><b>Chapter 1</b> <b>Introduction to Computers, Programs, and Java</b></p> <ul style="list-style-type: none"><li>- Introduction</li><li>- What is a computer?</li><li>- Programs and Operating Systems</li><li>- The Java Language Specification, API, JDK, and IDE</li><li>- A Simple Java Program</li><li>- Creating, Compiling, and Executing a Java Program</li><li>- ...</li></ul>
<p style="text-align: center;"><b>Chapter 2</b> <b>Primitive Data Types and Operations</b></p> <ul style="list-style-type: none"><li>- Identifiers and Variables</li><li>- Numeric Data Types</li><li>- Assignment Statements and Assignment Expressions</li><li>- Constants</li><li>- ...</li></ul>
<p style="text-align: center;"><b>Chapter 3</b> <b>Control Structures</b></p> <ul style="list-style-type: none"><li>- Selection Statements</li><li>- Loops</li><li>- ...</li></ul>
<p style="text-align: center;"><b>Chapter 4</b> <b>Methods</b></p> <ul style="list-style-type: none"><li>- Introduction</li><li>- Creating a Method</li><li>- Calling a Method</li><li>- Passing Parameters by Value</li><li>- ...</li></ul>
<p style="text-align: center;"><b>Chapter 5</b> <b>Arrays</b></p> <ul style="list-style-type: none"><li>- Introduction</li><li>- Array Basics</li><li>- Copying Arrays</li><li>- Passing Arrays to Methods</li><li>- ...</li></ul>
<p style="text-align: center;"><b>Chapter 6</b> <b>Objects and Classes</b></p> <ul style="list-style-type: none"><li>- Introduction</li><li>- Defining Classes for Objects</li><li>- Constructors</li><li>- Accessing Objects via Reference Variables</li><li>- ...</li></ul>

**Note:** *As this course schedule is a projection, in the event that it is not exactly followed, we (students and the instructor) will discuss in class the possibilities of adjustment of the overall schedule.*

## Evaluation Method

Attendance and Quizzes	5%
Assignments and Programming Projects	35%
Test 1	15%
Test 2 (Midterm)	15%
Final Exam	30%

## Grading Policy

### Grading Scale

90 – 100	→ A
80 – 89	→ B
70 – 79	→ C
60 – 69	→ D
<= 59	→ F

### How do you calculate your final grade in this course?

Let: D = Attendance, A = Average of all the assignments, T1 = Test #1,  
T2 = Test #2, F = Final Exam, and R = Class average

$$R = D*5\% + A*35\% + T1*15\% + T2*15\% + F*30\%$$

Example: D = 100, A = 90, T1 = 85, T2 = 70, and F = 90.

$$\begin{aligned} R &= 100*0.05 + 90*0.35 + 85*0.15 + 70*0.15 + 90*0.30 \\ &= 5 + 31.5 + 12.75 + 10.5 + 27 = 86.75. \end{aligned}$$

*Your final grade will be B. Note that it is totally the instructor's decision whether to round of the final grade. For example, 86.75 could be round of to 87. Those students who rely on the so called "curving", well I have bad news for you: DO NOT count on it in this course.*

## STUDENT ASSESSMENT METHODOLOGY

Students learning and performance in this course are evaluated based on the results obtained from:

- Attendance and Quizzes. A student whose absences record is at most four will receive hundred points. A total absence of at least five results to a grade of "F" for the student (straight "F" in this course regardless of the student's grades). Each quiz is worth 10 points but scaled to 100 for averaging. The average of all the quizzes is averaged with the attendance's points and the result is multiplied by 0.05 (5%)
- Assignments and Programming Projects worth 35% of the overall course work
- Test 1 and Test 2 worth each 15% of the course work
- Final Exam which is worth 30% of the overall course work

## STUDENT LEARNING OUTCOMES

Upon completion of this course, students should be able to:

- Demonstrate knowledge of computer's basic concepts, computer programs, history of the Java programming language
- Understand syntax and semantics of Java
- Demonstrate knowledge of Java language specification, API, JDK, and IDE
- Write Java programs, compile, execute and debug
- Demonstrate knowledge of programming style and documentation
- Use various Java programming language constructs to create Java applications
- Demonstrate knowledge of algorithms Design and Implementation
- Use control structure constructs (selection and loops) and methods to dictate program flow
- Use arrays data structures
- Implement intermediate Java technology programming and object-oriented concepts
- Use Netbeans Integrated Development Environment tool to develop a Java technology application
- Execute a Java technology application using the command line
- Read and understand fundamentals Java textbooks

In addition, students should be:

- Prepared for the next Java programming course, CMPS 371: Advanced Object-Oriented programming
- Capable of learning other programming languages, such as **C#, Java Script**, etc
- Capable of using other Integrated Development Environment tools, such **Eclipse, Borland C++**, JGrasp, BlueJ, **Microsoft Visual Studio 2005**, etc.
- Able to build teamwork and self-directed skills
- Able to demonstrate knowledge of the fundamentals Java programming for the Sun Microsystems Java Programmer Certification Exam

## RULES AND POLICY IN THIS CLASS

Although the rules and policy defined here may seem a little bit rush, they are not meant to cause any harm to you instead to protect you and to prepare you for better life and to become professionals.

- Students are not allowed to bring their family members for day care or baby sitting. The classroom is not a place for children.
- Student behavior/classroom decorum: "Free discussion, inquiry, and expression are encouraged this class." However, classroom behavior that interferes with either the instructor's ability to conduct the classroom or the ability of students to benefit from the instruction is not acceptable.
- Please turn off (or place on silence) your beepers and cellular phones before the lecture starts
- In the event of a situation where student legitimately needs to carry a beeper/cellular telephone to class, prior notice and approval of the instructor is required
- No use of electronic devices while in class unless required or approved by the instructor.
- Classroom behavior which is deemed inappropriate and cannot be resolved by the student and the faculty member may be referred to the Office of Student Life, 2<sup>nd</sup> Floor J. S. Clark Hall Annex; telephone (225) 771-5280, for administrative or disciplinary review as per the code of Students Conduct.
- As part of the academic integrity outlined in the current General Catalogue: "Students are expected to maintain the highest standards of academic integrity. Behavior that violates these standards is not acceptable. Please see the Academic Dishonesty at <http://www.cmps.subr.edu/academicdishonesty.htm>.

- Students are NOT allowed to share their assignments and to communicate during the tests or exam
- No student is allowed in the class if not officially registered in this class.
- *Late assignment will be penalized as follow after the assignment due date and time: 10% off the first day, 25% off the second day, 50% off the third day, and “Zero” after that. All the assignments will be due in class by to 9:35 AM on the specified due date.*
- No makeup test or exam will be given except in the case of emergency such as the student being sick and he/she is unable to come to class in which case an official Doctor’s excuse MUST be presented to the instructor. The student concerned is required to take the make up test/exam no later than two lectures or class periods after he/she returns to class. Failure to comply will result in the grade of zero (0) for the test/exam.
- *All students are encouraged to attend class and on time. I will be taking rolls randomly. A total of five (5) absences will result in the grade of “F” in this class for the student(s) concerned. It is the student responsibility to make sure that he/she signs the roll I will be passing around in the classroom when one is provided.*
- *It is totally forbidden to voice or/and video record this course lecture presentations without a written agreement signed and dated between the student and the instructor. Any violation to this rule will result to the invasion of the instructor privacy.*

Finally, I am totally open to any critics or/and suggestions.

## EMERGENCY EVACUATION

In the case of fire or emergency, please do not panic and simply follow your instructor’s emergency procedure evacuations.

## BLACKBOARD USAGE

All assignments, notes, and class news will be posted on the Blackboard. In order to be able to use the Blackboard system, you will need to use your SUBR user ID and password.

## STUDENTS WITH DISABILITY

“If you are a qualified student with a disability seeking accommodations under the Americans with Disabilities Act, you are required to self-identify with the Office of Disability Services (ODS), 125 Blanks Hall, telephone: (225)771-3546 for further information/assistance. No accommodation will be granted without an official documentation from the ODS.

I truly appreciate your time, understanding, and cooperation during the course of the semester.

I am looking forward to working with you individually and in group.

Feel free to ask me any questions you may have anywhere and anytime. God Bless.