ROCKFORD UNIVERSITY 1847

CSCI 230/01 – Data Structures and Algorithms
Course Syllabus - Fall 2019

Class Location and Time:	Rockford University, Starr Science Hall, Room 104D Tuesday and Thursday: 11:00 a.m. – 12:50 a.m.
Credit Hours:	4
Class Type:	Lecture
Instructor:	**Donna Ogle, PhD**
Office:	Starr 302C
RU Email:	DOgle@rockford.edu
Office Phone Number:	815-226-4070 (I prefer email.)
Office Hours and Location:	Office hours will be posted on the Canvas course homepage and by Starr 302C.
Required course materials:	
Textbook:	Starting Out with C++ from Control Structures to Objects Author: Tony Gaddis, Ninth Edition Publisher: Pearson ISBN-10: 0-13-449837-2 ISBN-13: 978-0-13-449837-9 You must purchase the book!
Other Materials:	Flash drive

Course Description: Scale problems; abstract data types; data structures (files, sets, lists, stacks, queues, and trees); program verification and complexity; recursion; dynamic concepts (memory, scope, block structures); text processing; and an introduction to searching and sorting algorithms. This course will use the same programming language as CSCI 220. PRQ: CSCI 170 and CSCI 220.

Course Objectives:

To develop the ability to solve a problem, to program the solution in C++, and to document the solution.

Topical Outline

Review: Structured Software Development
Structured Data
Advanced File Operations
Searching and Sorting Arrays
Linked Lists
Stacks
Queues
Recursion
Binary Trees
Advanced Topics

Grading Criteria

Exams (2):	20% of your grade
Final Exam:	15% of your grade
Assignments:	55% of your grade
Attendance:	10% of your grade

Grading Scale:

A = 90% and above
B = 80% - 89%
C = 70% - 79%
D = 60% - 69%
F = below 60%

Assignments: If you turn in an assignment (homework, quiz, lab, etc.) after the due date, you will lose 10% of the total possible points each week. That is NOT including additional points that may be deducted due to errors, mistakes, etc. If you have an extenuating circumstance, please let me know.

Exams: If you need to miss an exam, please let me know via email as soon as possible. You will have one week to make up the exam. I cannot allow make up for the final exam. Again, please let me know as soon as possible via email if you have a scheduling issue.

Course Policies

Attendance and Participation: You are expected to attend every class. As a reward to those who do attend regularly, 10% of your grade (100 points) will based on attendance and participation. Please contact me in advance if you need to miss a class.

Grading of Attendance and Participation: If there are 25 class meetings in the semester, you will received 4 points for each day of attendance and 2 points for each day you are late, regardless of how many minutes you are late. If you do not come to class that day or are more than 30 minutes late, you will receive zero points. If the instructor takes roll call and you are not in the room, you are marked absent regardless if you are one minute late or 20 minutes late. Excused absences (email sent to the instructor before class or after class with a good excuse) will also have 2 points taken off. **It is your responsibility to let me know after class if you came in late. I will only take attendance once during class and will not update attendance unless you tell me in person why you were late to class.**

Late work/make-up policy: If you turn in an assignment (homework, quiz, lab, etc.) after the due date, you will lose 10% of the total possible points each week. That is NOT including additional points that may be deducted due to errors, mistakes, etc.

Workload Expectations: This 4-credit course will meet for 110 minutes per session two times a week throughout the semester. A minimum of 2-3 hours of student preparation time outside of class is expected for each credit hour. Thus, please be prepared to devote 12-16 hours per week to this course.

Withdrawals: Students not regularly attending class or not turning in assignments will be given a grade of "F" at the end of semester if that student has not dropped the class or been dropped by the instructor. Last Day to withdraw with a "W" – Friday, November 15, 2019.

Rockford University Academic Honor Code – In this course, the policies and procedures concerning the Rockford University Academic Honor Code including definitions of cheating and plagiarism as they appear on the appropriate pages of the current Rockford University Handbook will be applicable.

Cheating and plagiarism: If a student copies another's work, that student and the person who allowed them to cheat will both be given a zero on the assignment. If this happens a second time, the student(s) will be referred to the Dean of Students. I take academic integrity very seriously and will not allow cheating in my classes.

Academic Accommodation: If you believe you are eligible to receive any type of academic accommodation, through such federal laws as the ADA, please contact the Lang Center for Health, Wellness, Counseling and Disabilities Services, 815-226-4083. The Lang staff manages disability services for Rockford University.

Academic Concern with this Course: A student who questions the justice of a final grade must first seek an explanation from the course instructor. If dissatisfied with the explanation offered, the student may appeal the grade. Additional information regarding grade appeals can be found in the Academic Catalog.

The instructor reserves the right to adjust this course syllabus as needed. Revisions to course policies and schedule will be communicated via Canvas.

Weekly Course Schedule
Canvas will have up-to-date assignment information.

Week/Week of	Topics / Outline	Covered Readings
1 – Aug 22	Introduction to the class and syllabus	
2 – Aug 27	Review: Structured Software Development	
3 – Sep 3	Structured Data	Chapter 11
4 – Sep 10	Structured Data	Chapter 11
5 – Sep 17	Advanced File Operations	Chapter 12
6 – Sep 24	Searching & Sorting Arrays	Chapter 8
7 – Oct 1	Searching & Sorting Arrays **Test 1 – Covers Structured Software Development and Chapters 11, 12 & 8**	Chapter 8
8 – Oct 8	Linked Lists	Chapter 18
9 – Oct 15	Linked Lists **Thu., Oct. 17 – NO CLASS – Fall Break**	Chapter 18
10 – Oct 22	Stacks and Queues	Chapter 19
11 – Oct 29	Stacks and Queues	Chapter 19
12 – Nov 5	Recursion **Test 2 – Covers Chapters 18 & 19**	Chapter 20
13 – Nov 12	Recursion	Chapter 20
14 – Nov 19	Binary Trees	Chapter 21
15 – Nov 26	Binary Trees **Thu., Nov 28 - NO CLASS – Thanksgiving Holiday**	Chapter 21
16 – Dec 3	Advanced Topics	
17 – Tuesday, Dec 10, 10:15 AM	**Final Exam - Cumulative – TBD**	

DISCLAIMER: The above information should be considered a guideline for students. Assignments, dates, etc. may change as needed during the semester.