CSCE 1040: COMPUTER SCIENCE II
Summer 2017

Instructor: Dr. Pradhumna Shrestha
Office: NTDP F265
E-mail: pradhunma.shrestha@unt.edu
Office hours: MoWe 1:00PM-2:00PM
Class hours: MoWe 8:30AM - 11:20AM
Classroom: NTDP B140

COURSE DESCRIPTION
This course is continuation of CSCE 1030. The objective of this course is to teach advanced object oriented programming concepts. Topics such as introduction to object oriented programming, creating and destroying objects, inheritance and overloading, data structures and exception handling will be discussed. It is expected that, by the end of the course, the students would be able to write any complex programs using the concepts discussed throughout the semester. The high level language – C++ will be used as the platform of teaching and executing these concepts. Strong emphasis will be placed on activities that focus on program design and coding.

COURSE OUTCOMES
1. Write readable, efficient, and correct C++ programs for all programming constructs defined for Programming Fundamentals I plus dynamic memory allocation, bit manipulation operators, exceptions, classes and inheritance.
2. Design and implement recursive algorithms in C/C++.
3. Use common data structures and techniques such as stacks, queues, linked lists, trees and hashing.
5. Use a symbolic debugger to find and fix runtime and logical errors in C software.
6. Using a software process model, design and implement a significant software application in C++. Significant software in this context means a software application with at least five files, ten functions and a make file.
7. Implement, compile and run C++ programs that includes classes, inheritance, virtual functions, function overloading and overriding, as well as other aspects of Polymorphism.
RECOMMENDED TEXTBOOK

*Problem Solving with C++ (9th Edition)*
Walter Savitch
Pearson, 2014
ISBN-10: 0133591743

PRE-REQUISITES: CSCE 1030, Co-requisite: MATH 1710.

TOPICS TO BE COVERED

1. Review
2. Dynamic Memory Management in C and C++
3. Recursion
4. Stacks and Queues
5. Linked Lists
6. Hashing
7. Basic Trees
8. Bit Manipulation
9. Make files
10. Debugging and Exceptions
11. Storage Classes
12. Object Oriented Design
13. Classes and Objects
14. Polymorphism
15. Inheritance
16. Standard Template Library
17. Friends
18. Virtual Functions
19. Copy constructors
20. Function Overloading
21. Operator Overloading
**SCHEDULE AND GRADING**

- Attendance/Class participation: 5%
- Lab Assignment: 25%
- Homework and Assignments: 25%
- Mid-Term Exam 6/12 (Tentative): 15%
- Final Exam 7/05 (Tentative): 20%
- Quiz: 10%

**NOTES:**

**ATTENDANCE POLICY**

Student attendance will be recorded. Every student who misses a class is responsible to learn the materials discussed and obtain the homework assigned on the missed class. The instructor is not responsible for re-teaching the material missed by a student who did not attend the class. Absence in class and lack of participation in class discussions may result in lowering of the grades.

**ASSIGNMENTS**

Homework and assignments will be provided in the form of coding and problem solving on Blackboard Learn. 25% points will be deducted if you turn in your assignments a day late. You will get only half of the points if you submit your assignment a week late. Assignment turned in after a week without instructor’s approval will receive zero points. It is expected of the students to show utmost sincerity and honesty in completing their assignments. While discussion among students is encouraged, sharing solutions and copying someone else’s work is strictly prohibited. Any student engaged in such activities will get no credit for their assignment.

**QUIZZES**

The quizzes will be asked every week in the laboratory hours. Each quiz will test you on the material discussed in the class a week before. The objective of the quiz is to keep the student up to date on course activities.

**MID-TERM EXAM I/II**

The midterm exams will be conducted during the week of 6/12 (tentative). The students are expected to give the exams on their own, and no discussions or collaborations will be allowed. The objective of the exam is to test the student’s programming ability. The schedule and format of the exam will be announced at least one week before the exam date.

**FINAL EXAM**

The final exam will be scheduled on the finals week. The exams will cover the topics discussed throughout the semester. The students are expected to give the exams on their own and no discussions will be allowed. The format of the exam will be provided at least two weeks before the exam date.

**GRADING**

If the students are not satisfied with their grades, they will have to schedule an appointment with the instructor at least 24 hours after receiving the grades. Classroom hours will not be used for
discussing grades. Students are expected to keep track of their academic progress, grades will not be changed after 2 weeks of being provided.

You must pass BOTH the laboratory portion AND the lecture portion with a grade of D or better in order to pass this course. Hence, an overall average greater than 60% may still result in a failing grade in some cases.

**EXTRA CREDIT**
The students may get an opportunity to earn extra credit by solving take-home problems. The students are expected to solve the problems on their own. Any evidence of cheating will result in zero credit and no further opportunities to earn extra credit.

**ADA STATEMENT**
The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information, see the Office of Disability Accommodation website at http://disability.unt.edu. You may also contact them by phone at (940) 565-4323.

**ACCEPTABLE STUDENT BEHAVIOR**
Student behavior that interferes with an instructor’s ability to conduct a class or other students’ opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student’s conduct violated the Code of Student Conduct. The university’s expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at http://deanofstudents.unt.edu.