MONTGOMERY COLLEGE: Course Syllabus

Computer Science and Information & Interactive Technologies

This class does NOT have a meeting time. It is completely asynchronous.

CMSC110: Computer Concepts, section: 23067, Prof. J. Joy, Fall, 2024
Starts Wednesday, October 30th, 2024; ends Sunday, December 22, 2024

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.
Questions: If you have a personal question please use the email above or course mail. If you have a general question that is of interest to the whole class, such as clarification of an assignment, please use Questions in the discussion area of Blackboard.

Office Hours: **Online with Zoom**: https://zoom.us/j/4497759354
By appointment only.
Appointments: If you need to see me, please send me 2 or 3 blocks of time you could meet, and I will get back to you with a time that works for both of us.

Your Montgomery College e-mail account is the official means of communication for the college. **I may not receive emails sent from outside addresses.** 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. 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

Study of programming language hierarchy, elements of a software system, and program implementation. Exposure to hardware concepts including number systems, data representation, central processor, storage, input/output, and system configurations. An introduction to the scope, significance, history, and social implications of data processing. There is no detailed study or implementation of any specific programming language. *Assessment Level(s):* ELAI 990, *ENGL 101/ENGL 101A, MATH 050 , READ 120. Three hours each week.*

Formerly CS 110. 3 semester hours

III. Student Learning Outcomes

Upon course completion, a student will be able to:

- Describe computer systems and their functions.
- Define various types of software, including operating system, utility programs, and application software.
- Use the data representation, operating systems, and utility programs.
- Use number systems and convert from one number system to another.
- Identify and compare several programming languages currently in use.
- Use the Internet as a tool for research, for identifying and verifying information.
- Use business applications such as word processing, spreadsheets, presentation software and database.
- Differentiate among various types of computer careers, certifications, and job responsibilities.
- Describe the scope, significance and history of computing.
- Describe social implications of computing, including computer security, ethics and privacy issues.

Accessibility: This section uses links to resources. There is a combination of videos, text and other materials. All videos have either closed captions or a text version available. Montgomery College accessibility statement: http://cms.montgomerycollege.edu/edu/Department.aspx?id=53990
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 comfortable with email attachments, troubleshooting an Internet connection, and downloading software. 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.
Each week you will learn a new topic. You will share your thoughts, and what you have learned in the discussion area in Blackboard. You will also have a chance to read what your classmates think about the topic and get new ideas from them. You will test your understanding of the new material through quizzes. Finally, you will *apply* what you have learned by creating a project that uses the skills you have learned in the first weeks to research and create the projects.

IV. Required materials

There is NO required text for this class. We will use online materials and tutorials that are available for **free** on the internet.
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V. Grading

Grades are earned, not given.
Students may be asked to explain their work orally on Zoom.
Course grades will be based upon the following:

- **Projects**: There will be 9 projects or papers. **All required files must be submitted in Blackboard to receive credit. Assignments submitted by email will not be graded!** SafeAssign is used to check for plagiarism. Please see https://www.zebra0.com/MC/safeassign.php
- **Discussion**: There will be 14 discussion questions in Blackboard. You will be required to give an initial response by Wednesday, and you must respond to at least two other students regarding their initial postings by Sunday night. Responses must be substantive, relevant, and constructive. Responses must be at least 25 words long using standard academic English. The 2 lowest discussion grades for the semester are dropped, therefore I do not reopen discussions if you miss one.
- **Quizzes**: There will be 14 quizzes in Blackboard. Each of these quizzes or activities is 1% of the grade. You may take each quiz 3 times. Only the highest score is counted. You are expected to take the quiz for the first time by Wednesday midnight, and the remaining two chances must be completed by Sunday midnight. The 2 lowest quiz grades for the semester are dropped, therefore I do not reopen quizzes if you miss one.
- All assignments will be due on Sunday night, postmarked by midnight.
- I usually grade assignments within 2 days once submitted. If I ask for corrections, they must be resubmitted within 3 days. The last project may not be resubmitted. At that point in the semester, you should be used to using the checklist.
- All assignments lose 10% each day they are late. They will receive a grade of 0 if more than 1 week late.

The relative weights of these assignments are:

Assignment	% Each	Total
9 projects or papers	8%	72%
14 Discussion questions	1%	14%
14 Quizzes	1%	14%

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

Please note that Blackboard has a column "Unweighted total" Disregard this column!
The grade is calculated as shown above.
The column labeled "Complete" shows your grade so far. At the end of the semester, this is your final grade.

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.

Due Dates: All due dates are in Blackboard. You can check the calendar in Blackboard or Due Dates
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.

VI. Class Policies

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/, Additional Montgomery College policies

VII. Support

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.
- Speakers or headphone to listen to the videos and to play the sounds you add in Alice.

- 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.**

VIII. Course Resources & Technologies

Adobe Acrobat Reader, required: Download and install from https://get.adobe.com/reader/ Copyright © 2017 Adobe Systems Incorporated. *You probably already have this if you are reading the syllabus. No privacy policy available. Adobe acrobat is accessible with a screen reader.*

Lessons at Zebra0.com, required: Available at http://zebra0.com/alice
Author: Janet E. Joy; Publisher: Zebra0.com, This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License
Privacy policy: http://www.zebra0.com/resources/privacy.php *All videos have closed captions.*

Blackboard, required: Copyright © 1997 - 2017. Blackboard Inc. Login to Blackboard from MyMC. Privacy policy: http://www.Blackboard.com/footer/privacy-policy.aspx Blackboard is fully accessible.
Eclipse, *optional*: Download and install from https://eclipse.org/downloads/ Copyright © 2017 The Eclipse Foundation. *If you have a problem installing Alice with the message that you need the Java JDK, install Eclipse and then retry installing Alice.* Eclipse is accessible. *Privacy police: https://eclipse.org/legal/privacy.php*

Screencast-O-Matic, recommended: Download and install or run online from https://screencast-o-matic.com/ © Screencast-O-Matic , privacy policy: https://screencast-o-matic.com/privacy You may use

any video recording software except Flash to create the required videos for this class. Screencast-O-Matic is a tool for creating videos. It is vision dependent.

Office Software: Projects require the use of office software (word processor, spreadsheet, presentation software, database). Students can use Microsoft Office available free through Montgomery College, or install Open Office, also free from https://www.openoffice.org/

Zoom, required: Copyright ©2017 Zoom Video Communications, Inc.
Join from PC, Mac, iOS or Android: https://zoom.us/j/4497759354
No privacy policy available. Eclipse is accessible.

IX. A Typical Week

An Online class requires quite a bit of self motivation. All of the projects and activities are due on Sunday night, 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 enough time each week when you can read, study, and work on a computer! In a class that meets fewer than 15 weeks, there will be several assignments, quizzes and discussions due each week. Although they are mostly due on Sunday night, you should try to spread them out over the course of the week, depending on your own work schedule. Your initial posts in the discussion, and first attempt at the quizzes are due on Wednesday.

Here is the math: Being a full time student *(15 credits or 5 classes)* is considered a **full time job**. A full time work week is 40 hours. Thus one college class will requires about 8 hours per week in a 15 week semester, or 120 hours for the semester. A shorter term requires the same amount of time, assignments and effort. Use the table below to block out sufficient time for each course:

Weeks in Class	Hours per week	Hours per course
15	8	120
10	12	120
8	15	120
5	24	120
4	30	120

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. Some weeks cover more than one unit or chapter.

Write your initial post to the discussion questions by Wednesday. Read the other posts and exchange ideas and thoughts with classmates during the rest of the week.

Each unit has a quiz in Blackboard, The first attempt is due on Wednesday. You have 2 more attempts until Sunday. Take the quiz again if you miss any questions.

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

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.

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.
All of the learning modules are required.

Week 1: Wednesday, October 30, 2024 - Sunday, November 3, 2024
Topics this week: read, study, learn each of the items below:

Lesson 1: Introduction to CMSC110

Goal: Learn all of the skills necessary to succeed in this course.
Objectives: In order to do this you will:

- Read the syllabus;
- Introduce yourself to your classmates;
- Join a study group;
- Watch the welcome video;
- Find the professors name and contact information in the syllabus;
- When are the professors office hours?
- Find how many quizzes and projects there will be in this class;
- Know what percent of the grade each quiz, discussion, or project is;
- Find what day everything is due;
- Find 2 places to get help;
- Read each section of Blackboard and find one SECRET to SUCCESS;
- Learn about grading and class policies.

Lesson 2: Digital Technology

Goals:

- You will learn the impact computers have on our lives and why you should study them;
- You will also learn the basic parts of computers and some of the terminology;
- You will learn some basics such as creating a safe workspace and basic trouble shooting;

- Understand how computers affect our lives, the importance of computer literacy, and why you should study computers.

Objectives: In order to do this you will:

- Be able to name 3 ways computers impact your life;
- Name at least 5 parts of a computer and tell what they do;
- Be able to create a safe computing workspace;
- Give 3 reasons for studying computers.

Due in Blackboard by Midnight, Wednesday, October 30, 2024
Initial post in discussions: 1. Introductions, 2. Experience, 3. History
First attempt at quiz: 1: Syllabus

Due in Blackboard by Midnight, Sunday, November 3, 2024
Assignments: [In Blackboard: Check major and submit Academic Integrity statement](#), [Project 1: Slide show: Computers and Me](#), [Project 2: History of Computers presentation](#)
Last chance to take quiz: 1: Syllabus
Last chance to respond in discussions: 1. Introductions, 2. Experience, 3. History

Week 2: Monday, November 4, 2024 - Sunday, November 10, 2024

Topics this week: read, study, learn each of the items below:

[Lesson 3: Number Systems](#)

Goal: Understand the different number systems used by computers and how to convert from one notation to another.
Objectives: In order to do this you will:

- Name the digits used by each number system;
- Convert binary to decimal;
- Convert decimal to binary;
- Convert Hexadecimal to decimal or binary

[Lesson 4: Ethics](#)

Goal: To understand the personal ethics, professional ethics, and governmental ethics, along with related topics surrounding the use of digital technologies.
Objectives: In order to do this you will:

- Be able to name some of the ethical issues;

- Discuss some ethical issues and explain the different sides of the issue

Lesson 5: Hardware

Goal: Be able to identify and name the the hardware of a computer system.
Objectives: In order to do this you will:

- Recognize the major parts of a computer system
- Classify the function of computer hardware components as input, output, or storage
- Identify the terms MHz, GHz, KB, MB, and GB to compare computer systems
- Identify the ways of measuring clock speed
- Identify the ways of measuring memory and storage capacity
- Explain Moore's law
- Recognize the important factors in selecting a computer

Due in Blackboard by Midnight, Wednesday, November 6, 2024
Initial post in discussion: 4. Your Computer
First attempt at quizzes: 2: Number Systems and Digital Technology, 3: Ethics Issues, 4: Hardware

Due in Blackboard by Midnight, Sunday, November 10, 2024
Assignments: Project 3: Spreadsheet for computer system budget
Last chance to take quizzes: 2: Number Systems and Digital Technology, 3: Ethics Issues, 4: Hardware
Last chance to respond in discussion: 4. Your Computer

Week 3: Monday, November 11, 2024 - Sunday, November 17, 2024

Topics this week: read, study, learn each of the items below:

Lesson 6: Software

Goals:

- Learn what the operating system does
- Learn some of the productivity software that you will use throughout this course such as word processor, spreadsheet, database, presentation software, and others.
- You will learn about free versions that are available.

Objectives: In order to do this you will:

- Identify the Operating System on your computer;

- Name some of the most common operating systems;
- Name some of the common categories of software, be able to give examples

Lesson 7: Artificial Intelligence

Goal: Understand the ways artificial intelligence has impacted technology.
Objectives: In order to do this you will:

- Be able to name at least 3 ways that artificial intelligence has impacted technology;
- Be able to name at least 3 current trends in artificial intelligence;
- Be able to name at least 3 ways that robotics is used.

Lesson 8: Digital Life

Goal: Understand the many ways that technology affects your life
Objectives: In order to do this you will:

- Define Digital Life
- Explain Virtual Reality
- Discuss some ways that you use technology
- Discuss some of the pros and cons of technology

Due in Blackboard by Midnight, Wednesday, November 13, 2024
Initial post in discussions: 5. Programming, 6. Artificial Intelligence, 7. Digital Life
First attempt at quizzes: 5: Programming, 6: Artificial Intelligence, 7: Digital Life

Due in Blackboard by Midnight, Sunday, November 17, 2024
Assignments: Project 4: Alice program, Project 5: Diagram
Last chance to take quizzes: 5: Programming, 6: Artificial Intelligence, 7: Digital Life
Last chance to respond in discussions: 5. Programming, 6. Artificial Intelligence, 7. Digital Life

Week 4: Monday, November 18, 2024 - Sunday, November 24, 2024

Topics this week: read, study, learn each of the items below:

Lesson 9: Telecommunications

Goal: To understand the way telecommunications work.
Objectives: In order to do this you will:

- To describe the types of hardware and software required for telecommunications;
- Understand the security protocols used in telecommunications;
- Explain how things such as Bluetooth, RFID and GPS work.

Lesson 10: The Internet

Goals:

- Understand how the internet works;
- Know how to evaluate sources;
- Understand some of the advantages and disadvantages of social media.

Objectives: In order to do this you will:

- Be able to describe how the internet works;
- Explain some of the criteria for evaluating sources;
- Be able to name a few social media sites.

Lesson 11: Web Technologies

Goal: To understand the basics of creating a web page.
Objectives: In order to do this you will:

- Be able to create a simple webpage;
- Describe and give examples of tags used in html;
- Describe what CSS does;
- Explain terms such as plug-in, cookie, search engine, and asynchronous.

Due in Blackboard by Midnight, Wednesday, November 20, 2024
Initial post in discussions: 8. Telecommunications, 9. How connected are you?
First attempt at quizzes: 8: Telecommunications, 9: The Internet, 10: Web Technologies

Due in Blackboard by Midnight, Sunday, November 24, 2024
Assignments: Project 6: Web Technologies
Last chance to take quizzes: 8: Telecommunications, 9: The Internet, 10: Web Technologies
Last chance to respond in discussions: 8. Telecommunications, 9. How connected are you?

Week 5: Monday, November 25, 2024 - Sunday, December 1, 2024

Topics this week: read, study, learn each of the items below:

Lesson 12: Freedom of Speech

Goal: To understand some of the issues about free speech.
Objectives: In order to do this you will:

- Describe some of the concerns about censorship;
- Explain the term Net neutrality;
- Discuss some of the legal issues.

Lesson 13: Digital Media

Goal: To understand how different types of media are created and displayed.
Objectives: In order to do this you will:

- Understand the ways colors are displayed on the web and in print;
- Discuss the different formats to display images;
- Discuss the different formats for sound;
- Discuss how animation is created.

Due in Blackboard by Midnight, Wednesday, November 27, 2024
Initial post in discussions: 10. Web, 11. Free Speech
First attempt at quiz: 11: Media
Due in Blackboard by Midnight, Sunday, December 1, 2024
Last chance to take quiz: 11: Media
Last chance to respond in discussions: 10. Web, 11. Free Speech

Week 6: Monday, December 2, 2024 - Sunday, December 8, 2024

Topics this week: read, study, learn each of the items below:

Lesson 14: Big Data

Goal: To understand and access Big Data.
Objectives: In order to do this you will:

- Name several websites with searchable data;
- Give a detailed explanation of one searchable database;
- Explain the parts of a database.

Lesson 15: Privacy

Goal: To understand the technology privacy issues.
Objectives: In order to do this you will:

- Be able to discuss some of the privacy concerns;
- Understand the pros and cons of cookies;
- To describe ways a user might be monitored;
- Be able to explain some legal issues;
- Explain the concept of Big Brother.

Due in Blackboard by Midnight, Wednesday, December 4, 2024
Initial post in discussion: 12. Big Data
First attempt at quizzes: 12: Big Data, 13: Privacy
Due in Blackboard by Midnight, Sunday, December 8, 2024
Assignments: Project 7: Big Data Project
Last chance to take quizzes: 12: Big Data, 13: Privacy
Last chance to respond in discussion: 12. Big Data

Week 7: Monday, December 9, 2024 - Sunday, December 15, 2024
Topics this week: read, study, learn each of the items below:

Lesson 16: Ecommerce

Goal: To understand e-commerce and how it affects you.
Objectives: In order to do this you will:

- Describe the different types of business models on the internet;
- Explain terms such as TPS, offshoring, GIS, host

Lesson 17: Intellectual Property

Goal: Understand why intellectual property rights are impossible.
Objectives: In order to do this you will:

- Explain the difference between copyright, patent, and trademark;
- Explain the difference between plagiarism and piracy;
- Discuss some of the legal issues.

Due in Blackboard by Midnight, Wednesday, December 11, 2024
Initial post in discussion: 13. E-Commerce and Me

Due in Blackboard by Midnight, Sunday, December 15, 2024
Assignments: Project 8: Video on Trends
Last chance to respond in discussion: 13. E-Commerce and Me

Week 8: Monday, December 16, 2024 - Sunday, December 22, 2024
Topics this week: read, study, learn each of the items below:

Lesson 18: Data Security

Goal: Know how to practice safe computing.
Objectives: In order to do this you will:

- Describe the various types of malware
- Explain authentication
- Discuss some of the internet scams, and how to safeguard your computer

Lesson 19: IT Careers

Goal: Be able to name some of the computer careers that are available now and in the future.
Objectives: In order to do this you will:

- Differentiate among various types of computer careers, certifications, and job responsibilities: Learning outcomes #8;
- Name at least 5 jobs in IT, the requirements and responsibilities: Learning outcome #8;
- Name 3 of the top paying jobs in IT;
- Discuss some of the aspects of job satisfaction in IT.

Due in Blackboard by Midnight, Wednesday, December 18, 2024
Initial post in discussion: 14. Security
First attempt at quiz: 14: Security

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Due in Blackboard by Midnight, Sunday, December 22, 2024

Assignments: [Project 9: Paper on Artificial Intelligence, E commerce, Intellectual Property, or Security](#)
Last chance to take quiz: 14: Security
Last chance to respond in discussion: 14. Security

Updated 5/18/2024