

## **CMPS 1044: Computer Science I**

### **SYLLABUS**

#### **Catalog Description:**

Introduction to methods of problem solving and algorithm development. A high-level programming language is taught with an emphasis on program design, coding, debugging, testing, and documentation. Discussion of ethical, social, and legal issues related to computing.

<b>Instructor:</b>	Mika Morgan, Ph.D.
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<b>Office Hours:</b>	MWF 9-10 am & R 1-3 pm, or by appointment

#### **Credits:**

4 (3 hour lecture; 1 hour lab)

#### **Course Prerequisite:**

Credit or concurrent enrollment in MATH 1233, 1534, or 1203

#### **Required Textbook and Materials:**

Starting Out with C++, 10th Edition, Gaddis, Walters, Muganda, Chapters 1-8

#### **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 the syntax and structure of C++ concepts such as objects and arrays

#### **Specific Objectives:**

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

1. Analyze the requirements of a problem
2. Identify steps and develop designs to solve moderately complex problems
3. Implement solution designs by coding them into C++ programs, then compiling and executing them
4. Write programs containing object-oriented concepts and arrays

**Major Topics:**

1. Algorithm discovery and design; application of problem solving steps
2. C++ programming basics, such as variables, expressions, file I/O, and formatting
3. Conditional statements, including if, if-else, switch, and ternary
4. Loops, including for, while, and do-while
5. Object-Oriented programming concepts, such as functions and classes
6. Arrays, including one-dimensional and two-dimensional

**Instructional Methods and Techniques:**

1. Class will meet three times a week, MWF, for 50 minutes of lecture each class
2. Students will attend a weekly lab for 1-2 hours
3. Lectures will provide topic overview, demonstrations, and hands-on activities
4. 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. Weekly labs
4. Homework assignments
5. Quizzes
6. Programming assignments
7. Exams

**Exams and Assignments:**

There will be three exams 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.

**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

## **Course Evaluation:**

<b>Homework</b> 10 HW assignments, 1 pt. each	<b>10 pts</b>
<b>Quizzes</b> 10 quizzes, 1 pt. each	<b>10 pts</b>
<b>Labs</b> 12 labs	<b>10 pts</b>
<b>Programming Assignments</b> 5 programs, 4 pts. each	<b>20 pts</b>
<b>Exams</b> 3 exams, 10 pts. each	<b>30 pts</b>
<b>Final Exam</b>	<b>20 pts</b>

*A grade of C or better is required to advance to the next course, CMPS 1063.*

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.

## **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.

### **Lab Attendance:**

A weekly lab will be held in Bolin 103. Each student is required to attend one of the scheduled sessions each week. Lab consists of hands-on exercises that reinforce the material covered in lecture. Attendance and completion of the assignment is required and part of the course grade. Students are allowed to attend more than one lab if desired, but *only one* is required. See the lab schedule posted in D2L. **Students who miss 5 labs will be dropped from the class with a grade of F.**

### **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.

### **Programming Assignment Requirements:**

Students MUST turn in ALL 5 programming assignments to pass the course. Programs that do not compile will not be accepted. **Students that do not submit all 5 programming assignments will be dropped with an F in the course.**

### **Late Policy:**

Assignments and programs will be accepted late up to one week after the due date with a penalty. 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 misses 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. There is one make up lab that can replace a missing or low lab assignment.

### **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 and Procedures:**

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

- 1st instance of cheating in a course: 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 course, if the grade doesn't result in a grade reduction.*
- 2nd instance of cheating in a course: The student will receive a grade of F in course and immediately be removed from course.
- All instances of cheating will be reported to the Department Chair and, in the case of graduate students, to the Department Graduate Coordinator.

*Note: Letting a student look at your work is collusion and is academic misconduct!*

See the [MSU Student Handbook](#) for more information on the academic misconduct policy.

### **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.