

Cyber Command Center

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Malesus STEM (Science, Technology, Engineering, Math) Innovation Center's Mission Statement:

The Malesus STEM Innovation Center mission is to reimagine learning within the context of the 21st Century to meet emerging industry workforce needs.

Cyber Command Center: The Cyber Command Institute is a comprehensive and innovative program that teaches science and math in the context of digital technology. The Cyber Command Institute instructional program introduces students to the world of cybersecurity, data analytics, and esports. The program is designed to empower students with the knowledge and skills necessary to navigate the digital landscape safely and responsibly.

The Cyber Command Institute includes and exploration and introduction to four specific focus areas related to Cyber Command:

(1) Cyber Security

- Students learn concepts related to protecting digital information, online privacy, and malware through hands-on activities that help students develop critical thinking skills to identify and mitigate potential cyber threats.

(2) Esports

- Esports, which stands for electronic sports, is an exciting and rapidly growing field that combines competitive gaming and teamwork and strategic thinking. Students will explore the world of esports and develop their gaming skills in a structured environment that focuses on game mechanics, strategy development, and effective teamwork.

(3) Data Analytics

- Teaches students how to analyze and interpret data. Students will gain an understanding of how data can be used to make informed decisions, solve problems, and identify patterns and trends.

(4) Artificial Intelligence

- Students are introduced to the basics of AI and its applications. They learn about machine learning algorithms, natural language processing, and computer vision exploring how AI can be used to solve real-world problems while addressing ethical implications related to the implementation of generative AI and other forms of artificial intelligence.

Additional Required Course – 7th Grade Mathematics:

Students will explore the following mathematical concepts and skills:

- A. **Ratios and Proportional Relationships** - Students extend their understanding of ratios from 6th grade and develop understanding of proportionality to solve single- and multi-step problems. Students use this understanding to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line. They distinguish proportional relationships from other relationships.
- B. **The Number System** - Students develop a unified understanding of numbers, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percent as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. These properties are further explored with respect to negative numbers. This exploration is carried out in real-world problems with various contexts so that the student can gain a deeper understanding and appreciation for the use of mathematics in daily life.
- C. **Expressions and Equations** - By applying the properties of operations as strategies, students explore working with expressions, equations, and inequalities. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve multi-step real-world problems. They use variables to represent quantities and construct simple equations and inequalities to solve problems by reasoning about the quantities.
- D. **Geometry** - Students continue their work with area from 6th grade, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity, they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
- E. **Statistics and Probability** - Students continue their work from 6th grade to build a solid foundation for statistics and probability needed for high school. Students understand that statistics can be used to gain information about a population through sampling. They work with drawing inferences about a population based on a sample and use measures of center and of variability to draw informal comparative inferences about two populations. Students investigate the chance processes and develop, use, and evaluate probability models. Students summarize numerical data sets with respect to their context using quantitative measures and describe any overall patterns or deviations from the overall pattern.

Additional Required Course: 7th Grade Science

The theme for seventh grade science is how matter and reactions are the basis for life science, particularly the molecules that make up life (LS1) DNA/proteins, and their hierarchy to organ systems

and heredity; and biogeochemical cycles (LS2) carbon and oxygen cycling through photosynthesis and aerobic cellular respiration. Earth and space science standards are addressed from a perspective based on matter and reactions (atmospheric composition, combustion, and climate change).

Tennessee's state mathematics standards are integrated into the science standards, specifically connecting proportional reasoning with whole number multiplication and division. Special attention is given to science literacy through the use of science and engineering practices.

Student Expectations:

1. Be Respectful
2. Be Responsible
3. Be Ready
4. Be Safe

Course Materials:

1. 1 ½ inch binder
2. Pencils (Mechanical are acceptable)
3. 1 pack of notebook paper
4. 2 black dry erase markers
5. 1 pack of dividers
6. 2 plastic folders
7. 2 highlighters
8. 2 composition books

Grading Policy:

A = 90 – 100

B = 80 – 89

C = 70 – 79

D = 60 – 69

F = Below 59

* We will be using our cell phones in class for educational purposes. We will also be using IXL, Edmentum, Canva, and I-Ready applications/websites. All students must take and pass an Internet Safety Test before using the cyber programs. We will take the exam during the first week of school on Thursday.

Study Guide for Middle School Internet CTE Safety Test

Internet Safety

- **Protect Personal Information:** Never share your full name, address, phone number, school name, or other personal details online.
- **Create Strong Passwords:** Use a mix of letters, numbers, and special characters; change passwords regularly.
- **Be Cautious with Links:** Do not click on suspicious links or download attachments from unknown sources.
- **Enable Privacy Settings:** Use privacy settings on social media and other accounts to control who can see your information.
- **Recognize and Avoid Scams:** Be aware of phishing emails, fake websites, and online scams.
- **Report Suspicious Activity:** Tell a trusted adult if you encounter something or someone suspicious online.
- **Stay Updated:** Keep software, browsers, and apps updated to protect against security vulnerabilities.

Plagiarism with Text and Photos

- **Understand Plagiarism:** Using someone else's work (text or photos) without giving proper credit is plagiarism. When we start coding there are some images that you may not be able to use due to copyright.
- **Cite Your Sources:** Always give credit to the original creator by citing sources properly.
- **Use Creative Commons:** Look for images and content labeled for reuse with proper attribution.

Electrical Safety

- **Avoid Overloading Outlets:** Plugging too many devices into one outlet can cause overheating and fires.
- **Inspect Cords:** Check for frayed or damaged cords and replace them to prevent electrical hazards.
- **Outlets:**
 - Do not insert objects in electrical outlets that are not for intended use.
 - Do not have open containers of liquid close to electronics and electrical outlets.

Professional Internet/Website Use

- **Use Appropriate Language:** Communicate professionally and respectfully online.
- **Follow Website Policies:** Adhere to the terms of service and community guidelines of websites you use.
- **Keep it Professional:** Maintain a professional presence on work-related or school-related platforms.

Sharing Personal Information Online

- **Think Before You Share:** Consider the long-term impact of sharing personal information and photos online.
- **Use Aliases or Nicknames:** When appropriate, use nicknames instead of your real name.

- **Avoid Sharing Sensitive Information:** Do not share your Social Security number, passwords, or other sensitive information.

Responsibly Using Equipment/Technology with Care

- **Handle Equipment Gently:** Avoid dropping or mishandling devices to prolong their lifespan.
- **Follow Usage Guidelines:** Use equipment according to the manufacturer's instructions and school policies.

Hacking

- **Understand Hacking:** Unauthorized access to or manipulation of systems is illegal and unethical.
- **Protect Your Devices:** Use firewalls and antivirus software to safeguard against hackers.
- **Report Hacking Attempts:** Inform a trusted adult if you suspect hacking activity.

Internet Etiquette

- **Be Respectful:** Treat others online as you would like to be treated.
- **Use Proper Grammar and Spelling:** Communicate clearly and effectively.
- **Avoid Caps Lock:** Typing in all caps can be interpreted as shouting and is considered rude.

Please return this paper with completed signatures

7th grade Cyber Command/ STEM Ms. Brown

2024-2025

Syllabus Acknowledgement

I acknowledge that I have read and understand the class syllabus for 7th grade Malesus STEM class. I also understand that my student must pass the safety test before being able to use technological resources.

Student Printed Name

Student Signed Name

Session: AM/PM

Parent/ Guardian Contact Information and Preferences (please print clearly)

Parent/Guardian Name: _____

Daytime Phone: _____ Home Phone: _____

Email Address: _____

Parent/Guardian Name: _____

Daytime Phone: _____ Home Phone: _____

Email Address: _____

*

Parent/Guardian Signature

Date