CSCI 2170: Computer Science II

INSTRUCTOR INFORMATION

Instructor: Dr. Cen Li
E-mail: Cen.Li@mtsu.edu
URL: http://www.cs.mtsu.edu/~cen

Office Hours: MTWR: 11:30 am - 12:30 pm
Other times by appointment

COURSE INFORMATION

Description

Course topics: C++ language basics, function, parameter passing, one dimensional and two-dimensional array, searching and sorting, struct, recursion, pointer, dynamic memory allocation, linked list, stack, queue, Object Oriented Programming using C++ class, templates, and software engineering principles.

Objectives

To continue developing effective software engineering habits while improving programming and problem-solving skills. Learn abstraction, design, implementation, testing, and object-oriented programming using C++.

Topics Covered

- Apply top-down decomposition to write C++ program with appropriate user defined functions and parameters
- Understand and be able to apply recursion to solve simple problems
- Write object-oriented programs using abstract data structures and data encapsulation (Learn to use C++ class in designing and implementing application programs.)
- Pointers and Dynamic memory allocation
- Design and implement simple structures such as Lists(array based implementation and pointer based implementation), Stacks, and Queues as C++ class
  (Operations covered include traverse, search, insert, and delete elements)
- Be able to program using C++ containers (list, stack, queue) defined in standard template library
- Produce effective and efficient programs to solve simple practical problems by choosing the most appropriate data structures, and then use appropriate design, debugging, and testing techniques
- Recognize the need for, and can program in a consistent and well accepted coding style.

Prerequisites and Co-requisites

CSCI 1170 (grade C or above) or equivalent.

COURSE MATERIALS

Required Textbooks

Tony Gaddis, *Starting Out with C++ from Control Structures to Objects (9th Edition)*, 2018.

Closed and Open Labs

(a) **Closed labs:**

Lab Instructors: Ms. Dilafruz Shamsieva (ds7x@mtmail.mtsu.edu) and
Mr. Siddhardha Chedella (mc2by@mtmail.mtsu.edu)

Purpose: Closed labs are designed to help reinforce lectures or introduce new material. Two one-hour lab periods have been set aside each week in which a closed lab will be completed under the supervision of the lab instructor. Closed labs give you the opportunity to ask in depth questions to the lab instructor.

Submission and Due dates: For all the closed labs to be submitted electronically, the labs are due by 6:00 pm of the same day. You will not be able to submit the labs after 6:00pm. The labs will be graded on a 100 points basis.

You are encouraged to start the lab before the lab time, and if you encounter difficulties/problems, ask the lab instructors during the lab time.

(b) Open labs:

Open labs are designed for the students to solve problems without teacher supervision. **Each lab will have an assigned due date and a deadline. The program is due by the due date. If the program is not turned in by the due date, it is considered late. You may turn in the program before the deadline. A penalty of 20 points will be deducted if a program is turned in after the due date, and before the deadline. After the deadline, no more program can be electronically submitted.**

Programs are graded based upon design, correctness, documentation, style, efficiency and adherence to requirements. You must design, write, implement, and debug your own programs. You may discuss with others about high-level details of program design and implementation. However, the following are not allowed and will be treated as cheating:

- Show to or acquire from other students any material related to assignments such as source code and documentation, no matter with intention or not, no matter in which form these materials are presented.

- Help or seek help from other students to debug your programs. However, you may get help from the lab assistants and the instructor.

- Copy, or refer to source code from the internet, other students' homework or other source (excludes textbook or materials provided by instructor), no matter with citation or not.

Academic Integrity/Misconduct
All work for this class is to be done on an individual basis.

All source code must be original. ***If it is determined that a student has collaborated on an open lab assignment with others, the first offense will result in a grade of zero for the assignment/test, and the second offense will result in a grade "F" for the class.***

Class Attendance:

Attendance is required and absences do not excuse one from class responsibilities. If for some unavoidable reason you must miss class, you should obtain the class notes, handouts, and assignments from the classmates or from the course web page.

Class attendance will be taken each class day. **Attendance is determined/judged/counted by the presence during the entire Zoom class meet. This includes both the lectures and the closed labs.**

If a student does not miss any classes, then 3 points will be **added** to the final course average.
If a student misses one class, then 2 points will be **added** to the final course average.
If a student misses two classes, 1 point will be **added** to the final course average.

If a student misses three classes, then 2 point will be **deducted** from the final course average.
If a student misses four or more classes, then 3 points will be **deduced** from the final course average.

Exams:

A number of quizzes will be given throughout the semester. These quizzes mainly cover newly taught material. **Two** tests will be given. Tests are 100 points each. All tests will contain questions related to lecture material, closed labs, and open labs. No makeup test is given. The final exam is comprehensive (with a focus on the material discussed in the second half of the session).

Each test and the final exam may contain programming problems, where you are required to solve one or more problems by coding and debugging the programs during the exam time. It is important that you complete the closed and open labs to fully master the programming techniques.

There is no makeup tests, unless you have informed me about the special circumstance that prevents you from taking the test during the designated test time.

ASSESSMENT AND GRADING

Grading Procedure

Your grade in this class will be calculated based on

30% Tests and quizzes
20% Closed labs
30% Programming Assignments, i.e., Open labs
20% Final exam

In addition, points will be added/subtracted according to the class attendance record.

Grading Scale

Letter grades will be **assigned** according to the following scale:

A	average >= 90%
B+	88% <= average < 90%
B	82% <= average < 88%
B-	80% <= average < 82%
C+	78% <= average < 80%
C	72% <= average < 78%
C-	70% <= average < 72%
D+	68% <= average < 70%
D	62% <= average < 68%
D-	60% <= average < 62%
F	average < 60%

Incomplete Grades

Incomplete grades are given rarely and only in extenuating circumstances. Page 56 of the MTSU Undergraduate Catalog states: “The grade I indicates that the student has not completed all course requirements because of illness or other uncontrollable circumstances, especially those which occur toward the end of the term. Mere failure to make up work or turn in required work on time does not provide the basis for the grade of “I” unless extenuating circumstances noted above are present for reasons acceptable to the instructor.” Please refer to the Undergraduate catalog for the complete Incomplete Grade Policy.

PARTICIPATION

Course Ground Rules

The following are expected of all students in this course:

- be respectful to your instructor and peers; refrain from derogatory statements, and
- address technical problems immediately.

Class Participation

Student participation is required in all aspects of the course. Please adhere to the following:

- adhere to all due dates and deadlines as listed in your course calendar;
- utilize the ask the class discussion board when you have questions about course content
- communicate with the instructor as a learning resource;
- check the course homepage for important announcements from the instructor.

Academic Integrity/Misconduct

Please review the information on Academic Integrity and Misconduct. The instructor will be submitting materials to an online service (Turnitin.com) which will review the work for plagiarism. Students should also review the report generated for each assignment and self-check for plagiarism. Information on how to cite work correctly is provided within the course modules or through the University Writing Center. You may read more about how to avoid plagiarism from the Office of the University Provost.

Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Such conduct includes, but is not limited to:

- Submitting as one's own work, themes, reports, drawings, laboratory notes, computer programs, or other projects prepared by another person
- Knowingly assisting another student in obtaining or using unauthorized materials
- Submitting assignments previously used in other courses where you received credit for the work
- Improperly crediting or lack of crediting an original author's work

Students guilty of academic misconduct are immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions (including expulsion from the university), which may be imposed through the regular institutional procedures as a result of academic misconduct, the instructor has the authority to assign an "F" or zero for an activity or to assign an "F" for the course. Students guilty of plagiarism will be immediately reported to the Vice Provost for Academic Affairs.

I am True Blue

As a member of this diverse community, I am a valuable contributor to its progress and success. I am engaged in the life of this community. I am a recipient and a giver. I am a listener and a speaker. I am honest in word and deed. I am committed to reason, not violence. I am a learner now and forever. I am a BLUE RAIDER. True Blue!

Attendance Reporting

MTSU Administration requires that instructors complete an attendance report for each course each semester. Regular class attendance is required and will be monitored by: the D2L system report; participation in the discussion board; and timely submission of course assignments. If several class assignment submissions are missing, student attendance will be reported as "no longer attending."

Email

Per the Family Educational Rights and Privacy Act (FERPA) all course communication will be conducted using D2L email. Faculty will not respond to student emails via a non-institutional assigned email

STUDENT RESOURCES

Technical Support

D2L Resources are available to MTSU Online Students. You can also find help for the basic D2L functions used most often directly in your D2L course under the D2L Help for Students module.

Students with Disabilities

Middle Tennessee State University is committed to campus access in accordance with Title II of the Americans with Disabilities Act and Section 504 of the Vocational Rehabilitation Act of 1973. Any student interested in reasonable accommodations can consult the Disability & Access Center (DAC) website and/or contact the DAC for assistance at 615-898-2783 or DAC Email

Tutoring

MTSU Online supports multiple Online Student Services.

Grade Appeals

University Policy 313, Student Grade Appeals, provides an avenue for MTSU students to appeal a final course grade in cases in which the student alleges that unethical or unprofessional actions by the instructor and/or grading inequities improperly impacted the final grade.

Title IX

Students who believe they have been harassed, discriminated against or been the victim of sexual assault, dating violence, domestic violence or stalking should contact a Title IX/Deputy Coordinator at 615-898- 2185 or 615-898-2750 for assistance or review MTSU's Title IX website for resources.

MTSU faculty are concerned about the well-being and development of our students and are legally obligated to share reports of sexual assault, dating violence, domestic violence and stalking with the University's Title IX coordinator to help ensure student's safety and welfare. Please refer to MTSU's Title IX website or contact information and details.

Hope (Lottery) Scholarship Information

Do you have a lottery scholarship? To retain the Tennessee Education Lottery Scholarship

eligibility, you must earn a cumulative TELS GPA of 2.75 after 24 and 48 attempted hours and a cumulative TELS GPA of 3.0 thereafter. A grade of C, D, F, FA, or I in this class may negatively impact TELS eligibility.

If you drop this class, withdraw, or if you stop attending this class you may lose eligibility for your lottery scholarship, and you may not be able to regain eligibility at a later time.

For additional Lottery rules, please refer to your Lottery Statement of Understanding form or contact your MT One Stop Enrollment Counselor.