Liberty Middle School

281 Dock Murphy Drive, Madison, Alabama 35758

Career Technical Education- Flight and Space

Mrs. Robinson, Room 114, Purple Pod

Teacher Contact Information	**Email:** dvrobinson@madisoncity.k12.al.us **Classroom Phone:** 256-430-0001 ext. 83114 **This syllabus is subject to change. Please initial each page, sign the last page, and return asap. The digital syllabus in Schoology and on my LMS teacher webpage is for your future reference.**
Classroom Digital Platforms	**Curriculum Link: www.pltw.org (Access via Clever)** **Schoology Link:** Can be accessed through MCS account **Parent Square:** Can be accessed through MCS account **Distribution List Link:** PowerSchool will be used for parent contact info
Required Instructional Materials	**Please ensure your students bring their MCS Chromebook charged and ready for class each day.** • Students will access the curriculum via CLEVER from PLTW. • Students will complete daily assignments and assessments in Schoology and their engineering notebooks (provided by the teacher and stored in the classroom at all times).
Course Description	The exciting world of aerospace comes alive through the Flight and Space (FS) class. Students become engineers as they design, prototype, and test models to learn about the science of flight and what it takes to travel and live in space. They solve real-world aviation and space challenges and plan a mission to Mars. **Assignments will also be listed in Schoology should a student be absent for any reason.**
Course Prerequisites	None
Course Objectives	LO1.1 Persistently apply an iterative process to solve a problem or create an opportunity that can be justified; LO1.2 Solve a problem using computational thinking, analytical, and critical thinking skills; LO1.3 Analyze and describe design functionality by observation of an artifact; LO2.1 Design and conduct an experiment that investigates a question; LO3.1 Collaborate effectively on a diverse and multidisciplinary team; LO4.1 Communicate effectively for specific purposes and settings; LO5.1 Demonstrate the ability to manage multiple resources throughout a project; LO6.1 Explore a variety of careers related to engineering, biomedical sciences, and computer science; LO7.1 Demonstrate personal responsibility and initiative; LO8.1 Analyze the factors affecting flight; LO8.2 Represent data, and describe relationships and processes to make predictions and solve air traffic control problems; LO9.1 Identify potential reasons why people want to travel to space; LO9.2 Propose solutions to provide safe living conditions in space.

Course Goals	**Students will:** 1. **Explore the variety of careers related to engineering, biomedical sciences, and computer science.** 2. **Communicate effectively for specific purposes and settings.** 3. **Collaborate effectively on a diverse and multidisciplinary team.** 4. **Demonstrate personal responsibility and initiative.** 5. **Persistently apply an iterative process to solve a problem or create an opportunity that can be justified.** 6. **Analyze the factors affecting flight.** 7. **Represent data, and describe relationships and processes to make predictions and solve air traffic control problems.** 8. **Identify potential reasons why people want to travel to space.** 9. **Propose solutions to provide safe living conditions in space.**
Instructional Delivery Plan, Course Outline, and Culminating Project	**Unit 1**: **Flight** The Science Of Flight, Use Aerodynamic Concepts To Explain How Aircraft Fly, Introduction To the Engineering Design Process, Investigate the Effect of Different Airfoils on Flight, Use Maps for Navigation, Explore Flight Crew Scheduling Criteria **Culminating Project:** Design and Build a Prototype of an Aircraft and Create a Flight Plan Based on an Assigned Challenge Scenario. Challenge Scenarios Relate To Crew Scheduling, Maintenance Problems, or Route Changes. **Technology Student Association (TSA) CTSO Career Prep Project** Create Mock Cover Letter and Resume based on an Aviation/Aerospace Career and Participate in Mock Interviews **Unit 2: Space** Investigate How Scientists and Engineers Play a Vital Role In Space Travel, Space Discovery, and Living In Space; Explore Launch, Orbit, Landing, Maintaining Health in Space, and Maintaining a Stable Living Environment for Astronauts **Unit 3: Destination: Mars** Work in teams to design and model different aspects required to complete a mission to Mars. Collaborate to complete problems and present findings. Plan the astronaut crew, rocket specifications, crew daily activity schedules, Mars landing site, and Mars landing vehicle.
Credentialing	None
CTSO Integration (DMS Career Technical Student Association)	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 Events relevant to Flight & Space include but are not limited to: Lab Safety Posters, Career Prep, Essays on Technology, Challenging Tech Issues, CAD Foundations, Problem-Solving, Technical Design, and Flight.* Career Prep is the TSA Project that will be incorporated into this course.
Embedded Numeracy Anchor Assignment (Skimmer project data interpretation)	Students will fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation (L1.5). Students will write expressions that record operations with numbers and with letters standing for numbers (L1.2). Students use measurements and scales to create “astronaut pudding” and a menu for their astronaut based on their BMI (L2.4).

Embedded Literacy Anchor Assignment (Instant Design Challenge)	Students will use precise language and domain-specific vocabulary to inform about or explain the topic (L1.1 - L2.7). Students will produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience (L1.1-1.3, L1.5-L3.1). Students will draw evidence from literary or informational texts to support analysis, reflection, and research (L1.1-L3.1).
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. **Listen carefully and follow directions.** 2. **Refrain from distracting others** by: a. entering and leaving the room quietly b. sitting appropriately in your assigned seat. c. obtaining teacher permission to leave your seat. d. keeping hands, feet and objects to yourself. e. raising your hand to speak and waiting to be called upon. f. not teasing others. 3. **Be prepared** for class having pencils and your **charged laptop.** 4. Use class time for working on Design and Modeling assignments only. 5. Keep the area around your desk clean. 6. "Clock in" on time. Students should be seated when the tardy bell rings. **Students tardy to class will receive a detention per LMS policy.** 7. Be honest. Avoid cheating and sharing work. (See Code of Conduct for definition of cheating.) 8. Stay awake and attentive. 9. **Refrain from chewing gum, eating and drinking in class.** Water bottles are permitted. 10. **Cell phones and all other bluetooth capable devices must be powered down and in a backpack from 8:15 am - 3:20 pm.** **All students must follow the Madison City Schools Code of Conduct.**
Progressive Discipline Policy (LMS Policy)	Support will be provided to assist student in making good decisions that result in positive educational outcomes.
Technology & Cell Phone/Digital Device Procedures	Effective July 1, 2025, the use, operation, or possession of Wireless Communications Devices including but not limited to cellular telephones, tablet computers, laptop computers, pagers, gaming devices, smart watches, earphones or headphones in school buildings or on school grounds during the Instructional Day, is prohibited. Violation of Board policy with respect to such use, operation, or possession of Wireless Communication Devices will constitute a Class II violation. Madison City Schools has outlined an Electronic/Wireless Device Policy (Policy 6.20) on page 137 of the MCS Policy Manual.

Progressive Discipline	**Liberty Middle School Classroom Management Plan:** **Step 1:** Verbal warning **Step 2:** Student/teacher conference with parent notification **Step 3:** Parent contact/conference **Step 4:** Detention **Step 5:** Referral to administration for repeat Class I violations and initial Class II and Class III offenses **Note that per the Madison City Schools Code of Conduct, some offenses result in immediate detention of referral to administrator's office.** (Madison City Schools Code of Conduct)
Grading Policy ***(MCS Policy)***	**60%** = Assessments (Projects and Tests) **40%** = Daily Grades (Quizzes, Homework, Classwork, and Participation) **Grade Scale:** 90-100 = A; 80-89 = B; 70-79 = C; 65-69 = D; <64 = F
Late Work Policy	**Late assignments will be reviewed and considered on an individual basis. As CTE/STEM courses simulate real-world work environments and emphasizes project-based learning, timely completion of tasks is essential. However, if circumstances arise, students are responsible for communicating with the teacher emulating positive employability traits; each situation will be assessed fairly and thoughtfully.**
Make-up Work/Test Policy **(MCS Policy)**	Students with excused absences will be allowed to make-up all work within three days of returning to school. Make-up assignments are the student's responsibility. Work that is not made up will become a zero (including quizzes/tests). Students will not receive credit for and will not be allowed to make up any assignments, tests, work, activities, etc., missed during unexcused absences. (Madison City Schools Code of Conduct)
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.
Materials & Supplies	**Students should come to class daily prepared with a fully charged Chromebook, pencils, and black pens. All other materials for the class will be provided.** Students should have all materials listed on the LMS Website.
Homework	All work is designed to be done in class. Any work at home is usually due to an illness, incompletion, or extenuating circumstances.

This syllabus is subject to change.

PLEASE SIGN AND RETURN THE NEXT PAGE.

Acknowledgment Statement of the updated syllabus for Flight and Space.

After reading this syllabus and reviewing it in detail with your scholar, please detach and return this page only.

We, the undersigned, acknowledge that we have read and understood the syllabus for this class. We agree to support our student's learning and abide by the policies outlined.

Student Name: _____ Signature of Student: _____ Date: _____

Parent/Guardian Name: _____ Phone Number _____

Parent/Guardian Signature: _____ Date: _____ Email_____

Parent/Guardian Name: _____ Phone Number _____

Parent/Guardian Signature: _____ Date: _____ Email_____

- ☐ I can receive emails to the address(es) listed above regarding my child's grades/behavior.
- ☐ I cannot receive emails to the address(es) listed above regarding my child's grades/behavior.

If you work in a career field or own a business related to any of the course objectives/goals listed above, and would enjoy sharing your expertise with the class, please complete the following.

Your Name _____

Company Name_____

Job Title _____

Phone _____

Email _____

Your Name _____

Company Name_____

Job Title _____

Phone _____

Email _____