MONTGOMERY COLLEGE: Course Syllabus
Computer Science and Information & Interactive Technologies
CMSC140: Introduction to Programming, Prof. J. Joy, Spring 2017

I. Contact Information: Professor J. Joy

Email: Janet.Joy@montgomerycollege.edu *(This is the preferred way to contact me.)* I usually answer my email first thing in the morning and again in the evening. *(It depends on my schedule.)* On weekends it may be less often.
Office Hours: Office in SC 438.
Tuesday: 3:00pm-5:00pm in SC 438
Thursday: 10:00am-12:00 noon in SC 438

Online with Zoom: Wednesday: 9:30am-10:30am and 5:00pm-6:00pm *or by appointment*

My office hours and other class materials are available at www.zebra0.com/MC

Your Montgomery College e-mail account is the official means of communication for the college. Blackboard will use this email address to send reminders about overdue projects and other announcements. It is recommended that you check this account routinely. To check your e-mail, log into your MyMC online account and locate the e-mail icon in the upper right hand corner of the page. You can forward your MC email to your other email.

I usually answer email and course mail in the morning and again in the afternoon. On weekends it may be less often. All projects are due by midnight on Sunday. I try to grade everything by Wednesday. Please let me know if you have any questions or problems. I am here to help. The sooner you resolve any issues, the better your chances of succeeding.

Announcements sent from Blackboard may have "Do not respond" as the subject. Please take a look to see if it is important!

II. General Course Information: CMSC140: Introduction to Programming CRN 30238
Credit Hours: 3 semester hours
Prerequisites: None. Assessment levels: EN 101/101A, MA 097/099, RD 120.

Summary of Topics: Introduces programming and problem solving using C++. Topics include principles of procedural programming, software development and debugging techniques, control structures, data types, functions, one-dimensional arrays, and file processing. Using a computer, students complete required lab assignments.

Accessibility: If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way the course is usually taught may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Services for Students with Disabilities (SSD) office to help us determine appropriate academic accommodations.

Preparedness: This is a fully online class. To succeed in this course you should be confident working with a computer, accessing information via the Internet, and using email as a primary

means of communication. You should be able to copy and paste. Know how to open multiple windows simultaneously on the computer. Know how to search for information using a search engine, such as Google. You should be comfortable with email attachments, troubleshooting an Internet connection, and downloading and installing software.

III. Student Learning Outcomes: By the end of this course you will be able to:

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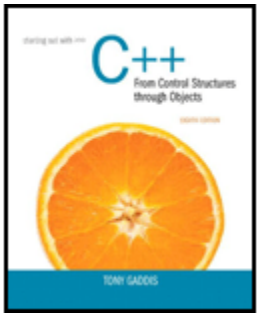
1. Declare and process one dimensional arrays, including implementation of algorithms for searching and sorting arrays.	The last 2 program assignments require you to declare and process arrays. In addition you will test your understanding through quizzes and discussions.
2. Demonstrate the ability to design, write, test, and debug computer programs using procedural code.	This is demonstrated in all programming projects, progressing from simple to more complex.
3. Demonstrate the basic syntax and expressions of the programming language in use.	Each week you will learn new features. You will test your understanding through quizzes and the online MyProgrammingLab. Then you will apply what you have learned by writing programs that use these features and the ones you have learned previously.
4. Implement top down design techniques and sub-programming.	As your programs get larger, you will use functions in order to work on one part at a time. This will make it easier to test and debug your programs.
5. Select and apply the appropriate control structure.	This is demonstrated in the programming projects. Each project emphasizes a few control structures.
6. Use simple file input and output operations.	Programming project 4 focuses on file input and output operations.

Learning to program is a cumulative skill. Each week you will learn a few new skills or tools. You will share your thoughts, and what you have created using these new skills in the discussion area in Blackboard. You will also have a chance to see what your classmates have created and get new ideas and techniques from them. This will broaden your understanding of the material. You will also test your understanding of the new material through quizzes. Finally, you will ***apply*** what you have learned by creating a program that uses the new tools, along with the skills from previous weeks to create increasingly more complex programs. You will use a variety of control structures. The control structures allow you to specify which actions to take and the order the action should be performed. As your programs get larger, you will learn to break them into subparts so that you can write, test and debug one piece at a time. Testing and debugging requires analyzing the results to determine where errors occur. Each week, the new material depends on a good understanding of the previous material, it is important not to fall behind in this course.

IV. Required materials:

Textbook:
Starting OUT with C++: from control structures through objects plus With MyProgrammingLab
Tony Gaddis, 8th Edition
ISBN13: 9780133796339



http://www.pearsonhighered.com/gaddis/
MyProgrammingLab:
http://www.myprogramminglab.com
Textbook and other materials may be purchased through the bookstore

Book with student access from bookstore: $132.25
e-Text with student access from Pearson: $92.95
Student access only from Pearson $42.95

To register for MyProgrammingLab, you will need:

- A MyProgrammingLab Student Access Code. Student Access Code purchase options include:
- MC bookstore sells packaged book (ISBN13: 978-0133796339) with a MyProgrammingLab Student Access Code.
- NOTE: if you purchased the textbook (ISBN 9780133862232) without MyProgrammingLab Student Access Code, you should purchase access code separately (see below):
  Purchase Access Code online here
  http://www.pearsonmylabandmastering.com/northamerica/myprogramminglab/students/get-registered/index.html
- **A Course Title:** CMSC140 30238 Intro To Programming
- A Course ID: **MONT-28070-DQMG-31**
- Your MC email address
- Your school's ZIP code: 20850

How to register for MyProgrammingLab

- Go to www.myprogramminglab.com and click **Student**.
- Choose your registration method (redeem your Student Access Code, or purchase access online).
- Read and accept the License Agreement and Privacy Policy.
- Follow the on-screen instructions to complete your registration.
- Click the **Log in Now** link to enroll in your course.
- Verify your information is correct, and click Next.
- Type in your Course ID: **MONT-28070-DQMG-31**
- Then select Next.
- Verify that your information is correct, and click Next.

V. Recommended materials:

You should have a computer with reliable Internet access. There are many videos with sound, so speakers are desirable. However, all of the videos have closed captions and/or a text file.

VI. Required Technologies

You will need **Adobe Acrobat** reader for the syllabus and other materials.

VII. Grading

Grades are earned, not given.
Course grades will be based upon the following:

Final Examination	20%
Midterm Examination	10%
In-class Quizzes	10%
Assignments in MyProgrammingLab	8%
Creation of Academic Plans	2%
Programming Projects	40%
Discussions	10%
Total:	**100%**

A=100-90% B= 89-80% C=79-70% D=69-60% F=60%-below

The midterm and final exams and quizzes demonstrate the knowledge of the basic syntax and expressions of C++.

The MyProgrammingLab activities demonstrate your understanding of the readings from the text.

Each of the programming projects demonstrate the ability to design, develop, and test basic computer programs using the core programming features. (learning objective 2 and 3)

Programming assignments 6 to 10 also demonstrate your ability to decompose a software program into functional subprograms. (learning objective 4)

Programming projects 4 and 6 focuses on file input and output operations. (learning objective 6)

Programming projects 6 and 7 focuses on processing one dimensional arrays,. (learning objective 1)

The discussion questions center on the topic that you have learned that week. By sharing your thoughts, tips and problems on that weeks topic, you will increase your understanding of the basic syntax and expressions of programming (learning objective 3) and your ability to design, develop, and test basic computer programs using the core programming features (learning objective 2)

The creation of your academic plan will prepare you for next semester and help you to understand the purpose of this course in your education.

This is an online course. Active participation in the online activities and completion of all homework and online assignments is required in order to pass this course. You can see your current grades in Blackboard.

VIII. Class Policies

Due Dates: All due dates are in Blackboard. You can check the calendar in Blackboard. Lateness is graded as follows:

The weekly **quizzes** are only available for one week each. If you don't take the quiz that week, it is a 0. However, I drop the lowest quiz grade.

You must participate in each weekly discussion question during the assigned week to get credit. If you don't participate one week, it is a 0. I drop the lowest discussion grade.

Programming projects: Programming projects are a 40% of your grade. I do not accept a project if it is late unless you have a verifiable emergency or illness. If you are having problems or need help, contact me early in the week.

Participation: Students must participate in the Blackboard discussion every week. **If you miss 2 weeks in a row without contacting me, you are subject to being dropped from the class.**

Audit Policy: If you are auditing, you are welcome to participate in the Blackboard discussions and take all quizzes and submit programs but it is not required.

Important Student Information Link

In addition to course requirements and objectives that are in this syllabus, Montgomery College has information on its web site (see link below) to assist you in having a successful experience both inside and outside of the classroom. It is important that you read and understand this 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 your classes. 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. By registering for this class and staying in this class, you are indicating that you acknowledge and accept these policies. http://cms.montgomerycollege.edu/mcsyllabus/

VIII Resources

Computer problems: As a computer student, you are expected to anticipate potential computer problems. Save often! Keep backups! Allow plenty of time to complete the assignment! Computer problems are not an excuse for submitting an assignment late! I can provide help if you send me a clear explanation of the problem, plus any relevant source files or screen shots.

Netiquette: Etiquette rules for the discussion board.
The discussions are an important part of online classes. Each week you will share ideas with your classmates. You can learn a lot from your classmates and by sharing ideas. Your classmates come from many different cultures and backgrounds. You want to share ideas and tips, not offend. Please read http://www.zebra0.com/MC/netiquette.pdf for discussion rules.

Technical Requirements & Technical Support: You will need the following to participate online:

- Regular use of a computer with Internet access and a web browser such as Firefox, Chrome, or Internet Explorer. Expect to spend several hours online each week.
- A web browser such as Firefox, Chrome, or Internet Explorer.
- See prepare yourself: http://cms.montgomerycollege.edu/distance/prepare/
- It is highly recommend that you have internet access at home, however, there are computer labs http://cms.montgomerycollege.edu/oit/InTech.aspx?id=60795

For technical assistance with college supported resources, call the Montgomery College IT Service Desk at 240-567-7222 or ://cms.montgomerycollege.edu/EDU/Department2.aspx?id=9356

Blackboard Help Desk: The **HELP** link on the left-hand course menu links to the **MC Blackboard Online Support Center:**

- Call the Support Center at 240-567-7222 or
- Chat with a service representative, or
- Submit a ticket.

Note: Click the **My Support** link at the top of the Blackboard Online Support Center screen to view a history of your correspondence with the Blackboard Support Center.

System Downtime: The Office of Information Technology conducts computer network maintenance on Sunday morning from 12:01 AM to 6:00 AM each week. During this time you may be not be able to access My MC to login to Blackboard. Do not rely on this time to submit course work.

Distance Learning Support: For all general distance education related questions, contact the Office of Distance Education and Learning Technologies at 240-567-6000 or **dl@montgomerycollege.edu**.

For all Blackboard and MyMC related questions and issues, contact the IT Service Desk at 240-567-7222 or **ITServiceDesk@montgomerycollege.edu** or **Blackboard Online Support Center**.

Class Schedule and Important Dates

In order to provide the best possible learning experiences, these dates may change. Please refer to the resources in Blackboard for any announcements or changes.

Week 1: February 6-February 12 Introductions

During this week you will learn all skills necessary to succeed in this class. You will read the syllabus, meet your classmates and install a C++ compiler.

- Orientation to Blackboard and course resources
- Introduce yourself and welcome your classmates.
- How to install C++
- Using MyProgrammingLab
- Read Chapter1: An introduction to Computers and Programming

Due in Blackboard February 12 by midnight:

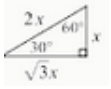
- Introductions in Blackboard discussion
- Quiz in Blackboard
- MyProgrammingLab for Chapter 1

Week 2: February 13- February 19 Introduction to C++
This week you will write your first C++ program. You will learn to declare variables and use the cout statement to display output, to calculate values using arithmetic operators.

Read and Do Chapter 2: Introduction to C++
As you read a chapter you should try each of the programs on your computer as you go along. Make sure you can get each program to work before continuing.

Due in Blackboard Sunday, February 19 by midnight:

- Discussion in Blackboard
- Quiz in Blackboard
- MyProgrammingLab for Chapter 2
- Programming Project 1: Weekly Schedule



Week 3: February 20- February 26 Expressions and Interactivity
This week you will learn to use cin to get values from the user; perform complex arithmetic operations; and to format output.

Read and Do Chapter 3: Expressions and Interactivity
Due in Blackboard Sunday, February 26 by midnight:

- Discussion in Blackboard
- Quiz in Blackboard quizzes
- MyProgrammingLab for Chapter 3
- Programming Project 2: Schedule with Input

Week 4: February 27 - March 5 Making Decisions *This week you will learn to use Boolean expressions in if/else statements. You will also learn to use logical operators && (and) || (or) ; conditional operator ?; and the switch block.*

Read and Do Chapter 4: Making Decisions
Due in Blackboard Sunday, March 5 by midnight:

- Discussion in Blackboard
- Quiz in Blackboard quizzes
- MyProgrammingLab for Chapter 4
- Programming Project 3: Formatting

Week 5: March 6- March 12 Midterm Exam

Midterm Exam must be taken in one of the MC Assessment centers between March 6-12. Please contact me for arrangements if you are not in Maryland.

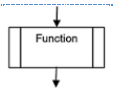
There is no quiz, discussion, or project due this week.

Spring Break is from March 13-19: No class

Week 6: March 20-March 26 Loops and Files *This week you will learn to use loops to repeat statements and to read from a file.*

Read and Do Chapter 5: Loops and Files
Due in Blackboard Sunday, March 26 by midnight:

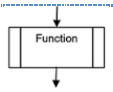
- Discussion in Blackboard
- Quiz in Blackboard quizzes
- MyProgrammingLab for Chapter 5
- Programming Project 4: Expenses



Week 7: March 27-April 2 Functions *This week you will learn to write functions. This will allow you to decompose a program into functional subprograms and create and test larger programs.*

Read and Do Chapter 6: Functions up to page 316
Due in Blackboard Sunday, April 2 by midnight:

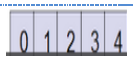
- Discussion in Blackboard
- Quiz in Blackboard quizzes
- MyProgrammingLab for Chapter 6 (up to page 316)



Week 8: April 3-April 9 Functions *This week you will learn to pass variables by reference and to write overloaded functions (2 functions with the same name.)*

Read and Do Chapter 6: Functions from page 316
Due in Blackboard Sunday, April 9 by midnight:

- Discussion in Blackboard
- Quiz in Blackboard quizzes
- MyProgrammingLab for Chapter 6
- Programming Project 5: Absences



Week 9: April 10- April 16 Arrays *This week you will learn to use arrays. An array is a variable that is a list. You can create arrays of words, numbers, or other types, and then use loops to process the entire array.*

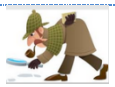
Read and Do Chapter 7: Arrays up to page 404
Due in Blackboard Sunday, April 16 by midnight:

- Discussion in Blackboard
- Quiz in Blackboard quizzes
- MyProgrammingLab for Chapter 7 (up to page 404)

Week 10: April 17 - April 23 *This week you will learn to use parallel and multi dimensional arrays.*

Read and Do Chapter 7: Arrays from page 404
Due in Blackboard Sunday, April 23 by midnight:

- Discussion in Blackboard
- Quiz in Blackboard quizzes
- MyProgrammingLab for Chapter 7
- Programming Project 6: Rainfall Statistics



Week 11: April 24- April 30 Searching *This week you will learn 2 algorithms to search arrays.*

Read and Do Chapter 8: Searching (up to page 470)
Due in Blackboard Sunday, April 16 by midnight:

- Discussion in Blackboard
- Quiz in Blackboard quizzes
- MyProgrammingLab for Chapter 8

Week 12: May 1- May 7 Sorting *This week you will learn several algorithms to sort arrays.*

Read and Do Chapter 8: Sorting (from page 470)
Due in Blackboard Sunday, May 7 by midnight:

- Discussion in Blackboard
- Quiz in Blackboard quizzes
- MyProgrammingLab for Chapter8
- Programming Project 7: Sorting Arrays

Week 13: May 8-14 Final Exam

Final Exam must be taken in one of the MC Assessment centers between May 8-14 Please contact me for arrangements if you are not in Maryland.

A Typical Week in CMSC140

Online courses require extreme self-discipline. One must log on 3-5 times per week and be prepared to read and follow through on assignments and instructions. Students must plan to spend 4-6 hours per week preparing and submitting assignments. Initially, a great deal of time is spent becoming familiar with Blackboard and dealing with technical problems. Technology is unreliable. The plan to submit homework at the last moment can be defeated with a busy or down server.

Active participation in the online activities and completion of all homework and online assignments is required in order to pass this course.

In Blackboard, in Course Content there is a page for each week with the dates listed. Each week in Course Content has 3 sections: "Learning Objectives", "Step-by-Step Instructions", and "Due this Week in Blackboard". Each week there is a chapter in the text. As you read each chapter try each of the programs on your computer as you go along. Make sure you can get each program to work before continuing.

Each chapter in the text has corresponding questions in MyProgrammingLab. You should answer all of the questions for the chapter reading assignment.

Write your response to the discussion question early in the week so that there is time to exchange ideas and thoughts with classmates. Each week there is a quiz in Blackboard that is due by Sunday. You can take the quiz again if you miss any questions. Take the quiz early in the week so that you can repeat it if necessary.

Check into the discussion board in Blackboard periodically to ask questions, answer questions, and respond to your classmates.

The projects and activities are due on Sunday night. Sunday marks the end of the week so that we end one week on Sunday and begin the next week on Monday.
When you make out your schedule for the week, be sure to block out at least 9 hours when you can read and work on a computer!

Start on Monday by looking in Blackboard for the week's assignments and discussion questions. Keep the discussion questions in mind as you read the chapter.

You are expected to save all of your work on a Flash drive or other storage device. You are responsible for completing all of the work on time even if your computer crashes.