Instructor: Dr. Pradhumna Shrestha
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Telephone: TBA
Office hours: MoWe 1:00PM-2:00PM and anytime via appointment
Class hours: TuTh 2:30PM - 3:50PM
Classroom: NTDP B185

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 laboratory activities and projects 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. Introduction to Object Oriented Programming
2. Classes and Objects
3. Constructors and Destructor
4. Inheritance
5. Overloading
6. Dynamic Memory
7. Stacks, Queues and Linked Lists
8. Exception Handling
9. Standard Template Library

SCHEDULE AND GRADING

- Attendance/Class participation: 5%
- Lab Assignment: 30%
- Homework and Assignments: 25%
- Exam 1 9/22: 10%
- Exam 2 11/1: 10%
- Exam 3 12/15: 10%
- Project: 10%
- Team Member Names: 9/8 (or sooner)
- Proposal: 9/20
- Project Report and Project Submission: 12/15
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 every week in the form of coding and problem solving. The coding assignments have to be submitted online via email or blackboard before specified the deadline. The deadline will be specified in every homework and assignment. For assignments that have been specified as to be submitted in writing, paper submission is acceptable but an electronic submission by scanning or taking a clear picture is preferred. You will get only half of the points if you turn are late in turning in the assignments. Assignment turned in a week late without instructor’s approval will still be graded but 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.

**EXAMS I AND II/MIDTERM EXAMS**
Both Exams I and II would be written exams and will include both conceptual and coding problems and will be conducted in regular classroom hours. The exams will cover the topics discussed up to 1 week ahead of the exam date. The students are expected to give the exams on their own and no discussions will be allowed.

**EXAM III/FINAL EXAM**
The final exam will be scheduled on the finals week and will have both written and coding segments. 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.

**PROJECT**
At the end of the semester, the students are expected to demonstrate their ability to program by completing a project. The students are required to form a group of 2-3 students and submit a proposal on any topic of their choice by the deadline. The students will also need to submit the project report and the codes via email or blackboard on the due date. It is expected that the students will write the complete codes and any materials used as supplement for the project should be credited and referenced. Failure to do this will be viewed as copying someone else’s work and will result in loss of grades.
**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.

**EXTRA CREDIT**
The students will 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.