# Instructor: **Professor Gary C. Thai**

Email: **Course Mail, Blackboard (Online Classroom)**

[thai365@gmail.com](mailto:thai365@gmail.com) (In Case of Emergency)

Telephone Number: (301) 246-0510

Virtual Office: Zoom | <https://montgomerycollege.zoom.us/j/98984792364?pwd=b3lYMUxnYi8xZG9zNkw4ZWdpT2E1dz09>

Check Blackboard for most current meeting link

Office Hours: Tuesday: 5p – 6p

Wednesday: 5p – 6p

Thursday: 5p – 6p

Or by appointments

Department Info: Phone: (240) 567-5230

# Course Information

### Duration: 6/1/21 – 8/20/21

### Meeting Time: Online

### Location: Blackboard & Zoom (See Virtual Office’s URL)

Prerequisite(s): CMSC 203 & MATH 182

# Course Description

Continues ideas introduced in CMSC203, emphasizing writing larger programs and designing and implementing classical abstract data types such as list, stack, queue, binary search tree, graph, priority queue, hash table. Topics include string processing and recursion; data abstraction, encapsulation, and structure implementation; object-oriented program design; specification, implementation and application of these traditional ADTs. The course also emphasizes dynamic memory allocation, search and sorting algorithms, and introduces algorithm complexity. Designing and implementing advanced level programming assignments are an integral part of the course.

This is a hands-on course. Students will analyze, design, and develop code to solve real-world problems.

Students are required to utilize an online learning environment, Blackboard, to complete their coursework. Having access to a Java programming environment is also required.

# Course Materials

Textbook: Data Structures and Abstractions with Java, 5th Edition

Authors: Carrano & Henry

Publisher: Pearson Education

ISBN: 978-0-13-483169-5

# Course Objectives

Upon completion of this course, students should be able to:

* Apply the principles of networking, exceptions, and error-handling in a Java programming environment
* Utilize event-driven programming, graphical user interface, and multi-threading
* Apply the principles of networking, exceptions, and error-handling in a Java environment
* Contrast basic concepts of procedural and object–oriented programming
* Demonstrate basic principles of program development and design
* Demonstrate the implementation of abstract data types, such as list, stack, queue, priority queue, binary search tree, graph, and heap
* Describe the design and time complexity of algorithms
* Utilize fundamental features of a higher level language, including event-driven programming, graphical user interface, and multi-threading

# Grading & Learning Assessments

Assignments: 35%

Quizzes: 15%

Exam 1: 13%

Exam 2: 14%

Final Exam: 23%

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100%

The final course grade will be determined using the following scale –

|  |  |
| --- | --- |
| Grade | Expectation |
| A | >= 90% (of the total accumulated points) |
| B | Between 80% and 89.9% |
| C | Between 70% and 79.9% |
| D | Between 60% and 69.9% |
| F | <= 59.9% |
|  |  |

Grades are earned, but not given. I have established standards and will apply them consistently to the entire class. Please understand that being closed to a cutoff is not the same as making the cut (89.99 ≠ 90.00). It would be unethical to make exceptions for some students and not to others. **I will not respond to grade adjustment requests at the end of the semester.**

Assessments

Assessments will include pre-class activities, in-class activities, homework assignments, project, module quizzes, and exams.

Assignment & Participation Expectations

##### All assignments will be announced online (Blackboard), and their respective due dates will be clearly specified. **All assignments must be submitted on time – Late assignments will NOT be accepted.**

For on-campus and blended classes, any in-class activities must be completed during class when we meet. We will use a mixture of lectures, discussions and hands-on activities to help you master the course materials.

No make-up work will be provided for any missed activities since students are expected to attend all scheduled classes.

For Distance Learning (DL) classes, each student is expected to participate actively online. Students are expected to visit the online classroom three or more days each week. They should consider posting questions for others to consider, in addition to completing their assignments – stay engaged.

The expectations of every assignment will be clearly articulated online. To do well in this course, commit yourself and allocated time to master the course materials.

# Exam Policy

**No make-up exams will be provided** since **Exam dates will be announced in advance.**  Unless it’s a life changing event, I will NOT make any exception on this matter. If the Final Exam is not completed, a failing course grade (F) will be assigned.

Unless it’s specified otherwise, all exams are closed book and closed notes.

# Communicating with the Instructor

The best way to communicate with your instructor is via **Blackboard**, our online learning environment. I am committed to visit Blackboard four or more weekdays each week, and I will respond to most Blackboard inquiries by the following business day or sooner. I usually visit Blackboard **first thing in the morning**.

You could contact me by phone or email, however, my responses to these inquiries are slower – up to two business days.

I am committed to helping everyone – **I want to ensure that each student can achieve their highest possible outcome**. With that said, I expect each student to commit their best efforts as well. Learning is a two-way street.

# Attendance

Students are **required** to attend all scheduled class sessions. **Excessive Absence** is defined as missing more than 10% of the scheduled classes or two classes during the fall or spring semester.

The instructor could drop (withdraw) any student from the course if Excessive Absence had occurred. If the situation occurs after the deadline to drop a course, the instructor could assign a “F” course grade to a student.

# Academic Integrity

**MC takes academic integrity seriously.**

**Unless specified otherwise, every assignment must be completed independently by each student.** For CMSC 206 and CMSC 234, there is a group project assignment where students will be assigned to a team. You are encouraged to learn, study and discuss course materials with others, however, **providing or receiving quiz/exam answers or letting someone else contribute to your assignments constitutes academic dishonesty**.

For all programming related assignments, one may receive insights, editing and debugging help from tutors, fellow students, acquaintances, or the Internet. **However, code sharing, whether it’s sharing code to others or copying code from others, is not permitted**. Students should complete their own coding. If the assignment uses programming features that have not yet been covered, the student will be asked to defend their work.

To promote learning, the Computer Science Department validates the integrity of all programming related submissions using a software program named MOSS. The software tests for programming similarity using artificial-intelligence-aided. The application very good at measuring percentage of similarities between submitted projects.

Any student who engages in any act that constitutes academic dishonesty or misconduct will be subjected to sanction. Penalties can include a 0 point on the assignment or an automatic failure for the course. It will be STRICTLY enforced. The incident will also be reported to the Dean of the Department and be reflected in the student’s transcript.

**The bottom line – Do your own work, and don’t share (your) code with others.**

Review the Code of Conduct section of the Student Handbook (Student Affairs section of the Official College Policies & Procedures web page,) if this message is not coming across clearly: [**http://cms.montgomerycollege.edu/pnp/#Chapter\_4**](http://cms.montgomerycollege.edu/pnp/#Chapter_4)

# Getting Help

You are expected to take personal responsibility for you own learning. This includes acknowledging when your performance does not match your goals and doing something about it. If you need help, see your instructor as soon as you can. Everyone can benefit from some guidance, but don’t wait until the end of the semester to do so. It will be too late then!

# Course Changes

The instructor reserves the right to alter the course schedule if necessary and he will notify the class prior to doing so.

# Computer Labs

Computer labs are available to students throughout all three MC campuses. Consult with the instructor for additional information, if needed

CS Tutoring  
Tutors are available in the Ackerman Learning Center. Review the posted schedule to seek help.

# Standards of College Behavior

Montgomery College seeks to provide an environment where discussion and expression of all views relevant to course subject matter are encouraged. However, students do not have the right to interfere with the faculty’s right to teach the course. Faculty and staff set the standards of behavior that are within the guidelines and spirit of the Student Code of Conduct or other College policies for classrooms, events, offices, and areas, by announcing or posting these standards early in the semester.

# Delayed Opening or Closing of the College

Montgomery College will always operate on its regular schedule unless otherwise announced. Depending on the nature of the incident, notifications of emergencies and changes to the College’s operational status will be communicated through one or more communication methods including the College’s web page <http://montgomerycollege.edu>

For the most up-to-date information regarding College openings, closings, or emergencies, all students, faculty, and staff are encouraged to sign up for email and text alerts via Montgomery College ALERT. Registration information is available at [*www.montgomerycollege.edu/emergency*](http://www.montgomerycollege.edu/emergency)

# Disability Support Services

Any student who needs an accommodation due to a disability should make an appointment to see the course instructor during office hours. In order to receive accommodations, a letter from Disability Support Services (LOCATIONS: Germantown-SA 189; Rockville-CB 122; or Takoma Park/Silver Spring-ST 122) will be needed. Furthermore, any student who may need assistance in the event of an emergency evacuation must identify to the Disability Support Services Office; guidelines for emergency evacuations for individuals with disabilities are found at: [http://cms.montgomerycollege.edu/edu/secondary5.aspx?urlid=52](http://cms.montgomerycollege.edu/edu/secondary5.aspx?urlid=52%20)

# Important Student Information Links

In addition to the course requirements and objectives that are specified in this syllabus, MC has information on its web site (see link below) to assist everyone in having a successful experience both inside and outside of the classroom.

Review, read and understand the provided information. The link below provides information and other resources to areas that pertain to the following: student behavior (student code of conduct), student e-mail, the tobacco free policy, withdraw and refund dates, disability support services, veteran services, how to access information on delayed openings and closings, how to register for the Montgomery College Alert System, and finally, how closings and delays can impact yourclasses. If you have any questions, please bring them to your professor. As rules and regulations change they will be updated and you will be able to access them through the link. If any student would like a written copy of these policies and procedures, the professor would be happy to provide them.

<http://cms.montgomerycollege.edu/mcsyllabus/>

<https://www.montgomerycollege.edu/admissions-registration/dates-and-deadlines.html>

It is the student’s responsibility to drop a course. Non-attendance of classes or failure to pay does not constitute official withdrawal. To view specific drop deadlines, log into your MyMC account:

* Click on ‘My Class Schedule’ under Student Quick Links
* Select the current term
* Click on ‘View Drop Deadline Dates’ at the bottom of the page

# Veteran’s Services

If you are a veteran or on active or reserve status and you are interested in information regarding opportunities, programs and/or services, please visit the Combat2College Web site at<http://www.montgomerycollege.edu/combat2college/>

By registering for this class and staying in this class, you are indicating that you acknowledge and accept these policies.

**COURSE SCHEDULE**

|  |  |  |
| --- | --- | --- |
| **Week of** | **Topic** | **Before Class[[1]](#footnote-1)** |
| 6/1/21 | ADT Bag & Exceptions (Modules 1 & 2) **| Project 1** | Ch. 1, 2 & 3 |
|  |  |  |
| 6/7/21 | Generics, Array based ADT, Linked ADT & (Modules 3, 4, 5) **| Project 2** | Java Interlude 1  Ch. 2, 3 & 4 |
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| 6/14/21 | Efficiency of Algorithms (Big O), Stacks & Queues (Modules 6, 7 & 8) | **INSTR – Announce Exam 1** | Ch. 5, 6, 7 & 8 |
|  |  |  |
| 6/21/21 | Recursion & Lists (Modules 9 & 10) | **Project 3** | Ch. 9, 10, 11, 12, & 14 |
|  | **Exam #1** |  |
|  |  |  |
| 6/28/21 | Iterators & Dictionaries (Modules 11A & 12A) | Ch. 13, 20 & 14; Java Interlude 4 & |
|  |  |  |
| 7/5/21 | Searching & Hashing (???Modules 12B &13) **| Project 4** | Ch. 19, 22 & 23 |
|  |  |  |
| 7/12/21 | Trees, Binary Trees, BSTs & (Module 14) | Ch. 24, 25 &26 |
|  | Balanced Search Trees (Module 15) | Ch. 28 |
|  |  |  |
| 7/19/21 | Cloning; Sets & Maps; & Advanced I/O & Object Streams (Modules 16 & 17) **| Project 5** | Java Interlude 9 |
|  |  |  |
| 7/26/21 | Sorting & Heaps (Modules 18 & 19) | Ch. 15, 16, 17, 18 & 27 |
|  | **Exam #2** |  |
|  |  |  |
| 8/2/21 | Graphs, Part 1 (Module 20) **| Project 6** | Ch. 29 |
|  | Graphs, Part 2 (Module 20) | Ch. 30 |
|  |  |  |
| 8/9/21 | Concurrency, Multithreading (Module 21) |  |
|  | Internet Networking (Module 22**)** |  |
|  |  |  |
| 8/16/21 | Other Data Structures |  |
|  | **Final Exam Week** |  |

# Let’s Get Started!

**Log-on to Blackboard and visit our online environment to proceed! Make it a point to do so regularly.**

1. Assignments and due dates are subject to change as necessary. [↑](#footnote-ref-1)