CSC 121: DATA SCIENCE I SYLLABUS, FALL 2019

Class: TR 6 P.M., HR 307 (4 credits)
Lab: M 6 P.M., HR 314 (pass/fail)

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

Course Objectives
This course is the first 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:

1. Write computer programs in C++.
2. Apply software engineering principles in designing, coding, and testing programs.
3. Write programs that access text files.
4. Implement and use fundamental data structures in C++ including arrays and objects.
5. Write programs that make use of dynamic memory allocation.

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. **Fourteen laboratory assignments** worth 25 points each. Lab assignments are normally due at the end of the lab period. Lab assignments turned in late will receive no credit unless I determine that there were extenuating circumstances. The two lowest lab grades will be dropped.

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

Attendance Policy
In CSC 121, a student who is absent from regular classes sixteen or more times and who is passing the course will receive a grade of "N" (no credit). If such a student is failing the course then the student will receive a grade of "F". A student is absent if he/she is not present when roll is taken. 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

Aug	19	Lab 1 – Introduction to C++ software
	20	Overview of Programming
	22	Programming Language (HW 1)
	26	Lab 2
	27	Basic Elements of C++
	29	Input and Output (HW 2)
Sep	2	Labor Day Holiday – No classes/labs
	3	A Closer Look at Input
	5	File I/O (HW 3)
	9	Lab 3
	10	Selection; Boolean Expressions & Operators
	12	Selection; if and if...else Statements (HW 4)
	16	Lab 4
	17	Selection; Nested if...else Statements
	19	**Test 1**
	23	Lab 5
	24	Repetition; while Loop
	26	Repetition; for Loop (HW 5)
	30	Lab 6
Oct	1	Repetition; do...while Loop
	3	Repetition; do...while (HW 6)
	7	Lab 7
	8	User-Defined Value-Returning Functions
	10	User-Defined Value-Returning Functions (HW 7)
	14	Lab 8
	15	User-Defined Value-Returning Functions

	17	Fall Break – No classes/labs
	21	Lab 9
	22	User-Defined Void Functions (HW 8)
	24	The string Type (HW 9)
	28	Lab 10
	29	**Midterm /Test 2**
	31	One-Dimensional & Parallel Arrays
Nov	4	Lab 11
	5	Searching a One-Dimensional Array (HW 10)
	7	Sorting a One-Dimensional Array
	11	Lab 12
	12	Two-Dimensional Arrays & An Array in a Structure (HW 11)
	14	Classes and Data Abstraction
	18	Lab 13
	19	Inheritance and Composition
	21	Inheritance and Composition (HW 12)
	25	Lab 14
	26	Inheritance and Composition
	28	Thanksgiving Holiday – No classes/labs
Dec	2	Lab 15
	3	Pointers
	5	Pointers
	9	Lab 16
	10	Pointers
	12	**Final Exam/Test 3**