

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: 202630-31342, Prof. J. Joy, Spring, 2026
Starts Monday, March 30, 2026 to Sunday, May 17, 2026**

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>

Office Hours for Spring 2026: Monday 11am to 12 noon, Thursday 3pm to 5pm.

No appointment necessary for these office hours.

Please be aware that you are sharing these office hours with other students and classes.

When you type in your name, please type your course and section after so that I know which class you belong to. Example: **John Smith-CMSC110 31342.**

If I am with another student, Zoom puts you in a waiting room. I will admit the next student as soon as I finish.

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.

Computer-concepts/Zebra0.com © 2017, Joy, J. for zebra0.com. All rights reserved.

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](http://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 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

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 Monday, March 30, 2026 to Sunday, April 5, 2026



Lesson 1: Introduction to CMSC110

Objectives: In order to do this you will:

- Read the syllabus
- Introduce yourself to your classmates
- Learn about grading and class policies.



Lesson 2: Digital Technology

Goal:

- To understand how you use digital technology

Objectives: In order to do this you will:

- Recognize all the ways that you interact with digital information and media each day
- Describe the devices that you use to access it
- Understand that digital technology assists professionals in many areas
- Realize that greatest discovery or most important research conducted would not have been possible without digital technologies

Reading: Introduction to Computer Concepts



Lesson 3: Number Systems

Goals:

- Know how values are represented in the computer', 'Undersand the Decimal, Binary, Hexadecimal, RGB Colors systems
- Understand the different number systems used by computers.
- Be able to convert from one notation to another
- Be able to name the different number systems and how they are used.

Objectives: In order to do this you will:

- Use number systems and convert from one number system to another, Learning outcome #4;
- Convert binary to decimal;
- Convert decimal to binary;
- Convert Hexadecimal to decimal or binary;
- Determine the color from an RGB value;
- Be able to read and write a number using scientific notation.



Due in Blackboard by Midnight, Wednesday, April 1, 2026

Initial post in Discussions: 1. Introductions, 2. Experience, 3. History

First attempt at Quizzes: 1: Syllabus, 2: Number Systems and Digital Technology



Due in Blackboard by Midnight, Sunday, April 5, 2026

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 participate in discussions.

Last chance to take quizzes.

Week 2 Monday, April 6, 2026 to Sunday, April 12, 2026



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

Reading: [Ethics](#)



Lesson 5: Hardware

Goals:

- To learn about the different categories of hardware and how they assist your computing needs.
- Be able to name the different categories of hardware
- Be able to give examples of each category.

Objectives: In order to do this you will:

- Explain how hardware is organized into three categories: processing hardware, storage hardware, and input/output (I/O) hardware.
- Describe how microprocessors work to power various digital electronic devices.

- List factors in choosing the best computer for your needs.
- List different types of storage options
- Describe new ways to interact with computers through innovative I/O devices.

Reading: [Hardware](#)



Due in Blackboard by Midnight, Wednesday, April 8, 2026

Initial post in Discussion: 4. Your Computer

First attempt at Quizzes: 3: Ethics Issues, 4: Hardware



Due in Blackboard by Midnight, Sunday, April 12, 2026

Assignments: [Project 3: Spreadsheet for computer system budget](#)

Last chance to participate in discussion.

Last chance to take quizzes.

Week 3 Monday, April 13, 2026 to Sunday, April 19, 2026



[Lesson 6: Software](#)

Goals:

- Explain how software is used and developed
- Give examples of what computers are capable of on different platforms
- Describe the software development process.
- Describe the sequential steps to take software from concept to reality.
- Be able to create documents, spreadsheets, presentation software, and databases.

Objectives: In order to do this you will:

- Understand what computers are capable of on different platforms
- Describe the software development process.
- Describe the sequential steps to take software from concept to reality.
- Be able to create documents, spreadsheets, presentation software, and databases.

Reading: [Software](#)



Due in Blackboard by Midnight, Wednesday, April 15, 2026

Initial post in Discussion: 5. Programming

First attempt at Quiz: 5: Programming



Due in Blackboard by Midnight, Sunday, April 19, 2026

Assignments: [Project 4: Alice program](#)

Last chance to participate in discussion.

Last chance to take quiz.

Week 4 Monday, April 20, 2026 to Sunday, April 26, 2026



[Lesson 7: Artificial Intelligence](#)

Goals:

- Understand the ways artificial intelligence has impacted technology.
- Discuss some of the current trends in artificial intelligence.

Objectives: In order to do this you will:

- Define AI
- Explain some of the different methods used in AI
- Describe some ways the AI is used
- Discuss some of the concerns about AI
- 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.

Reading: [Artificial Intelligence](#)



[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

Reading: [Digital Life](#)



Due in Blackboard by Midnight, Wednesday, April 22, 2026

Initial post in Discussions: 6. Artificial Intelligence, 7. Digital Life

First attempt at Quizzes: 6: Artificial Intelligence, 7: Digital Life



Due in Blackboard by Midnight, Sunday, April 26, 2026

Assignments: [Project 5: Paper on Using Artificial Intelligence](#)

Last chance to participate in discussions.

Last chance to take quizzes.

Week 5 Monday, April 27, 2026 to Sunday, May 3, 2026



[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

Reading: [Telecommunications](#)



[Lesson 10: The Internet](#)

Goal:

- To understand how the Internet works

Objectives: In order to do this you will:

- Describe terms such as domain, TCP/IP, VoIP, and DNS
- Discuss the security issues
- Describe some of the trends such as cloud computing, and Internet of Things

Reading: [The Internet](#)



[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

Reading: [Web Technologies](#)



Due in Blackboard by Midnight, Wednesday, April 29, 2026

Initial post in Discussions: 8. Telecommunications, 9. How connected are you?, 10. Web
First attempt at Quizzes: 8: Telecommunications, 9: The Internet, 10: Web Technologies



Due in Blackboard by Midnight, Sunday, May 3, 2026

Assignments: [Project 6: Web Technologies](#)

Last chance to participate in discussions.

Last chance to take quizzes.

Week 6 Monday, May 4, 2026 to Sunday, May 10, 2026



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

Reading: [Freedom of Speech](#)



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

Reading: [Digital Media](#)



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

Reading: [Big Data](#)



Lesson 15: Privacy

Goal:

- To understand the technology privacy issues

Objectives: In order to do this you will:

- to discuss some of the privacy concerns
- Understand the pros and cons of cookies

- To describe ways a user might be monitored
- legal issues
- Explain the concept of Big Brother

Reading: [Privacy](#)



Due in Blackboard by Midnight, Wednesday, May 6, 2026

Initial post in Discussions: 11. Free Speech, 12. Big Data

First attempt at Quizzes: 11: Media, 12: Big Data, 13: Privacy



Due in Blackboard by Midnight, Sunday, May 10, 2026

Assignments: [Project 7: Diagram](#), [Project 8: Big Data Project](#)

Last chance to participate in discussions.

Last chance to take quizzes.

Week 7 Monday, May 11, 2026 to Sunday, May 17, 2026



[Lesson 16: Ecommerce](#)

Goal:

- To understand how 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

Reading: [Ecommerce](#)



[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

Reading: [Intellectual Property](#)



[Lesson 18: Data Security](#)

Goal:

- To understand computer security issues and how to protect yourself

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

Reading: [Data Security](#)



[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, May 13, 2026

Initial post in Discussions: 13. E-Commerce and Me, 14. Security

First attempt at Quiz: 14: Security



Due in Blackboard by Midnight, Sunday, May 17, 2026

Assignments: [Project 9: Video on Trends](#)

Last chance to participate in discussions.

Last chance to take quiz.

Updated 1/22/2026