

**MONTGOMERY COLLEGE**  
**Rockville Campus**  
**Engineering, Physical and Computer Sciences Department**  
**CMSC203 Computer Science I**

**Instructor Information**

|                   |                  |
|-------------------|------------------|
| Name:             | Office Location: |
| Mailbox Location: | Office Phone:    |
| Email:            | Office Hours:    |

**Course Information**

|   |  |
|---|--|
| Semester:   | Course CRN:  |
| Class starts:   | Class ends:  |
| Midterm Exam:   | Final Exam:  |
| Check MyMC class schedule for your Specific Deadline to Drop without a grade W or to change from audit to credit or from credit to audit. | Check MyMC class schedule for your Specific Deadline to drop a class with a W grade. |
| Online via Blackboard and MC Linux Server   | Check MyMC class schedule for your Specific Refund Deadlines.                        |

**Course Description**

Fundamental computer concepts. Studies methods of object-oriented program development and design. The course also covers language systems and semantics, structured program verification, different language paradigms, and documentation techniques. Students use a structured, high-level object-oriented programming language and learn to use both text-oriented and windows-based user interfaces. Designing and implementing solutions to intermediate level programming assignments are an integral part of the course. 4 semester hours; Formerly CS 103.

**Prerequisites:** A grade of C or better in CMSC 140 or consent of department.

**PRE- or COREQUISITE:** MATH 181.

**Course Outcomes**

|    |   |
|----|---|
| #  | Upon course completion, a student will be able to:  |
| 1. | Describe the object-oriented programming environment and features   |
| 2. | Describe the concepts of object-oriented programming, including encapsulation, inheritance, and polymorphism, and recursion                 |
| 3. | Design, develop, modify, test, debug, and run JAVA applications/applets utilizing the object-oriented programming features of JAVA language |
| 4. | Design and implement both text-oriented and windows-based user interfaces with Event-Driven Input and Output                                |
| 5. | Design and implement intermediate-level programming assignments that include file input and file output processing                          |

### **Course Materials**

Starting out with Java from Control Structures through Data Structures **with MyProgrammingLab, 7th edition, Tony Gaddis, Pearson,**

Textbook and other materials may be purchased through the bookstore

**If you purchased your book without the MyProgrammingLab, you will need to purchase the Student Access Codes from the bookstore or go to <http://www.myprogramminglab.com/> to purchase it online. The Course ID for this section of CMSC 203 in MyProgrammingLab will be posted.**

**Eclipse and Java JDK** can be downloaded from internet.

### **Grade Basis**

|   |             |
|---|-------------|
| Final Examination                         | 30%         |
| Midterm Exams (2)                         | 30%         |
| Programming Assignments-Design            | 2%          |
| Programming Assignments-Implementation    | 23%         |
| MyProgrammingLab assignments/labs/Quizzes | 15%         |
| <b>Total:</b>                             | <b>100%</b> |

### **Grading Scale:**

|           |   |
|-----------|---|
| 90 - 100% | A |
| 80 - 89%  | B |
| 70 - 79%  | C |
| 60 - 69%  | D |
| Below 60% | F |

### **General Class Policies**

- ❖ You are responsible for all work missed, and for meeting assignment due dates when absent. Please call or email your instructor if you are going to be late or absent.
- ❖ You are strongly encouraged to contact your instructor at home by phone or e-mail if you are having difficulties, or have any questions about assignments.
- ❖ All assignments are expected to be the result of your own efforts, not the collaboration with others. Plagiarism or turning in an assignment which is essentially identical to that of another student will result in a zero for that assignment, with no opportunity to make up the grade.
- ❖ Please include your name and the course information in the submitted assignments.
- ❖ There is always a means to submit your assignments on time. Be creative, be persistent, and keep your instructor informed!
- ❖ All assignments must be turned in on or before the due dates to receive full credits.
- ❖ **Missed Tests, Quizzes, and Discussions.** As a rule: NO MAKEUPS without a doctor's excuse. If the final exam is not taken, the student will receive a grade of F for the course.

## **Course Outline**

| <b>Topics</b>  |
|--|
| Overview of JAVA programming environment                                       |
| Object Oriented Design   |
| Data types, Variables/Objects, Constants, Operators, Control Structures, Loops |
| Arrays   |
| Functions/Methods, Recursive Functions/Methods                                 |
| Data Abstraction   |
| Encapsulation  |
| Objects and Classes  |
| Dynamic Memory   |
| Class Inheritance  |
| Polymorphism   |
| Files I/O, File Processing   |
| Event-Driven Input and Output  |
| Javadoc and JUnit Tests  |