CMPS 1063: Computer Science II
SYLLABUS

Catalog Description: A continuation of the development of a disciplined approach to the design, coding, debugging, and testing of programs. Introduction to data structures, abstract data types (ADT), recursion, and algorithm analysis using a high-level language.

Instructor:	Mika Morgan, M.S., M.Ed.
Office:	Bolin Science Hall, Room 128C
Office Phone:	(940) 397-4189
E-mail:	mika.morgan@msutexas.edu
Office Hours:	MWF 9-10 am & 1-2 pm, or by appointment

Credits: 3 (3 hour lecture)
Course Prerequisite: Minimum grade of C in CMPS 1044, and MATH 1233 or MATH 1534.

Required Textbook and Materials: Starting Out with C++, 10th Edition, Gaddis, Walters, Muganda

General Objectives:

1. To learn "software engineering" approaches to designing and implementing computer programs
2. To learn the concepts of data abstraction and modularization
3. To learn and apply appropriate data storage structures

Specific Objectives:
At the conclusion of this course, students should be able to:

1. Analyze the requirements of a problem
2. Identify and use appropriate data structure for a given problem
3. Identify and use appropriate search and/or sort algorithm for a given problem
4. Write programs containing object-oriented concepts and 2D arrays

Major Topics:

1. Abstract Data Types, Classes, and Structs
2. Recursion
3. Pointers and reference parameters
4. Linked Lists, including singly-linked, doubly-linked, and circular
5. Data structures, including stacks, queues, and priority queues
6. Search and sort algorithms, algorithm complexity analysis

Instructional Methods and Techniques:

1. Class will meet two times a week, TTh, for 80 minutes of lecture each week
2. Lectures will provide topic overview, demonstrations, and hands-on activities
3. Assignments will provide independent practice with concepts and programming

Course Content:

Students are responsible for all material, regardless of attendance.

1. Readings from the textbook
2. Lectures, slides, and in-class handouts
3. Quizzes
4. Programming assignments
5. Exams

Exams and Assignments: There will be one midterm and one comprehensive final exam. Exams cover material from the text as well as programming activities. The lectures may not cover all material in the textbook and required readings. Programming projects will be expected to be complete and robust, including good documentation, user interfaces, and the ability to handle improper input.

Course Evaluation:

Quizzes 10 quizzes, 1 pt. each	**10 pts**
Programming Assignments 6 programs, 10 pts. each	**60 pts**
Midterm Exam	**15 pts**
Final Exam	**15 pts**

A grade of C or better may be required to advance to the next course. Please see the undergraduate catalog or your advisor for more information.

In order to help students keep track of their progress toward course objectives, the course instructor will provide grade updates using D2L. Only final grades will be reported on the students' transcripts. Students earning below a C at midterm should discuss progress with the instructor.

Grade scale breakdown:

- A: 89.5 - 100
- B: 79.5 - 89.4
- C: 69.5 - 79.4
- D: 59.5 - 69.4
- F: < 59.4

Attendance Policy: Attending class is a primary key to success. Although student attendance is not calculated in the grade, attendance will be taken each day. If a student is absent three consecutive classes without notifying the instructor, a report will be submitted to the Dean of Students and the student may be dropped from the class.
There is no distinction made between excused and unexcused absences. Students are expected to be in the classroom when class begins and to stay the entire time.

Behavior in the Classroom: Students are to assist in maintaining a classroom environment that is conducive to learning. Electronic devices should be silenced, and there should not be off-topic conversation while the instructor is lecturing. Disruptive students may be asked to leave the room.

Electronic Devices: The use of electronic devices is encouraged during the hands-on programming examples in class, but not during other times. Electronic device use should not disrupt other students from learning.

Computer Availability: Students may complete programming assignments on their personal computers or one of the campus computers. C++ is available in Bolin labs 103 and 119. Bolin 103 is also used as a classroom, see availability posted outside the classroom door. Bolin 119 is open 8-5 M-F. There is also a computer lab in Clark Student Center that is open 24/7, and a lab in Moffett Library that is open during library hours.

Technical difficulty will not be considered a valid reason for an extension on submitting online materials. Computers are available on campus in various areas, as well as the Academic Success Center. Contact your instructor immediately upon having computer trouble. There is also a student help desk available to you.

Computer Science Tutoring: Tutors are available to assist with CS classes. Please see the TASP web page for schedules and availability. There is also a supplemental instructor for the course.

Programming Assignment Requirements: Students MUST turn in ALL 6 programming assignments to pass the course. Programs that do not compile will not be accepted. **Students that do not submit all 6 programming assignments will be dropped with an F in the course.**

Late Policy: Programs will be accepted late up to one week after the due date with a penalty of 10% off per day. Late work will not be accepted for a grade after one week, but may be submitted for credit to avoid being dropped from the class.

Make Up Assignments:

- For planned absences: exams may be taken early *by prior arrangement*.
- For unplanned absences: a missed exam can be replaced by the final exam grade.
- Missed quizzes may not be made up.

The final exam can replace the lowest exam grade for all students. If a student missed an exam, the final will replace that grade. No distinction is made between excused and unexcused absences. Taking an exam early requires at least one week's notice, and is granted at the instructor's discretion.

Policy on Testing Process: No electronics of any kind, including ear buds and smart watches, are allowed on the student, unless the instructor has approved a calculator. Nothing is allowed on the desk but pen/pencil/eraser and test papers. *A student who leaves the room during an exam must turn in the test and will not be allowed to return.*

Academic Misconduct Policy: Cheating, collusion and plagiarism is defined as using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individual's to whom credit is given. The Computer Science Department has adopted the following policy related to cheating and academic misconduct. The policy will be applied in all instances of cheating on assignments and exams as determined by the instructor.

- 1st instance: The student will be assigned a non-replaceable grade of zero for the assignment, project, or exam. *In addition, the student will receive a one letter grade reduction in the course.*
- 2nd instance: The student will be dropped from the course with a grade of F.
- All instances of cheating will be reported to the Department Chair and, in the case of graduate students, to the Department Graduate Coordinator.

See the MSU Student Handbook for more information on the academic misconduct policy.

COVID-19 Policy: Masks are not required, but are recommended. The instructor will wear a mask when not social distancing.

Any student (vaccinated or not) that tests positive for COVID-19 MUST self-report here.

Students with Disabilities: Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make necessary arrangements. Students must present appropriate verification from the University's Disability Support Services (DSS) Office during the instructor's office hours. Please note that instructors are not allowed to provide classroom accommodation(s) to a student until appropriate verification from DSS has been provided. For additional information, contact the Disability Support Office in Clark Student Center 168. Phone: (940) 397-4140.

Concealed Handguns on Campus: Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, refer to the university's webpage at MSU Campus Carry Policy. For questions or concerns, contact MSU Chief of Police Patrick Coggins.

Recording of Class Lectures: Permission must be requested in writing and obtained from the instructor before recording of class lectures. If permission is granted, the recording may only be used by the student making the recording. Recordings (or any class materials) may NOT be posted on any internet source without written permission of the instructor. Failure to adhere to the policy may result in removal from the course with a grade of F, or other appropriate punishment.

Midterm Progress Report: In order to help students keep track of their progress toward course objectives, the instructor will provide a Midterm Progress Report for all students through WebWorld. Midterm grades will not be reported on the transcript, nor will they affect GPA. They simply give students an idea of where they stand at the midpoint of the semester. Students earning below a C at the midway point should schedule a meeting with the instructor and seek out tutoring.

Important Dates: MSU Registrar's Important Dates