

Course Syllabus

What you will learn in this course



Middle School Tech Apps: Grade 8

Few things move faster than ever-changing technology, and it's important to try and stay up-to-date on this modern digital transformation. In this course, you will get a guided tour through this towering technological landscape from hacking and hardware, understanding algorithms and basic cybersecurity, and even implementing powerful tools like Google apps. You will also improve your ability to type, code, and use audio and video editing software. In the end, you will learn all about how to be an effective and responsible digital citizen in a cyberworld that is only growing increasingly quick and complex. Let's get up to speed!

Unit 1: Getting Savvy about Cyberspace

Internet technology has transformed every aspect of modern life. From group video chats to virtual assignments and having dinner delivered to our doorsteps, our ability to use modern technology to our advantage has never been greater than it is right now! But while this technology offers incredible advantages, it can also spell serious trouble when it's used the wrong way. Interacting online thoughtlessly or inappropriately can lead to immediate *and* long-term trouble. The good news is that by learning how to manage your online

interactions in positive ways, you can easily avoid these issues. In this unit, you will discover how to use this technology as a responsible digital citizen.

What will you learn in this unit?

After studying this unit, you will be able to:

1. Explain how online activity relates to the user both now and in the future
2. Relate how laws and norms work to keep internet users interacting fairly
3. Convey the importance of cybersecurity for keeping internet users safe
4. Recognize the signs of cyberbullying and the impact it can have on its victims

UNIT 1 Assignments	
Assignment	Type
Lesson 01: The Internet Never Forgets	Lesson
Lesson 02: Keeping Cyberspace Honest	Lesson
Lesson 03: Keeping Cyberspace Safe	Lesson
Lesson 04: Keeping Cyberspace Kind	Lesson
Critical Thinking Questions	Submission
Activity 1: What Do I Want to Learn?	Submission
Activity 2: What Kind of Behavior Creates a Positive Digital Footprint?	Submission
Activity 3: What Effect Could an AUP Have on Me?	Submission
Unit 1 Discussion 1	Discussion
Unit 1 Discussion 2	Discussion
Unit 1 Quiz	Multiple Choice

Unit 2: Building Your Technology Toolkit

Technology seems to change practically overnight. Cutting-edge gadgets are soon replaced by faster, more powerful, and more efficient versions which get all the attention—for now, at least! This kind of progress can be overwhelming, but the benefits are hard to ignore. Yesterday’s advances in technology quickly led to the new products and applications of today, and those in turn set the stage for the tools of tomorrow. In this unit, we’ll look more closely at how technology has transformed our world and at ways that you can maximize technology’s benefits.

What will you learn in this unit?

After studying this unit, you will be able to:

1. Identify new or emerging technologies and explain the ways they impact society
2. Explain methods of interfacing with computer technology such as data storage options and file-naming conventions
3. Implement shortcuts and troubleshooting techniques for tech gadgets and software
4. Evaluate the quality and progress of computer keyboard performance

UNIT 2 Assignments	
Assignment	Type
Lesson 01: A Technology Time Warp?	Lesson
Lesson 02: You Can File That Under "Saved"	Lesson
Lesson 03: What's the Secret?	Lesson
Lesson 04: Shredding on a Different Board	Lesson
Critical Thinking Questions	Submission
Activity 1: How Much Faster Can I Type?	Submission
Activity 2: Can I Troubleshoot Technical Issues?	Submission
Activity 3: How Can I Save This for Later?	Submission
Unit 2 Discussion 1	Discussion
Unit 2 Discussion 2	Discussion
Unit 2 Quiz	Multiple Choice

Unit 3: Be Part of the Solution

Think of that movie you've been dying to see. Did you know that some movies can take as long as four years to make but show in theaters for only about four weeks? It's true. And that long list of names rolling at the end of the movie names the dozens—sometimes hundreds—of people who receive *some* credit for solving the problems on route to making the movie a reality. The same goes for games, apps, and electric cars, to name a few. But the products we enjoy didn't get made by accident. They all took an enormous amount of time, effort, and teamwork to produce. In this unit, you'll explore how this kind of collaboration takes place. You'll also discover the skills you can develop and the tools you can use to tackle the problems you want to solve.

What will you learn in this unit?

After studying this unit, you will be able to:

1. Identify skills and tools to help you identify the nature of a problem
2. Engage a process designed to break problems down into more manageable parts
3. Describe how practical pseudocode can clarify procedures and instructions
4. Demonstrate how flowcharts enhance teamwork and communication

UNIT 3 Assignments	
Assignment	Type
Lesson 01: So, What's the Problem?	Lesson
Lesson 02: Focusing Your Attention on Design	Lesson
Lesson 03: Problem-Solving with Pseudocode	Lesson
Lesson 04: Thinking in Pseudocode	Lesson
Critical Thinking Questions	Submission
Activity 1: What Have I Learned So Far?	Submission
Activity 2: Can I Instruct Someone Using Pseudocode?	Submission
Activity 3: How Can I Use the Design Process in Different Industries?	Submission
Unit 3 Discussion 1	Discussion
Unit 3 Discussion 2	Discussion
Unit 3 Quiz	Multiple Choice

Midterm Exam

1. Review information acquired and mastered from this course up to this point.
2. Take a course exam based on material from the **first half** of the course (**Note:** You will be able to open this exam only one time.)

Midterm Exam Assignments	
Assignment	Type
Midterm Exam	Multiple Choice
Midterm Discussion	Discussion

Unit 4: Using Text-Based Algorithms

Did you know that the world runs on largely invisible commands communicated in mathematical languages? Think about your favorite game or app. What do you like the most about it? Is it the graphics that grab your attention? Or has the music hooked you and brought you back for more? Whatever it is, the fact is that a programmer had to code the product so that it would work properly. But that's the tip of the iceberg! In our modern tech age, code runs virtually everything. In this unit, we'll begin exploring text-based languages and how they operate. We'll also take an in-depth look at one text-based language in particular, and you'll learn how programmers use languages to create a variety of software products all around the world.

What will you learn in this unit?

After studying this unit, you will be able to:

1. Describe the steps of the software development process
2. Recognize differences between computing data, such as binary code and bits
3. Compare modern software tools used for coding with text-based languages
4. Identify the building blocks of the Python coding language

5. Explain the two foundational operations for using the Python coding language

Unit 4 Assignments	
Assignment	Type
Lesson 01: Solving Problems with Software	Lesson
Lesson 02: Quick Guide to Computing Data	Lesson
Lesson 03: Communicating Through Text	Lesson
Lesson 04: The Building Blocks of Python	Lesson
Lesson 05: The Foundations of Python	Lesson
Critical Thinking Questions	Submission
Activity 1: How Can I Develop an Algorithm to Solve a Problem?	Submission
Activity 2: How Can I Use Loops and Iterations in a Text-Based Program?	Submission
Unit 4 Discussion 1	Discussion
Unit 4 Discussion 2	Discussion
Unit 4 Quiz	Multiple Choice

Unit 5: This Is Just a Formality

Social media has totally transformed not only how we interact with one another but also how we live our lives. If you're stuck on a math problem, you can bet YouTube has a video that can help you solve it. If you're looking for a recipe for banana bread, you can choose from any number of them on Pinterest. We share mind-boggling amounts of information across the internet. But this kind of easy access can make things a little *too* comfortable and familiar. Professionalism and formal interaction are still vital to our social interactions—even online. In this unit, we will evaluate the contexts for various kinds of social interaction. Then, we will turn to tools designed to help you stay focused and productive while working online. Finally, we'll wrap up the unit by reviewing standards that apply to creating and consuming online digital content. That way, you'll be prepared for any online interaction!

What will you learn in this unit?

After studying this unit, you will be able to:

1. Distinguish between various types of online social interactions
2. Relay the importance of ethics and laws for posting content online
3. Spot ways content can be crafted to convey a biased point of view
4. Share strategies for sourcing accurate and relevant online content

Unit 5 Assignments	
Assignment	Type
Lesson 01: Showing Respect in Cyberspace	Lesson
Lesson 02: Are You Sure This Is Legal?	Lesson
Lesson 03: That's One Way to Look at It	Lesson
Lesson 04: Information's the Name of the Game	Lesson
Critical Thinking Questions	Submission
Activity 1: How Can I Use the Internet to Change the World?	Submission
Activity 2: How Can I Improve My Blog with Multimedia?	Submission
Activity 3: How Can I Spot Bias, and How Do I Accommodate New Perspectives?	Submission
Unit 5 Discussion 1	Discussion
Unit 5 Discussion 2	Discussion
Unit 5 Quiz	Multiple Choice

Unit 6: Now, Put It All Together

Today's technology moves quickly. From searching the internet to sending and receiving messages, we want our content, and we want it NOW! Cutting-edge developments are ready to send today's tech into tomorrow's sales bins. But tomorrow's tech is about more than just surfing the web at sonic speed. Fresh features and peak performance are qualities that continue to drive demand. In this unit, we'll identify, compare, and even *combine* multiple content tools designed to deliver the quality your audiences crave. By learning to build your brand now, you'll set yourself up for sustained success, both today and into the increasingly interconnected world of tomorrow.

What will you learn in this unit?

After studying this unit, you will be able to:

1. Process and organize relevant data using appropriate applications
2. Craft different forms of media content to connect with a global audience
3. Develop and deliver in-person presentations pitched to popular audiences
4. Build brand recognition using tools to launch and develop a personal website

UNIT 6 Assignments	
Assignment	Type
Lesson 01: Taking Inventory of Your Content Tools	Lesson
Lesson 02: Show and Tell	Lesson
Lesson 03: Looking at the Numbers	Lesson
Lesson 04: Set Your Sites on the Future	Lesson
Critical Thinking Questions	Submission
Activity 1: What Did I Get from This Course?	Submission
Activity 2: How Can I Publish a Personal Website?	Submission
Activity 3: How Can I Improve My Website Using Other Programs?	Submission
Unit 6 Discussion 1	Discussion
Unit 6 Discussion 2	Discussion
Unit 6 Quiz	Multiple Choice

Final Exam

1. Review information acquired and mastered from this course up to this point.
2. Take a course exam based on material from **all units** in this course. (**Note:** You will be able to open this exam only one time.)

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