Journey Middle School
217 Celtic Drive, Madison, Alabama 35758
Codespace - Intro to Python
7th & 8th Grade
Ms. Kelly Brunson

Teacher Contact Information	**Email:** vkbrunson@madisoncity.k12.al.us **Classroom Phone:** 256-774-4695 ext: 84320
Classroom Digital Platforms	**Webpage Link:** https://www.madisoncity.k12.al.us/Domain/2882 **Schoology Link:** https://madisoncity.schoology.com/home **Distribution List Link:** https://forms.gle/21BqSqVb9oPDqQ886 **Curriculum:** https://firialabs.com/collections/codex%E2%84%A2
Textbook Information	Online CodeSpace curriculum https://make.firialabs.com/ (login usernames provided in class)
Course Description	CodeSpace: Introduction to Python is a course centered around project-based learning utilizing Python, a text-based coding language. In this course, students will learn to write Python code and utilize The CodeX device to create projects relevant to real-world situations. Students will be challenged to be creative and innovative as they collaboratively design and develop solutions to authentic problems.
Prerequisites	Computer Science for Innovators & Makers (CSIM)
Course Objectives	Apply computational thinking to solve problems. Recognize that computational thinking can be applied in multiple disciplines. Choose appropriate computational practices when solving a problem. Analyze and create algorithms. Analyze the structure and functionality of a program. Create programs by developing and testing code in a modular, incremental approach. Adapt or improve existing code. Describe the hardware components of an electronic device and how they interact with software and the environment. Analyze the implications of computing in society. Consider accessibility and equity when designing products, creating solutions,and collaborating with others. Describe the role, connections between disciplines, and impact of engineering and computer science on society.
Course Goals	Students Will: 1. Be able to follow the engineering design process 2. Learn and use standard safety practices. 3. Create algorithms and document the planning process for code 4. Demonstrate proper Troubleshooting and Code Tracing techniques 5. Design projects that meet consumer needs in today's world 6. Use sensors and actuators and inputs and outputs in projects 7. Create code using Python and download programs to the micro:bit microcontroller
Instructional Delivery Plan, Course Outline & Culminating Project (Course Outline)	**Unit 0: Coding Unplugged** ● Students learn basic terms, such as algorithm, program, and debug. We will discuss cybersafety, cybersecurity, digital citizenship, and best programming practices. **Unit 1: Getting Started** ● Students will learn the basics of coding in Python (Project 1: First Steps; Project 2: Display Games; Project 3: Micro Musician; Project 4: HeartBeat)

	Unit 2: Putting it All Together ● Students will synthesize skills to create more complex programs. (Project 5: Personal Billboard; Project 6: Answer Bot; Project 7: Game Spinner) **Unit 3: Using Inputs and Outputs** ● Students will use the micro:bit sensors to create programs with real-world applications. (Project 8: Reaction Tester; Project 9: Spirit Level; Project 10: Night Light; Project 11: Get Graphical) **Unit 4: Interactive Physical Computing** ● Students will create interactive projects that involve interactions between users and sensors as well as wireless "Internet of Things" networking. (Project 12: Radio Messenger; Project 13: Cyber Bit; Project 14: Temperature Sensor; Project 15: Alarm System; Project 16: Sounds Fun) *This is subject to change.*
Credentialing	None
CTSO Integration *(JMS Career Technical Student Organization is TSA)*	Technology Student Association, TSA, is a **career technical student organization** and a fundamental part of this course. It is a national career and technical student organization of students engaged in science, technology, engineering, and mathematics (STEM). TSA is integrated into the program which includes competitions and leadership opportunities. TSA provides students with activities during their class time and after school with our local TSA Chapter. *TSA Based Activities relevant to CSIM include but are not limited to: Lab Safety Posters, Coding Challenges, Career Prep, Cyber Security, Essays on Technology, Challenging Tech Issues*
Embedded Numeracy Anchor Assignment (Unit 3, Lesson 11 Get Graphical Mystery Plot)	● The Number System - Integer Operations CS: Unplugged Lesson 2, [7-NS1] ● The Number System - Fraction Operations CS: Unplugged Lesson 4, 5 [7-NS2, 7-NS3] ● Expressions and Equations - Expressions Jumpstart 1.2 Display Games [7-EE1, 7-EE2, 7-EE3] ● Expressions and Equations - Equations Jumpstart 1.3 Micro Musician, 1.4 Heartbeat [7-EE4] ● Expressions and Equations - Inequalities Jumpstart 2.5 Billboard, 2.6 Answer Bot [7-EE4] ● Statistics & Probability - Probability Jumpstart 2.7 Game Spinner, 3.8 Reaction Tester [7-SP5, 7-SP6, 7-SP7, 7-SP8] ● Ratios and Proportional Relationships - Unit Rates Jumpstart 3.9 Spirit Level [7-RP1] ● Ratios and Proportional Relationships - Proportional Relationships Jumpstart 3.10 Night Light [7-RP2] ● Ratios and Proportional Relationships - Percents & Problem Solving Jumpstart 4.12 Radio Messenger, 4.13 Cyberbit [7-RP3] ● Geometry- Constructing Figures Jumpstart 3.11 Get Graphical [7-G1, 7-G2, 7-G3] ● Geometry- Circles Jumpstart 4.14 Temperature Sensor [7-G4] Jumpstart 4.16 Sounds Fun, Jumpstart 4.15 Alarm System ● Geometry- Angles [7-G5] ● Geometry- Real-World Problems [7-G6] ● Statistics & Probability - Statistics [7-SP1, 7-SP2, 7-SP3, 7-SP4]
Embedded Literacy Anchor Assignment (Flowchart and Reflection Assignments to accompany most projects in the course)	● R1. Utilize active listening skills during discussion and conversation in pairs, small groups, or whole-class settings, following agreed-upon rules for participation. ● R3. Use digital and electronic tools appropriately, safely, and ethically when researching and writing, both individually and collaboratively. ● Expression: 7. Produce clear, coherent narrative, argument, and informative/explanatory writing in which the development, organization, style, and tone are relevant to task, purpose, and audience, using an appropriate command of language. ● b. Write informative or explanatory texts with an organized structure and a formal style, incorporating a focused point of view, a clear purpose, credible evidence, and technical word meanings. ● 29. Use academic vocabulary in writing to communicate effectively. ● 2-CS-01 Recommend improvements to the design of computing devices, based on an analysis of how users interact with the devices. ● 2-NI-05 Explain how physical and digital security measures protect electronic information.

CTE Lab Safety Guidelines	Each student in a CTE/PLTW course will be required to complete a lab safety exam and score 100% correct before being allowed to use any tools on projects. We expect students to responsibly and safely use the CTE equipment. Examples of equipment used in CTE courses may include and are not limited to the following: scissors, hot glue guns, box cutters, power tools, hand tools, measuring tools, electronic equipment, computers, medical supplies, adhesives, robotics equipment, food items (consumable and non-consumable).
Classroom Expectations	Classroom Expectations: 1. Come prepared to learn everyday and follow all directions quickly. 2. Try to limit your time outside of the classroom as much as you can. 3. Try your very best every single day. 4. Be kind and respectful to everyone. 5. Keep your area clean 6. Keep all personal electronics out of sight during class
Progressive Discipline *(JMS Policy)*	**Step 1:** Verbal warning **Step 2:** Student/teacher conference **Step 3:** Parent contact/conference **Step 4:** Detention and a parent contact **Step 5:** Office referral
Grading Policy *(MCS Policy)*	**60%** = Assessments (Tests, Essays, Projects) **40%** = Daily Grades (Quizzes, Homework, Classwork, and Participation)
Late Work Policy	● Late work in CTE/STEM classes will not be accepted due to the brief nature of the classes. Students are expected to follow up with teachers upon return from an excused absence. ● Students present in class on the day of instruction are expected to turn in all in-class and out-of-class assignments on time.
Make-up Work/Test Policy	Under normal circumstances, it is expected that students will submit previously assigned work upon return to school after an excused absence. All work missed on the day(s) of excused absences must be made up within a timeframe determined by the teacher**. It is the responsibility of the student to ensure he or she makes up work following excused absences. Students will not receive credit for and will not be allowed to make up any assignments, tests, work, activities, etc., missed during unexcused absences.**
Technology	Student laptops should not be hard-wired to the network or have print capabilities. Use of discs, flash drives, jump drives, or other USB devices will not be allowed on Madison City computers. Neither the teacher nor the school is responsible for broken, stolen, or lost laptops. Laptops and other electronic devices will be used at the individual discretion of the teacher.
Accommodations	Requests for accommodations for this course or any school event are welcomed from students and parents.
Materials & Supplies	Composition notebook, Pencils, Wired headphones (not wireless)
Homework	All assignments and projects will be completed during class time. In the case that a student may not utilize time wisely or are absent from class they may be expected to complete this work at home.
Parent & Student Acknowledgment Form	Scan for acknowledgement form:

| | Link |
| | |