Instructor: Patti Iles Aymond
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Office Hours: Monday & Wednesday 1PM -3 PM and by Appointment	Grading Teaching Assistants: TBD
Section 1; Lecture: MWF 10:30 – 11:20 AM; 1200 Patrick F Taylor Hall Class webpage: Moodle	Lab time: Thursday 4:30-7:20PM 2324, 2326, & 2341 Patrick F Taylor Hall Lab Teaching Assistants: TBD

Course Description

Fundamentals of algorithm development, program design and structured programming using an object-oriented language.

Prerequisites:

1. Credit or registration in MATH 1022, MATH 1023, MATH 1550, MATH 1551, or MATH 1552.
2. Credit will not be given for both this course and CSC 1250 or CSC 1253.

Course Objectives

- Describe basic hardware and software concepts
- Create a computerized solution using fundamental structured Java programming language constructs: declarations, sequence, selection, repetition, expressions
- Create a solution using keyboard input and formatted monitor output
- Create a modular design and implementation
- Create a modular solution using an array of aggregate data
- Solve an array-based problem using searching techniques
- Solve an array-based problem using a sorting algorithm
- Identify object-oriented concepts

Course Layout

- **Course Lectures:** Course lectures will be 50 minutes long, three times per week. **Attendance is required**. All assigned readings and associated Zybook assignments are expected to be completed before class.
- **Programming Projects: In-lab attendance is required**. Students will complete programming assignments, which are due at the end of the lab period. Completed projects are to be uploaded to Moodle, as instructed.
- **Exams:** There will be two, 120-minute exams, and a two-hour non-comprehensive final exam. The first two exams will be held during regular lab time. The final exam will be held at the date/time established by the LSU final exam schedule. Exam reviews will be held during the class immediately preceding the exam date. Arrangements for a make-up test must be made PRIOR to the exam. The instructor will be following LSU policy PS-22 with regards to valid reasons for missing an exam.

Evaluation

Grading will be based on homework assignments, programming projects, and three exams:

20%	Exam 1		15%	Homework assignments and in-class quizzes
20%	Exam 2		25%	Programming projects
20%	Exam 3			

Final grade will be determined by overall average as follows:

Score	Grade	Score	Grade	Score	Grade
90-92.99	A-	93-96.99	A	97-100	A+
80-82.99	B-	83-86.9	B	87-89.99	B+
70-72.99	C-	73-76.99	C	77-79.99	C+
60-62.99	D-	63-66.99	D	67-69.99	D+
0-59.99	F				

Required Textbook

The Zybook learning platform version of Big Java Late Objects Includes Java 8 Coverage 2/e, Cay Horstmann.
The required subscription may be purchased from the LSU B&N Bookstore ($69.60) or directly from the publisher ($58):

1. Sign in or create an account at learn.zybooks.com
2. Enter zyBook code: LSUCSC1350Fall2022
3. Subscribe

Students may begin subscribing on August 8, 2022 Subscriptions will last until December 30, 2022. In order to access material after the subscription terminates, students may download book chapters.

Course Topics

- Hardware and Compiler: different types of operating systems; parts of a computer (memory, CPU, I/O); binary representation of integers
- Application versus systems software; types of programming languages and terms
- Compilation errors, runtime errors, & logic errors
- algorithm development; flowcharts; structured programming principles and construction; writing algorithms using pseudocode; testing
- Code debugging by creating code trace table; programming style guidelines; writing "self-documenting" code
- Variables, expressions (arithmetic, Boolean, literals), assignment, statements, precedence, left-to-right association, data types
- Predefined Java Math class
- Interactive input/output using good user prompt/feedback
- keyboard input and monitor output; formatting output
- Branching statements: if; if/else; switch (optional)
- Repetition structures (while, do-while, for): counter-control loops (incremental and decremental); data control loops including break/continue control; nested loops; random number generators
- Modular design: algorithm refinement; top-down design; parameter passing and return statements with functions/methods; program testing
- Single dimensional and 2-dimensional arrays; the enhanced for loop
- Introduction to user-defined classes and objects
- Sorting of arrays: bubble sort
- Searching: unordered search; ordered linear search

Class Policies

- <u>Moodle</u>: The course Moodle will be the official avenue for communication between the instructor, teaching assistants, and students. Moodle will be used for providing general course information, making announcements, making assignments, turning in assignments, and posting grades. Check it often for new or updated information. If you don't see something in Moodle that you think should be there, report it to the instructor as soon as possible.
- <u>Zybook</u>: Reading assignments and associated participation exercises will be assigned in the Zybook platform. These will be due before the in-class discussion. After the lecture discussing the textbook material, challenge problems will be assigned in Zybook, to be completed by the following class.
- <u>Communication</u>: All electronic communication between students and the instructor and teaching assistants should maintain a professional decorum (e.g., address the recipient properly, use whole words, complete sentences, and proper grammar). Be sure to include enough detail of the problem so that you form a well-thought out question. The more detail you can give as to your problem, the more likely the instructor or teaching assistant will be able to help you.
- <u>Distractions</u>: Please silence your phones and put them away at the beginning of every class. If you receive an urgent call or text during class, please take the device into the hall to complete your call/text. If you must enter class late or leave early, please do so as quietly as possible. Please avoid activities that will distract your classmates (e.g., talking, rustling papers, moving around), etc. The instructor and TAs reserve the right to expel a student from the lecture room or from a Zoom session for distracting, disruptive, or disrespectful behavior.
- <u>Preparation for class</u>: It is important that you come to class prepared. That includes completing the Zybook reading assignment and associated exercises, completing the Zybook challenge problems, and bringing pencil(s) and paper for in-class quizzes and practice problems.
- <u>Grading Change requests</u>: All grades are uploaded to the course Moodle. Concerns about grades must be addressed **within one week** after the graded work is made available. Thereafter, all grade book entries are final. Grade change requests must be submitted to the instructor, in writing, and must include the following:
  - o   Name of student
  - o   Date of the assignment/project/exam
  - o   Date of submission
  - o   Course number
  - o   List of the items that need to be corrected along with a concise reason as to why the grade change is needed.
  - o   Original assignment/test/quiz (not a copy).

  Grade change request decisions are at the discretion of the instructor and will be returned as the instructor has time to complete the regrade. Final exam and final grade change requests can be submitted up to two weeks after the final exam. After that time, grade change requests will be denied.
- <u>Due Dates</u>: **All work intended for grading must be submitted on time**. Any work not submitted before the cut-off period is not graded. Programming projects, reading assignments, and homework problems will be submitted on the course Moodle or on Zybook. Moodle and Zybook are unforgiving, so **do not wait until the last minute to upload your work.**
- <u>Missed Assignment/Exams</u>: A grade of 0 is awarded for missed assignment/exam in the absence of a valid excuse, as determined by the instructor. In the unusual circumstance that you must miss an assignment or exam due to medical reasons or other unforeseen emergency, you need to notify the instructor as soon as possible and provide sufficient documentation to verify the claim. The instructor will be following LSU policy PS-22 with regards to valid reasons for missing an exam. If the instructor deems that the excuse is valid and sufficiently documented, the instructor will determine how the missed work will be made up, depending on the circumstance. TA lab support is only available via Zoom if prior arrangements have been made with the instructor. A documented valid excuse for not attending lab in-person is required for approval.
- <u>Special Accommodation</u>: Students who have a disability that require accommodation(s) should make an appointment with the Office of Disability Services (Phone (225) 578-5919 or TDD: (225) 579-2600) to discuss their specific needs and present a letter from the ODS informing the instructor of their needs. All such matters, by University regulations, are strictly confidential.

- Collaborative Work: All class exams, programming projects, and homework assignments must be the independent work of the student. CODE SHOULD NEVER BE COPIED FROM **ANY** SOURCE. Students are encouraged to work together on programming projects, but the work you turn in must be your own. In other words, you can discuss problems and approaches to your programs, but you should never share answers or source code.
- Exam Dates:
    - Exam 1: During regular lab time, 9/22/2022; location TBD
    - Exam 2: During regular lab time, 10/27/2021; location TBD
    - Final Exam: Tuesday, December 6, 7:30 AM – 9:30 AM; 204 Tureaud
- Important Dates:
    - Tuesday, August 30 – Final day to drop without a W (4:30 PM deadline)
    - Friday, November 4 – Final day for dropping classes (4:30 PM deadline)
    - Friday, November 4 – Final day to request rescheduling a final examination when three examinations are scheduled in 24 hours

ALWAYS BRING A FLASH DRIVE WITH YOU TO LAB

Academic Integrity

- Students are required to abide by the LSU Code of Student Conduct Handbook. "LSU is an interactive community in which Students, faculty, and staff together strive to pursue truth, advance learning, and uphold the highest standards of performance in an academic, social, and social media environments" [from LSU Code of Student Conduct]. It is assumed that all students enrolled in this course have read the Code of Student Conduct – specifically section 10.1 (Academic Misconduct).
- All assignments will be monitored against academic dishonesty. Examples of academic dishonesty include, but are not limited to:
    - Accessing the solution manual to the text and copying the solution before attempting the problem on your own, while attempting the problem on your own, or after checking your work and finding your solution to be incorrect.
    - Copying a problem solution from a classmate (be it one problem or the entire problem set). The copy may be identical or a rearranged version of another student.
    - Giving your completed problem set to another student who has not yet completed their problem set.
    - Copying a solution from another student verbatim.
    - Peeking at a problem solution without the knowledge of the spied upon student.
- All students, regardless of level of guilt, will be reviewed by SAA (Student Advocacy and Accountability) in the event that an academic misconduct violation is detected.
    - This is particularly important for those of you who "share" your homework with others. Many times this is done with the best of intentions to help a classmate, but the classmate may copy your solution and present the work as their own. The "sharer", in the eyes of the university, is just as guilty as the copier.
    - **Keep your work safe**. Never leave your homework with other students or send your solution to other students.
- If there is evidence of academic misconduct on homework assignments, programming projects, or exams, all involved parties will be submitted to SAA for review.

Behavioral Misconduct

Per section 5.1 of the Code of Student Conduct, the Code applies to conduct that occurs on the Campus, at LSU-sponsored activities, and/or when the Student or Registered Student Organization is representing LSU. The University shall have discretion to extend jurisdiction over conduct that occurs off campus when the conduct adversely and significantly affects the learning environment or University community and would be in violation of the Code if the conduct had occurred on campus. This includes behavior that may occur in a remote learning environment, such as email, discussion forums, zoom webinars, or any other platform or solution used for a course. In determining whether to extend jurisdiction, the University may consider its ability to gather information. Potential violations of the Code can be reported through LSU Cares.