2022-2023
Liberty Middle School
281 Dock Murphy Drive, Madison, Alabama 35758
Mrs. Joy Hearrington
Science, Technology, Engineering & Math (STEM)
Technology Student Association (TSA) Advisor

Teacher Contact Information	**Email:** jhearrington@madisoncity.k12.al.us **Classroom Phone:** 256-430-0001 ext. 83112
Course Digital Platforms	**Webpage Link: https://www.madisoncity.k12.al.us/Domain/2099** **Schoology Link:** https://madisoncity.schoology.com/home **Distribution List:** PowerSchool will be used for parent contact, including class updates and announcements. **Please ensure** with the LMS Front Office **that your preferred email address and/or phone number is in PowerSchool correctly.**
Textbook Information	There is no textbook for this course. We use a variety of resources, activities and lessons to meet STEM I Standards. You will be able to see them in Schoology.
Course Description	STEM I is a course that **overviews foundational concepts of technology, how technology and society interact, the Engineering Design Process, the Designed World, and Digital Literacy. Typically, this course is hands-on, project based.** If forced to be in a virtual environment, we will do our best to replicate these projects to achieve course learning targets/objectives. **All assignments will also be listed in Schoology should a student be absent for any reason.**
Course Prerequisites	None
Course Objectives	We follow the Alabama State STEM Technologies I Standards for activities and lessons. (These are located in detail on my LMS teacher webpage as well.)
Course Goals	**Students will:** 1. **Identify and use the steps of the engineering design process.** 2. **Learn and use standard safety practices.** 3. **Describe the development of technology as a human activity that is the result of creatively meeting individual or collective needs.** 4. **Engage in positive, safe, legal, and ethical behaviors when using technology, including during social interactions online and when using networked devices.** 5. **Identify research strategies to locate information and other resources for their intellectual and/or creative pursuits.** 6. **Identify positive and negative ways the use of technology affects humans.**
Instructional Delivery Plan, Course Outline & Culminating Project	**Career & Technology Foundations** Safety, Workplace & Employability Skills, STEM Career Exploration, Digital Literacy, TSA *Students explore safety concerns, procedures, and implement safe practices in our workspace. Students discuss and demonstrate communication, collaboration, and soft skills in the workplace through various hands-on projects; use the Occupational Outlook Handbook and other resources to explore STEM careers; use digital skills to research and participate in TSA projects/events.* **Scope of Technology** Development of Technology to Meet Human Needs, Innovation, Technological Systems.

	Explain the close link between technology and creativity and how it results in innovation by exploring various inventions including the Internet. **Technology & Society** Positive & Negative Ways Technology Affects Humans, Management of Waste, Using Tech. to Repair from Natural Disasters, Employer-Driven Iterative Design, & Inventions & Innovations. *Students research the 2011 Fukushima Daiichi tsunami and nuclear disaster and technology's effects on human life in the aftermath.* **Design Process** Identifying Criteria & Constraints, Using the Engineering Design Process, Developing Solutions to Problems, Process Documentation and Communication, Modeling Designs, No Perfect Design, Brainstorming, 2D and 3D Modeling. *Students practice the design process as they design various things including a machine model and video game.* **Digital Literacy** Digital Footprint and Permanence, Online Safety, Internet Research Strategies, Using Digital Resources to Collect Artifacts and Information on Real-World Issues, Addressing the Issues. *Students utilize code.org and other resources to explore digital literacy.* **Culminating Project:** Tetrahedral Kite
Credentialing	None
CTSO Integration *(LMS 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 STEM include but are not limited to: Lab Safety Posters, Career Prep, Essays on Technology, Challenging Tech Issues, CAD Foundations, Inventions & Innovations, Problem-Solving, Technical Design, and Video Game Design.*
Embedded Numeracy Anchor Assignment *(Tetrahedral Kite)*	Students will measure the lengths and calculate the amount of string needed to construct a tetrahedral kite; be able to construct and describe a tetrahedron, compare and contrast a tetrahedron and a pyramid, and describe the relationships between the four tetrahedrons that form the tetrahedral kite. Students will be able to apply and extend previous understandings of addition and subtraction to add and subtract rational numbers.
Embedded Literacy Anchor Assignment *(2011 Fukushima Daiichi Natural and Nuclear Disaster)*	Students will read and comprehend complex informational texts used to describe how technologies can be used to repair damage caused by natural disasters and to break down waste from various products and systems. Students will identify and describe positive and negative ways the use of technology affects humans, investigate the management of waste produced by technological systems as a societal issue and describe their findings.
CTE Lab Safety Guidelines	Each student in a CTE/PLTW course will be required to complete a lab safety exam and score a 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, robotics equipment, food items (consumable and non-consumable).

Classroom Expectations	1. Be Respectful. 2. Lean into Struggles & Own Your Education. 3. Be a Learner, Not a Finisher 4. Feed Your Passion 5. Cheerful Collaboration 1. Be in your seat when the tardy bell rings starting on bell work immediately. Don't wait to be told. *Detention for tardies will be assigned per LMS policy.* 2. Come prepared for class. Bring all necessary supplies, including a positive mindset for learning. 3. Treat others as you want to be treated. Show respect for yourself and others at all times. 4. Cell Phones should be off & put away unless instructed by the teacher otherwise.* 5. If it's not yours, don't touch it. Keep your hands and feet to yourself. 6. Be responsible for ALL technology and supplies. 7. The teacher dismisses the class, not the bell. 8. Behave in a manner conducive to learning for all. 9. Do not visit gaming, video, non-STEM curriculum websites during class. 10. Follow all Lab Safety rules in class and all rules listed in your LMS Handbook, District Technology Policy & MCS Code of Conduct. ***NOTE:** Student misuse of cell phones/devices during class may result in a **cell phone "time out"** and/or from the use of devices in our class, on an individual basis.
Progressive Discipline *(LMS 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 & Scale *(MCS Policy)*	**60%** = Assessments (Tests, Mini-Assessment, Projects) **40%** = Daily Grades (Quizzes, Progress Checks, Classwork, Daily Activities & Participation) **Grade Scale:** 90-100 = A; 80-89 = B; 70-79 = C; 65-69 = D; <64 = F
Late Work Policy	The Student handbook policy for late work will be followed. If students have an unexcused absence a 0 will be assigned for missed assignments. If students have an excused absence, they will have a minimum of 3 days and a maximum of 1 week to complete missed assignments. Time extensions may be determined on a case by case basis for the level of difficulty of the assignment.
Make-up Work/Test Policy	Students with excused absences will be allowed to make-up all work within three days of returning to school. It is the student's responsibility to ask for make-up work. Students can get with a classmate or ask the teacher for help. Work that is not made up will become a zero (including quizzes/tests). Many times, missed quizzes and tests can be made up during school.
Technology Policy	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.
Accomodations	Requests for accommodations for this course or any school event are welcomed from students and parents.
Materials & Supplies	Each student should have a personal set of earbuds/headphones for in class use brought with them daily in a protective case in their backpack. It is also recommended that each student have a composition book OR a single-subject notebook that **will stay in the class**. (He/she will be given their own file folder in a file cabinet). Colored pencils, regular pencils, erasers,

	scissors, and a glue stick would be helpful if they could keep those in their backpack as well (or in their classroom notebook file).
Homework	*It is extremely rare that there is homework in STEM class other than thinking about projects and designs.* However, if a student does not use their time wisely in STEM class, work does come home.
Parent & Student Acknowledgment Form	*All Student assignments will be posted in Schoology; however, all grades will be posted in PowerSchool. Thank you for your support and I encourage you to contact me with any questions or concerns . Please sign below that you have received and read the syllabus and will abide by all policies. Thank You! Mrs. Joy Hearrington* _____ **STUDENT FULL NAME (Please Print) BLOCK DATE** _____ **PARENT SIGNATURE PARENT PHONE NUMBER(S)** **PARENT EMAIL(S):** *Please include any concerns or notes to Mrs. Hearrington below:*