

CMPS-370B-01 Object Oriented Programming Fall 2023

Course Information

Course Number: CMPS 370B

Section: 1

Course Title: CMPS 370B Object Oriented Programming

Credit Hours: 3

Lectures

Day and Time: TR - 3:30PM -4:50PM

Class Location: 132, Henry Thurman Hall

Course Catalog Description

OBJECT-ORIENTED PROGRAMMING (Credit, 3 Hours). This course will introduce the student to the concepts underlying object-oriented programming. It reviews pointers, procedures and structures in C. It introduces the concept of classes and objects for problem analysis, design and solution. It covers the ANSI standard of C++, syntax and implementation aspects with a wide range of class definitions and object manipulations. Some commercially available C++ program developments will also be discussed. Prerequisites: CMPS 201 and admission to the department.

Prerequisites: Credit in CMPS 270 (C Programming) or CMPS 300 (Programming Languages).

Audience:

This course is designed for students in the under-graduate program in computer science.

Textbook and Materials:

1. Prescribed: Introduction to Java Programming-Comprehensive Version (6th Edition) by Y Daniel Liang.

Reference books:

1. H. M. Deitel and P. J. Deitel. C++: How to Program. 8th edition. Prentice Hall. ISBN-10:0132662361.
2. Joyce Farrell. Java Programming. 7th edition. Cengage Learning. ISBN-10:1285081951.

Course Instructor Information:

Name: Kruthika Hirebasur Krishnappa, Ph.D.

Office Location: N102, Thurman Hall

Office Phone: (225) 771-3773

Office Hours: MW: 10:30AM – 12:30PM 2:00PM – 3:00PM, TR: 10:00PM – 11:00PM

Email: kruthika.hirebas@sus.edu

Welcome to CMPS-370B-01 Object Oriented Programming:

You have to put a lot of time and effort into this course. The instructor will keep posting the Assignments, Quizzes and additional materials for each module. The instructor will put several documents at the course site on MOODLE. Moreover, you need to carefully read the textbook chapters that are indicated.

Course Objectives

Students should:

- (a) Understand the basic principles of object-oriented programming, and the implementation of these principles in at least one high level language;
- (b) Apply these principles by designing object-oriented solutions
- (c) Demonstrate the ability to implement object-oriented designs by programming in one high level language.

This course addresses Program Educational Objectives 1 and 2; Program ABET Outcomes 1, 2, and 6. Program Educational Objectives: The Educational Objectives of the Computer Science Program are to produce graduates who:

PEO 1: Successfully enter the competitive job market or pursue advanced study;

PEO 2: Are proficient in identifying, formulating, and solving a wide range of computing problems;

Program ABET Outcomes: Upon completion of the course, students will have an ability to:

Outcome 1: analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions; [PEO 1, PEO 2]

Outcome 2: design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline; [PEO 1, PEO 2]

Outcome 6: apply computer science theory and software development fundamentals to produce computing-based solutions; [PEO 1, 2]

Course Learning Outcomes

Course Learning Outcomes: Upon completion of this course, students will be able to:

- Demonstrate the difference between modular and object-oriented approaches to problem solving [ABET 6].
- Design and demonstrate object-oriented solutions to computational problems [ABET 1, 2].
- Implement object-oriented designs by using object-oriented constructs in a high-level language (C++ or Java) [ABET 6].
- Verify and validate object-oriented solutions in a high-level language [ABET 6].
- Learn and apply other object-oriented programming languages [ABET 6].

Administrative Information and Requirements

Course Requirements:

The student is expected to:

- 1.purchase the course textbook and MyProgrammingLab (MPL) code by the second week of classes
- 2.read assignments to prepare for scheduled discussions of the material
- 3.access online course materials to obtain assignments and related materials
- 4.attend all classes to ensure that expectations are understood, and give feedback to monitor and assess progress
- 5.complete all assignments/activities by the scheduled date (late submissions will receive -5% for each day late)
- 6.place cell phone either in the off position or kept on vibrate during lecture
- 7.demonstrate knowledge of the subject through 7 quizzes, 7 MPL assignments, 14 programming projects, 2 exams, and a final exam

Exam Information:

1. Exams will emphasize concepts developed in the course.
2. Exams will be closed book and notes unless stated.
3. Students will not be able to leave the classroom while they are taking an exam.
4. There will be no sharing of any materials (including calculators) during exams.
5. Communicating to one another is not permitted while taking an exam. If there are questions, they should be directed to the instructor. Students who communicate to one another will receive a zero for that exam.
- 6.A student who misses an exam will receive a zero unless the absence is legitimate and documented properly (E.g., a letter from a court clerk stating that he/she must appear in court, a letter from physician that he/she was sick). If a student has foreknowledge of an absence, he/she should clear this with the instructor before missing class. There will be no make-up exams for unexcused absences or improperly documented absences.

Quizzes and Homework

Quizzes will be given on MOODLE. Please note that there is no makeup quiz. No late quizzes will be accepted. If you miss a quiz, a score of zero is automatically assigned.

Grading

Grading includes several exams, quizzes, assignments and projects. The final point total may be adjusted to reflect the actual number of assignments given.

Course Rules and Procedures:

Attendance policy and class participation: Students are expected to be present and be on time and participate in class from the beginning throughout the end of the class period. Though attendance is strongly encouraged, merely attending classes does not guarantee a passing grade. It is every student responsibility to make sure that he/she signs the roll in class when one is provided, or he/she pays attention during the roll call.

Makeup test or exam: No makeup test or exam will be given except in the case of emergency such as the student being sick, or he/she is unable to come to class due to some unforeseen event. An official proof MUST be presented to the instructor and student is required to take the makeup test/exam as

soon he/she returns to class in the following class session. Failure to comply will result in the grade of zero (0) for the test/exam.

Use of electronic devices while in class: Students are not allowed to use the classroom computers or laptop during the lectures unless authorized by the instructor of this course for the purpose of the course. Please turn off (or place on silence) your cellular phones before the lecture starts.

Missing or late assignments/quizzes/exams: At the instructor's discretion, students may be given opportunity for late submission of an assignment or retake of a quiz or exam upon presentation of a valid excuse.

Course Communication

When sending any electronic correspondence (via your SUBR email address) to the instructor, please include the following:

- Subject: First and Last Name,
- Greeting: Dear Dr. Krutthika,
- Body of message: clearly state your concerns and/or problems, do not use text message lingo
- Signature: First and Last Name, Course Information

Note: If you have followed the above format, then you can expect that the professor or teaching assistant will respond to your e-mail message within 48 hours during the week. **Visit during office hours if an urgent issue surfaces.**

ACADEMIC DISHONESTY – Southern University and A&M College's Student Code of Conduct (Code 1.1) identifies academic dishonesty as any deliberate attempt to gain an unfair advantage in academic work. Examples of academic dishonesty include cheating, falsification of information, fraud, plagiarism, and unauthorized access to academic records, providing information, material, or other assistance with knowledge that such assistance could be used in violation of the Student Code of Conduct or other University policies, or providing false information in connection with any inquiry regarding academic dishonesty.

[Academic Dishonesty Policy](#) - link to PDF

ACADEMIC GRIEVANCES– Southern University and A&M College students may seek redress in academic decisions when they believe the decision is unfair or ungrounded. The academic grievance procedure provides prompt and equitable resolutions to student academic grievances. Classroom related matters should be subjected to these procedures only when the grievance cannot be settled in the ordinary course of immediate post-class discussion. Academic grievances are not handled by the Office of the Dean of Students.

[Student Academic Grievance Procedures](#) - link to PDF

ADA COMPLIANCE/DISABILITY SERVICES

Southern University Baton Rouge is committed to providing reasonable accommodations for students with documented disabilities in compliance with the American with Disabilities Act (ADA). Students may request accommodations by registering with the Coordinator for Disability Services. It is important to do this prior to the start of each semester because classroom accommodations are not retroactive. Upon approval and student verification of the application, the coordinator will be responsible for forwarding the letter of accommodations to the student's professors. Accommodations will begin upon

acknowledgement that the professor has received the letter of accommodations. All discussions with the faculty/student/Coordinator will remain confidential.

Contact Information

The Office of Disability Services is in Office # 246, A. C. Blanks Hall, in the center of the campus.

Southern University Office of Disability Services

Jada J. Netters, Coordinator

P.O. Box 11298

Baton Rouge, LA 70813

Phone: (225) 771-3546 (V/TTDD)

Email: ods@subr.edu

Website: www.subr.edu/ods

The Office of Disability Services (ODS), under the auspices of the Department of Equity, Inclusion, and Title IX, assists students in meeting their unique academic/educational, personal, vocational, and social needs that would otherwise prove to be an obstacle to educational pursuits. The Office of Disability Services (ODS) provides confidential services to those students who, in this post-secondary setting must request and provide the necessary documentation to verify a special need request. Diagnostic educational evaluations/examinations are not conducted through ODS. Academic accommodations are made based on a student's documented disabilities.

DISRUPTION OF THE ACADEMIC PROCESS

The University's Student Code of Conduct (Codes 1.6 and 2.2) broadly defines disruption/obstruction as any major/minor action which obstructs, or attempts to obstruct, an official University function, such as teaching, research, administration, or other campus activity.

[Disruption Policy](#) - link to PDF

SOUTHERN UNIVERSITY STATEMENT OF NON-DISCRIMINATION

In compliance with Title IX of the Education Amendments of 1972, Title VI and VII of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, and other federal, state, and local laws, Southern University and A&M College forbids discriminating or harassing conduct that is based on an individual's race, color, religion, sex, ethnicity, national origin or ancestry, age, physical or mental disability, sexual orientation, gender identity, gender expression, genetic information, veteran or military status, membership in Uniformed Services, and all other categories protected by applicable state and federal laws. This commitment applies but is not limited to decisions made with respect to hiring and promotion, the administration of educational programs and policies, scholarship and loan programs, and athletic or other College administered programs. Discriminatory acts of any kind are strictly forbidden. Any member of the Southern University and A&M College community has the right to raise concerns or make a complaint regarding discrimination without fear of retaliation. All inquiries regarding the application of this statement and related Title IX policies may be referred to:

Dr. Akai Smith Associate Vice Chancellor of Equity, Inclusion, and Title IX (225)771-4955
and/or

Dawn Harris Human Resources Director (225)771-2680

STANDARDS FOR SATISFACTORY ACADEMIC PROGRESS

The Higher Education Act of 1965 as amended and final regulations set by the United States Department of Education (34CFR668.16) require that institutions of higher education establish reasonable standards of Satisfactory Academic Progress (SAP) as a condition of continuing eligibility for federal aid

programs. Financial aid recipients are expected to make reasonable progress as a condition of receiving and continuing to receive student financial aid. Student progress is assessed according to both qualitative and quantitative measures. The University has developed this policy to provide a framework for monitoring and determining a student's Satisfactory Academic Progress in accordance with Federal and Institutional requirements. This policy applies to all new, transfer, re-entry, re-admit with transfer work, and continuing students at Southern University.

For additional information, please see the [Satisfactory Academic Progress policy](#).

STUDENT EMAIL POLICY

Email is a universal service that has greatly enhanced communication both internally within the Southern University and A&M College community and externally to users, including prospective students, alumni, and the public at large. The purpose of the University's general email policy is to describe the appropriate use of University email facilities, associated responsibilities, and rights of all users of University email facilities and official Southern University and A&M College email accounts. This student email policy is a supplement to the University's general email policy.

[Student Email Policy](#) - link to PDF

TOBACCO FREE CAMPUS POLICY

The Southern University System (SUS) maintains a 100% Tobacco-Free Policy. Smoking and tobacco use of any kind will be prohibited on all SUS campuses and/or other properties owned and/or leased locations/premises; all internal and external areas, parking garages, and parking lots; all entrances and exits; and in all SUS owned and/or leased vehicles. Students may not smoke in their own or others' vehicles when the vehicles are parked on SUS properties. This policy will be in place at all Southern University and A&M College sponsored events-both on our premises and at external locations hosting such events, including non-University hours and will further apply to all faculty, staff, students and visitors.

[SUBR Tobacco Free Policy](#) - link to PDF

WATERMARK-COURSE EVALUATION

Course Evaluations & Surveys by Watermark is an easy-to-use course evaluation system that integrates directly with Moodle. You will receive an email when the evaluation survey is available. The email will provide more information as well as a link and instructions on how to access the evaluation. We encourage you to be open and honest in these evaluations. Your identity will be kept private, and your instructor will not see the results of your evaluation until classes have ended. No identifying information is ever directly connected to the feedback you submit.

FOLLETT ACCESS TEXTBOOK PROGRAM

Follett Access is a partnership between the Southern University System and the SUBR Bookstore that allows you to rent textbooks at a reduced cost. The charge is posted directly to your SUBR tuition and fees bill and are paid along with your University charges. Students are able to opt out of Follett Access. If you choose to opt out of the program, be aware that you are opting out for the entire semester schedule. You may not opt out for individual courses. Fees will be refunded on your SUBR account after the add/drop date for each semester. To opt out of Follett Access, create an account on [the Follett Customer Portal](#) and follow prompts to opt out.

For more information about the program, including information about accessing your textbooks, opt-out deadlines, and more resources, refer to [the Follett Access Textbook Program guide](#). For assistance, contact the Bookstore at (225) 771-1472 or 0622txt@follett.com.

MENTAL HEALTH RESOURCES

Mental health resources and support are available from [the University Counseling Center \(UCC\)](#). The staff at UCC is trained to help you navigate the challenges and opportunities that arise for college students. The UCC provides free individual/couple counseling, crisis intervention, and other psychological services in a safe and confidential setting.

For mental health resources or to schedule an appointment, students may contact the University Counseling Center at counselingcenter@subr.edu or by calling (225) 771-2480. If you are experiencing an emergency, call 911.

MOODLE ACCESS – Southern University and A&M College at Baton Rouge will use Moodle extensively in this course. Moodle is a learning management system designed to help teachers and students communicate effectively online. The course syllabus, class materials (e.g., handouts, PowerPoint slides, journal articles, assignments, readings, etc.) will be placed on Moodle. The student should check Moodle DAILY for all assignments submitted via Moodle. If the student has problems with his Moodle account, he/she should contact the Division of Information Technology at (225) 771-4357 8 am – 5 pm Monday – Friday or the SU OneStop HelpDesk Support at 877-771-0621 24 hours a day; 7 days a week.

Topics:

- Review of modular programming concepts
 - Control structures: sequence, selection, iteration
 - Data structures: arrays and structs
 - Concept of top-down design
 - Testing—Verification and Validation
- Object-oriented concepts
 - Encapsulation
 - Inheritance
 - Polymorphism
- Object-oriented analysis and design
 - Requirements
 - Specifications
 - Object-oriented analysis
 - Design
 - UML use-case and class diagrams
- Object-oriented implementation and integration
 - Object-oriented constructs in C++ and Java
 - Exception handling
 - Templates
 - C++ Standard template library

Grading Distribution:

Course Work	Approx. weight in grade
Assignment	10%
Quiz and programming assignment	35%
Midterm	25%
Final	30%
Total	100%

Grading Scale:

Course Work	Approx. weight in grade
90% – 100%	A
80% – 89%	B
70% – 79%	C
65% – 69%	D
Below 65%	F

$$\text{Final GPA} = \text{AS} * 0.10 + \text{Q\&P} * 0.35 + \text{MT} * 0.25 + \text{FE} * 0.30$$

Course Objectives

By the end of the course students will be able to:

Course Objectives	Course Learning Outcomes	Methods of Assessment	Target	Relationship to Program Learning Outcomes
CO 1) Students will be able to program in the Java programming language	Students will demonstrate the ability to summarize the strengths and weaknesses of Java programming and the basic concepts of object-oriented programming	Outcome Rubrics a, b and c	70% will perform at the level of performance 2 or 3 in achieving Outcomes a, b and c	a, b and c
CO 2) Students will be able to use knowledge of object-oriented paradigm in the Java programming language	Students will demonstrate the ability to identify Java code utilities in applets, Java packages, and classes	Outcome Rubrics a, b and c	70% will perform at the level of performance 2 or 3 in achieving Outcomes a, b and c	a, b and c
CO 3) Students will be able to use Java in a variety of technologies and on different platforms	Students will demonstrate the ability to write Java code using advanced Java features	Outcome Rubrics a, b and c	70% will perform at the level of performance 2 or 3 in achieving Outcomes a, b and c	a, b and c