

Prof. J. Joy: Spring 2024

## MONTGOMERY COLLEGE: Course Syllabus

Computer Science and Information & Interactive Technologies

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

CMSC222: Introduction to Visual Programming, section: 30127, Prof. J. Joy, Spring, 2024

Starts Monday, Monday, February 5, 2024, 2023; ends Sunday, May 12, 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>

Tuesday 3pm to 5pm, Friday 10am to 11am. and other times by appointment.

**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

This course covers how to write programs for the Windows programming environment, including developing an application, tools, forms, the user interface, programming, built-in functions, procedures, arrays, records, testing, and debugging. Emphasis is on rapid development of useful applications.

**PREREQUISITE:** A grade of C or better in CS 140 or consent of department. 3 credits

## III. Student Learning Outcomes

Upon completion of this course you will be able to:

**You will demonstrate this objective through:**

**By the end of this course you will be able to:**

1. Describe the concepts of event-driven programming. All C# Windows from applications are event driven. Instead of a main program the program responds to events such as clicking a button, typing in a text box, or selecting from a menu.

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2. Design, develop, modify, test, debug, and run Visual applications. This is demonstrated in all programming projects, progressing from simple to more complex. Each week you will learn new features. You will test your understanding through quizzes. Then you will apply what you have learned by writing programs that use these features and the ones you have learned previously.
3. Develop windows applications utilizing Visual tools such as:
- A. forms, In project 5 you will create a program with multiple forms.
  - B. labels, buttons, text boxes, This is demonstrated in all programming projects You will also test your understanding through quizzes. In unit 6 you will learn to use dialog boxes and menus. You will continue to use these in all subsequent projects.
  - C. Dialog boxes, This is demonstrated in project 6 where you will read a file and output it in a different format.
  - D. menus This is demonstrated in all programming projects. It is a particular focus in project 6. You will also test your understanding through quizzes.
  - E. File management
  - F: error handling
4. Explain and/or apply the fundamental components and programming features of Visual programming, including:
- A. declaration of variables, This is demonstrated in all programming projects. Unit 3 focuses on Boolean expression. This concept is reinforced by Project 2 and through quizzes and discussions.
  - B. Boolean expressions in if/else blocks, The focus of unit 4 is loops and arrays. Project 4 uses arrays and loops extensively.
  - C. Loops This is demonstrated in all programming projects. Event driven programs use functions and procedures for each event. You will also test your understanding through quizzes.
  - D. Arrays
  - E. Functions
  - F. Procedures

**Accessibility:** This course uses C# to create windows programs with a graphical user interface. This course is not recommended for students who cannot view and create a graphical user interface. The videos used in this course have closed captions or a text version is available.

**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.

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

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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, whether to perform actions at the same time or in sequence and to specify how many times an 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

**Software:** Latest version of Visual Studio Community, available free. Please see instructions in Week 1. **This is a Microsoft product on the Mac you will need to use Windows mode.**

**Access to Visual Studio software is required! If you cannot install Visual Studio on your computer, you may use it in any of the MC computer labs. This is not an excuse for not doing the work.**

**You do not need to buy anything!**

In addition to the materials at zebra0.com, there are several books available free in the MC Library Online Collection. Shown below is a search for C# and online resources only. Please see the video in Week 1 for instructions on accessing the text.

#### 1. **C# : a beginner's tutorial / Jayden Ky.**



eBook

By: Ky, Jayden. [Place of publication not identified] : Brainy Software, 2016. 1 online resource (1 volume) : ill

**Subjects:** C# (Computer program language); Computer programming; Electronic books

[Electronic resource : Click here to view](#) [Retrieve Catalog Item](#)

Location	Call No.
MC E-Books	QA76.73.C154

#### 2. **Effective C# : 50 specific ways to improve your C# / Bill Wagner.**



eBook

By: Wagner, Bill. Boston : Addison-Wesley, [2017] 1 online resource (1 volume) : illustrations. Language: E

**Subjects:** C# (Computer program language); Database management; Microsoft .NET Framework; Electroni

[Electronic resource : Click here to view](#) [Retrieve Catalog Item](#)

Location	Call No.
MC E-Books	QA76.73.C154

#### 3. **Visual C# : how to program / Paul Deitel, Harvey Deitel.**



eBook

By: Deitel, Paul J.. Hoboken, New Jersey : Pearson, [2017] 1 online resource (1 volume) : illustrations Lan;

**Subjects:** C# (Computer program language); Electronic books

[Electronic resource : Click here to view](#) [Retrieve Catalog Item](#)

Location	Call No.
MC E-Books	QA76.73.C154

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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.

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:

- **Exams:** There is a midterm and final exam. Each exam counts 20% of the grade. The exams are in Blackboard and are open book/take home exams. **The questions will be available 1 week before the exam.** You should read all of the questions first, prepare your answers in Visual Studio, then open the exam to enter your answers.
- **Projects:** There will be 8 programming projects. All projects must be zipped and uploaded to your course assignment page with all files needed to grade the assignment to receive credit. Each project counts 5% of the grade.
- **Discussion:** There will be 14 discussion question 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, discussions and quizzes 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
8 programming projects	5%	40%
12 Weekly Discussion questions	1%	10%
12 Weekly Quizzes	1%	10%
Midterm and Final exams	20%	40%

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.**

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**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.

**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.

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- 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 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](mailto: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](mailto:ITServiceDesk@montgomerycollege.edu) or **Blackboard Online Support Center.**

#### VIII. Course Resources & Technologies

**Software:** Latest version of Visual Studio Community, available free. Please see instructions in Week 1.

**This is a Microsoft product on the Mac you will need to use Windows mode.**

**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](https://creativecommons.org/licenses/by-nc-sa/4.0/)*

*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.

**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.*

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### 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.

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## February 11, 2024

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



### [Lesson 1: Introduction to CMSC222](#)

**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 exams, quizzes, and projects there will be in this class;
- Know what percent of the grade each exam, quiz, or project is;
- Find what day exams, quizzes, or projects are 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: Introduction to C#](#)

**Goal:** Create your first C# Windows Form application

**Objectives:** In order to do this you will:

- [Download and install Visual Studio Community](#) (or find a computer lab with it);
- Find the Microsoft guide to C#
- Know the basics of C#;
- Write your first C# Windows Form application;
- Add a picture to the form;
- Know what files are created in a project.



*Due in Blackboard by Midnight, Wednesday, February 7, 2024*

**Discussion:** 1: Introductions

**Quiz:** 1: Syllabus



*Due in Blackboard by Midnight, Sunday, February 11, 2024*

**Assignments:** [In Blackboard: Check major, and submit Academic Integrity statement](#)

**Last chance to take Quiz:** 1: Syllabus

**Last chance to respond in Discussion:** 1: Introductions

## Week 2: Monday, February 12, 2024 - Sunday, February 18, 2024

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



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[Lesson 3: Controls in C#](#)

**Goal:** Learn to add controls to the form.

**Objectives:** In order to do this you will:

- Add controls to a Windows Form application;
- Know how to take advantage of ambient properties;
- Be able to add pictures to the application in several ways;
- Align images and text controls;
- Identify the purpose of the most common controls;
- Create hot spots;
- Understand the naming conventions for controls.

**CODE** [Lesson 4: Writing Code in C#](#)

**Goal:** Write code in C#, to change Properties and create a console app

**Objectives:** In order to do this you will:

- Be familiar with coding standards;
- write code to change properties of a form;
- Understand why comments are important and add them to the code;
- Add code to respond to events for controls;
- Understand the arguments in Mouse Move Event;
- Use the text box control;
- Understand and be able to use the debugging tools;
- Be able to create a console app.



*Due in Blackboard by Midnight, Wednesday, February 14, 2024*

**Discussion:** 2: Motivation

**Quiz:** 2: C# Controls, Events and Code



*Due in Blackboard by Midnight, Sunday, February 18, 2024*

**Assignments:** [Project 1: Yourself](#)

**Last chance to take Quiz:** 2: C# Controls, Events and Code

**Last chance to respond in Discussion:** 2: Motivation

## **Week 3: Monday, February 19, 2024 - Sunday, February 25, 2024**

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

V



[Lesson 5: Variables](#)

**Goal:** Be able to declare and assign values to variables.

**Objectives:** In order to do this you will:

- Be able to declare and use variable in code;
- Understand the variable types used in C#;
- Know and use the naming conventions for variables;

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- Assign values to variables;
- Understand the scope of a variable.



### [Lesson 6: Arithmetic Operations](#)

**Goal:** Learn to use arithmetic operators

**Objectives:** In order to do this you will:

- Identify and tell the purpose of each arithmetic operator;
- Know the order of operations and role of parenthesis;
- Evaluate an arithmetic expression;
- Apply operators to solve problems;
- Write a function;
- Convert an algebraic expression to C# code;
- Use a scroll bar to select decimal values.



*Due in Blackboard by Midnight, Wednesday, February 21, 2024*

**Discussion:** 3: Variables and Arithmetic

**Quiz:** 3: Variables and Arithmetic



*Due in Blackboard by Midnight, Sunday, February 25, 2024*

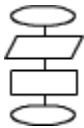
**Assignments:** [Project 2: Gas Mileage](#)

**Last chance to take Quiz:** 3: Variables and Arithmetic

**Last chance to respond in Discussion:** 3: Variables and Arithmetic

## **Week 4: Monday, February 26, 2024 - Sunday, March 3, 2024**

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



### [Lesson 7: Built in functions in C#](#)

**Goal:** Learn to use Built in functions in C#, Math functions, Parsing, Random numbers

**Objectives:** In order to do this you will:

- Be able to use built in functions in C#;
- Be able to use the math functions to solve a problem;
- Be able to parse a string and convert to double;
- Understand and be able to use random numbers.



*Due in Blackboard by Midnight, Sunday, March 3, 2024*

**Assignments:** [Project 3: Payroll](#)

## **Week 5: Monday, March 4, 2024 - Sunday, March 10, 2024**

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

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### [Lesson 8: Midterm Exam](#)

**Goal:** To take both parts of the midterm exam

In order to do this you will:

- Prepare answers for part 2

**TRUE OR**

**FALSE?** [Lesson 9: Boolean Expressions in C#](#)

**Goals:**

- Be able to use Boolean Expressions using if/else Control Structures;
- Using Values in Controls: text box, check box, radio buttons;
- Use Conditional operator:?:
- Use switch/case

**Objectives:** In order to do this you will:

- Evaluate Boolean expressions;
- Use if else control structure in calculations;
- Retrieve numeric values from text box;
- Use check boxes and radio buttons in an application;
- Recognize and be able to use the conditional operator;
- Write compound Boolean expressions;
- Be able to write code using the switch/case construct.



*Due in Blackboard by Midnight, Wednesday, March 6, 2024*

**Discussion:** 4: Boolean Expressions

**Quiz:** 4: Functions and Boolean Expressions



*Due in Blackboard by Midnight, Sunday, March 10, 2024*

**Assignments:** [Midterm Exam: parts 1 and 2](#)

**Last chance to take Quiz:** 4: Functions and Boolean Expressions

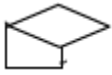
**Last chance to respond in Discussion:** 4: Boolean Expressions

**Spring Recess is March 11–17: Nothing is due during that week**

**Week 6: Monday, March 18, 2024 - Sunday, March 24, 2024**

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

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### [Lesson 10: Loops in C#](#)

#### Goals:

- Understand for, while, and do loops;
- Define Endless loops;
- Understand Nested loops;
- Understand Arrays with for each

#### Objectives: In order to do this you will:

- Be able to write a loop using for, while and do control structures;
- Understand the concept of endless loops and prevent them;
- Be able to use nested loops;
- Be able to use for each loops to process an array or list.



### [Lesson 11: Arrays and Lists in C#](#)

**Goal:** Understand Arrays, Lists, and Collections in C#

#### Objectives: In order to do this you will:

- Be able to declare and use an array in C#;
- Use a variable as index to array;
- Be able to handle out of bounds exceptions;
- Cycle through values of an array;
- Work with arrays in conjunction with other controls;
- Differentiate between arrays and lists.



*Due in Blackboard by Midnight, Wednesday, March 20, 2024*

**Discussion:** 5: Loops

**Quiz:** 5: Loops, Arrays and Lists



*Due in Blackboard by Midnight, Sunday, March 24, 2024*

**Assignments:** [Project 4: Birthday](#)

**Last chance to take Quiz:** 5: Loops, Arrays and Lists

**Last chance to respond in Discussion:** 5: Loops

## **Week 7: Monday, March 25, 2024 - Sunday, March 31, 2024**

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



### [Lesson 12: Dialogs in C#](#)

#### Goals:

- Create Menus with Submenus;

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- Be able to use Toolstrip and Status Bar;
- Know and use the Common Dialog controls for Font, Color, Open, Save; Message Box

**Objectives:** In order to do this you will:

- Be able to create a menu with submenus;
- Add event listeners for menu items;
- Add and work with a toolstrip on the form;
- Add and work with a status bar on the form;
- Be able to work with the Common Dialog Controls for Font, Color, Open, and Save;
- Be able to customize and display a message box.



### [Lesson 13: Forms in C#](#)

**Goal:** Adding Forms: About Box; Login Form; Custom Input Form.

**Objectives:** In order to do this you will:

- Add an About Box to a program;
- Create and use a custom form;
- Understand the difference between Show() and ShowDialog();
- Create a login form;
- Write an application similar to the picture viewer application.



*Due in Blackboard by Midnight, Wednesday, March 27, 2024*

**Discussion:** 6: Dialogs, Menus and Forms

**Quiz:** 6: Dialogs, Message Boxes and Forms



*Due in Blackboard by Midnight, Sunday, March 31, 2024*

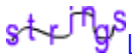
**Assignments:** [Project 5: Forms](#)

**Last chance to take Quiz:** 6: Dialogs, Message Boxes and Forms

**Last chance to respond in Discussion:** 6: Dialogs, Menus and Forms

## **Week 8: Monday, April 1, 2024 - Sunday, April 7, 2024**

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



### [Lesson 14: Strings in C#](#)

**Goals:**

- Work with Strings;
- Understand Built-in functions;
- Validate input;
- Use Regular Expressions;
- Create Word Games

**Objectives:** In order to do this you will:

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- Know the various built-in string functions;
- Apply string functions in creating word games;
- Use string functions to validate input data;
- Be able to create and use Regular Expressions for string validation.



### [Lesson 15: Files in C#](#)

#### Goals:

- Read and Write Text Files; The Directory Command;
- Reformat a File; Copy and Paste using Clipboard

**Objectives:** In order to do this you will:

- Be able to read a text file;
- Write code that uses the clipboard;
- Write to a text file;
- Write from an array or list box to a file;
- Be able to write code that uses the directory command.



*Due in Blackboard by Midnight, Wednesday, April 3, 2024*

**Discussion:** 7: Strings

**Quizzes:** 7: Strings, 8: Files



*Due in Blackboard by Midnight, Sunday, April 7, 2024*

**Assignments:** [Project 6: Files](#)

**Last chance to take Quizzes:** 7: Strings, 8: Files

**Last chance to respond in Discussion:** 7: Strings

## **Week 9: Monday, April 8, 2024 - Sunday, April 14, 2024**

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



### [Lesson 16: A Picture Viewer Application](#)

#### Goals:

- Use Dialog to Select folder or file;
- Open and Display a Picture;
- Use Timer to Create Slide Show

**Objectives:** In order to do this you will:

- Understand the picture viewer application;
- Use the common dialog controls to select a folder or file;
- Use a timer to create a slide show.

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### [Lesson 17: The Pizza Project](#)

#### Goals:

- Create and access controls Dynamically;
- Display Pizza Toppings from File;
- Find total Cost of Pizza

#### Objectives: In order to do this you will:

- Create an application with dynamically created controls;
- Understand how to access controls that are created dynamically.



*Due in Blackboard by Midnight, Wednesday, April 10, 2024*

**Discussion:** 8: A Picture Viewer

**Quiz:** 9: The Picture Viewer and Pizza



*Due in Blackboard by Midnight, Sunday, April 14, 2024*

**Last chance to take Quiz:** 9: The Picture Viewer and Pizza

**Last chance to respond in Discussion:** 8: A Picture Viewer

## **Week 10: Monday, April 15, 2024 - Sunday, April 21, 2024**

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



### [Lesson 18: Drawing in C#](#)

**Goal:** Use drawing methods to create drawings and graphs.

#### Objectives: In order to do this you will:

- Be able to define and use the pen;
- Be able to define and use the brush;
- Combine graphic elements to create a variety of shapes;
- Be able to create a variety of graphs from user data using graphics tools



*Due in Blackboard by Midnight, Wednesday, April 17, 2024*

**Discussion:** 9: Drawing and Graphs

**Quiz:** 10: Drawing



*Due in Blackboard by Midnight, Sunday, April 21, 2024*

**Assignments:** [Project 7: Graph](#)

**Last chance to take Quiz:** 10: Drawing

**Last chance to respond in Discussion:** 9: Drawing and Graphs

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## Week 11: Monday, April 22, 2024 - Sunday, April 28, 2024

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



### [Lesson 19: List Box Manager](#)

#### Goals:

- Create a ListBox manager;
- Implement Add, delete, save to file;
- Implement Asking user if they want to save

#### Objectives: In order to do this you will:

- Understand how the list manager program works;
- Be able to implement Ask to Save in another application.



### [Lesson 20: ListBox Manager in C#: Part 2, Printing](#)

**Goal:** Access the printer to print contents of listbox

**Objective:** Be able to print data from a Windows Form Application



*Due in Blackboard by Midnight, Wednesday, April 24, 2024*

**Discussion:** 10: List Manager Application

**Quiz:** 11: List Manager



*Due in Blackboard by Midnight, Sunday, April 28, 2024*

**Last chance to take Quiz:** 11: List Manager

**Last chance to respond in Discussion:** 10: List Manager Application

## Week 12: Monday, April 29, 2024 - Sunday, May 5, 2024

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



### [Lesson 21: Object oriented programming in C#](#)

**Goal:** Be able to create and use Objects in C#

**Objectives:** In order to do this you will:

- Understand the advantages of object oriented programming (classes);
- Be able to create and use a class;
- Be able to use a built in class such as the Date;
- Be able to create a class using inheritance.



### [Lesson 22: Zebra Notes: Open, Save, Save As, and Format with a Rich Text Box](#)

#### Goals:



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- Work with a Rich Text Box;
- Format Text; Save changes;
- Remind to Save;
- Use Context menus to copy, cut and paste.

**Objectives:** In order to do this you will:

- Use variables to track changes;
- Resize a Rich text box;
- Use a timer to show the current time;
- Work with an RTF file;
- Write code to create a context menu
- Implement Ask to Save.



*Due in Blackboard by Midnight, Wednesday, May 1, 2024*

**Discussions:** 11: OOP, 12: Advice

**Quiz:** 12: Objects



*Due in Blackboard by Midnight, Sunday, May 5, 2024*

**Assignments:** [Project 8: OOP](#)

**Last chance to take Quiz:** 12: Objects

**Last chance to respond in Discussions:** 11: OOP, 12: Advice

## **Week 13: Monday, May 6, 2024 - Sunday, May 12, 2024**

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



### [Lesson 23: Final Exam](#)

**Goal:** To take both parts of the final exam

In order to do this you will:

- Prepare answers for part 2



*Due in Blackboard by Midnight, Sunday, May 12, 2024*

**Assignments:** [Final Exam: parts 1 and 2](#)

Updated 12/3/2023