CSC 122: DATA SCIENCE II - SPRING 2020 SYLLABUS (4 CREDITS)

Lectures: MW 6-7:15 P.M., Hamann-Ray Science Center 310
Labs: W 7:15-8:45 P.M., Hamann-Ray Science Center 310

Instructor
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Text
C++ Programming: Program Design Including Data Structures, 7th ed. by Malik.

Prerequisite
CSC 121, Data Science I (or equivalent)

Course Objectives
This course is the second in a two-semester sequence designed to introduce the student to computer science and computer programming. A student successfully completing this course will be able to:

- Implement exception handling.
- Implement a recursive function.
- Implement and use a linked list, a stack, and a queue.
- Implement a linear search algorithm and a binary search algorithm.
- Implement a selection sort, an insertion sort and a quick sort on array-based lists.
- Implement a merge sort on a linked-list based list.
- Implement a binary tree.
- Write graphics applications.

Grades
Grades will be based on the following activities:

1. **Three** comprehensive exams worth 100 points each. Each exam covers material from the beginning of the semester up to the most recent material covered. The first two exams will be given during regular class time and the third exam will be given during the normal final exam period.

2. **Ten** laboratory assignments worth 15 points each.

3. **Ten** homework assignments worth 15 points each.

Letter grades are assigned on the basis of the number of points earned.

Grade	Points
A	558-600
A-	540-557
B+	522-539
B	498-521
B-	480-497
C+	462-479
C	438-461
C-	420-437
D	360-419
F	000-359

Attendance Policy
I will take class attendance. Ten points will be deducted from your total points for each unexcused absence after three unexcused absences. Make-up tests will be given only if the student arranges it AHEAD of time or if the absence is officially excused.

Academic Integrity

You are welcome to exchange ideas with your classmates, but the work submitted by a student is expected to be the product of the student alone. Cheating, in any form, will result in a grade of zero for the work involved (or more severe penalty for a repeat offender). Students who give assistance to other students will suffer the same penalty. Multiple occurrences will be dealt with under the policies established by the University. See below for details.

Academic integrity, the embodiment of the moral and spiritual principles to which we adhere, is the essential basis of the Asbury University academic community. Integrity, as partially defined by the Student or Program Handbook on Community Life Expectations, is "both knowing the right thing to do and doing it regardless of the circumstances." This definition may be applied to all of the scholastic interactions of the academic community. Every member of the community shares responsibility for maintaining mutual trust, respect, and integrity. Violations of such trust and specific acts of academic dishonesty will be subject to disciplinary action.

Definitions

Academic dishonesty can be defined as any type of cheating relative to a formal academic requirement. Academic dishonesty is typically thought of first as plagiarism. Plagiarism, whether intentionally or unintentionally, occurs when credit is taken for what someone else worked hard to discover and record if there is no clarification from where or from whom information is taken. Plagiarism is the use of another's ideas, words, thoughts, or organization without appropriate credit and documentation when used for a project, paper, presentation, or exam. More examples of academic dishonesty include, but are not limited to: unauthorized collaborations, fabrications of data, unauthorized access to sources on an exam, excessive revision by someone other than the student, re-use of previous work without permission, and other situations described by faculty for specific purposes.

Determination of Academic Dishonesty and Consequences

Faculty will address suspected occurrences of academic dishonesty as follows:

The faculty member will meet with the student individually to discuss the incident. At the faculty member's discretion, the department chair will either be notified of the meeting or be asked to be present for it. The student will be informed of the department chair's involvement. At the faculty member's discretion the student will receive a lowered grade, an F or 0% on the assignment in question. The faculty member will report the incident in writing to the Registrar who will maintain a record of academic integrity violations. If the incident is the student's second offense of academic dishonesty as verified by the Registrar, the student will meet with the Dean of the college or school where the most recent incident occurred. At the Dean's discretion, the student will receive an F in the course. If the incident is the student's third offense, the student will be suspended from Asbury University.

Appeals Process

Students desiring to appeal a determination of academic dishonesty will follow the 'Academic Appeals Procedure' found in the Probation, Suspension, and Appeals section of the Asbury University Bulletin, specifically item 1. A.

COURSE SCHEDULE

Jan	13	Course Syllabus
	15	Exception Handling
	20	MLK Day - no class
	22	Exception Handling (HW 1 assigned)
	27	Recursion (HW 2 assigned)
	29	Recursion
Feb	3	Recursion (HW 3 assigned)
	5	Linked List
	10	Linked List (HW 4 assigned)

	12	Linked List
	17	Review for Exam 1 (HW 5 assigned)
	19	**Exam 1**
	24	Stacks and Queues (HW 6 assigned)
	26	Stacks and Queues
Mar	2	Stacks and Queues (HW 7 assigned)
	4	Searching and Sorting Algorithms
	9	Searching and Sorting Algorithms
	11	Searching and Sorting Algorithms (HW 8 assigned)
	16	Spring Break – no class
	18	Spring Break – no class
	23	Binary Trees
	25	Binary Trees
	30	Binary Trees (HW 9 assigned)
Apr	1	Review for Exam 2
	6	**Exam 2**
	8	Introduction to Graphics
	13	Easter Holiday - no class
	15	Graphs of Parametric Equations (HW 10 assigned)
	20	Graphs of Parametric Equations
	22	Image Processing
	27	Image Processing
	29	Review for Final Exam
May	4	**Final Exam/Exam 3**