



**Course Syllabus**  
**APPLICATIONS OF FINITE MATHEMATICS, Spring 2025**  
**Instructor: Mrs. Britney Brettel**

**Course Description:**

This course provides students with the opportunity to explore mathematics concepts related to finite mathematics and their application to computer science and other fields and includes areas of study that are critical to the fast-paced growth of a technologically advancing world. The wide range of topics includes logic, counting methods, information processing, graph theory, election theory, and fair division, with an emphasis on relevance to real-world problems.

**Course Objectives:**

To enable students to comprehend the objectives mandated by the state for this course and to build a strong foundation for subsequent math courses. Also, to decrease the apprehension of learning mathematics and to make learning more relevant and enjoyable.

**Classroom Rules and Expectations:**

1. Jet Nav Values: **Be Respectful, Responsible, Resourceful, and Reliable.**
2. Students are expected to arrive on time, be prepared for class, and be ready to learn.
3. All policies in the Madison City Schools student handbook will be enforced. This includes Dress Code, Tardy Policy, and Electronic Device Policy.
4. If a student has additional questions or needs extra help, then it is their responsibility to see me during Refuel. I will be available during Refuel on Mondays, Tuesdays, Wednesdays, and the first half of Refuel on Thursdays.

**Accommodations:** Requests for accommodations for this course or any school event are welcomed from students and parents.

**Classroom Management Plan:**

1. Verbal reprimand
2. Conference with student with parent contact
3. Withdrawal of privilege(s) with parent contact
4. Other consequences determined to be reasonable and appropriate by the school administration

**District Policy Concerning Electronic Devices:** Cell phones and earbuds/headphones will not be allowed to be used during classroom instruction time. Phones and earbuds/headphones will be put away in a location designated by the teacher and placed in silent mode. In secondary schools, students will have access to their phones and earbuds/headphones outside of classroom instruction time such as between classes and lunch. Failure to follow these procedures will result in consequences in the classroom management plan.

**Classroom Procedures Concerning Electronic Devices:** Upon arriving to class, students must place their cell phones into the designated cell phone pocket holder behind their assigned number. Once students are finished with all work for the class, then they may get their phones from the pockets. All phones will be returned at the end of class.

# James Clemens High School

11306 County Line Road  
Madison, AL 35756



**Phone: 256-216-5313**

*Extension: 95132*

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All earbuds, headphones, and laptops should be placed into their backpacks, unless otherwise directed by the teacher.

**Concerning Laptop Utilization:** Student laptops should not be hard-wired to the network or have print capabilities. 2. Use of discs, flash drives, jump drives, or other USB devices will not be allowed on Madison City computers. 3. Neither the teacher, nor the school is responsible for broken, stolen, or lost laptops. 4. Laptops and other electronic devices will be used at the individual discretion of the teacher.

**Restroom Policy:** Students may go to the restroom at the beginning of class during Bellwork, or at the end of class during daily work. They may not go to the restroom during active instruction time, unless it is an emergency.

## **Grading Policy:**

Test grades will account for 70% of the 9-weeks grade, with the remaining 30% being determined by quiz/daily grades. The grading scale is as follows: A (90-100%), B (80-89), C (70-79), D (65-69), and F (below 65). Grades will be a reflection of mastery of the standards. The final exam counts for 20% of the final grade. Any student caught cheating will receive a **zero**.

## **Texts/Required Readings:**

“Thinking Mathematically” by Prentice Hall / Pearson

## **Make-Up Work Policy:**

1. Notes, classwork, and homework will be posted on the board and on Schoology.
2. **Late** work will only receive **half** credit, unless it was due to an excused absence.
3. In order to receive full credit on homework assignments, you must **SHOW YOUR WORK**.
4. If homework is being copied, both parties will be held responsible and will receive a **zero**.
5. Missing only the review day prior to the test does **not** exempt a student from taking the test on the previously announced test date. Study guides with answer keys will be provided on Schoology the day before the test.
6. Students with an excused absence will need to schedule a make-up test date with Mrs. Brettel ASAP upon returning to school.

## **Course Materials:**

Three ring binder, paper, dividers, pencils, scientific calculator

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18 - WEEK PLAN*	
<b>WEEK 1</b>	Introduction to Applications of Finite Mathematics and Student Evaluation
<b>WEEK 2</b>	<b>Recursion:</b> Inductive and deductive reasoning; Sequences, series, fractals, population growth
<b>WEEK 3</b>	<b>Logical Reasoning:</b> Statements, Negations, Quantified, Compound Statements and Connectives
<b>WEEK 4</b>	<b>Logical Reasoning:</b> Logic operations and Truth Tables; Equivalent Statements
<b>WEEK 5</b>	<b>Advanced Counting:</b> Probability and counting techniques
<b>WEEK 6</b>	<b>Advanced Counting:</b> Fundamental Counting Principle, permutations and combinations
<b>WEEK 7</b>	<b>Advanced Counting:</b> Fundamental Counting Principle, permutations and combinations
<b>WEEK 8</b>	<b>Number Systems:</b> Hindu-Arabic Number System, early number systems, and changing bases
<b>WEEK 9</b>	Review / Midterm Exam
<b>WEEK 10</b>	<b>Matrices:</b> Matrix operations; Determinants and inverses of matrices
<b>WEEK 11</b>	<b>Information Processing:</b> Encryption and decryption algorithms; encode and decode messages
<b>WEEK 12</b>	<b>Fairness and Democracy:</b> Voting methods, flaws of voting methods
<b>WEEK 13</b>	<b>Fairness and Democracy:</b> Apportionment methods, flaws of apportionment methods
<b>WEEK 14</b>	<b>Networks:</b> Graphs, paths, and circuits; Euler paths and Euler Circuits
<b>WEEK 15</b>	<b>Networks:</b> Hamilton paths and Hamilton circuits; trees and spanning trees
<b>WEEK 16</b>	<b>Networks:</b> Vertex-coloring techniques and matching techniques; minimum project time algorithm
<b>WEEK 17</b>	Exam Review
<b>WEEK 18</b>	Review / Final Exam

\* This syllabus serves as a guide for both the teacher and student; however, during the term it may become necessary to make additions, deletions or substitutions.

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## Course Syllabus

### APPLICATIONS OF FINITE MATHEMATICS, Spring 2025

**Instructor: Mrs. Britney Brettel**

**Dear Parent/Guardian,**

I am excited about this semester and having your child in my class. Please feel free to contact me should you have any concerns about the progress of your son/daughter or any aspect of the instruction. I encourage you to check your child's grades on PowerSchool frequently and stay up to date with their progress, so that you are always aware of their current grade. Also, please be reminded that cell phones, earbuds, and laptops are not allowed for personal use during instruction time and must be placed in their designated locations. With your son/daughter, read the attached syllabus, then sign and date this signature page and have your son/daughter return this form. Please provide a current email address and phone number at which I can contact you should the need arise. Please feel free to contact me at school with any questions or concerns. I am looking forward to a great semester!

**Thank you,**

**Mrs. Britney Brettel**

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**My child and I have read and discussed the classroom syllabus.**

Student Name (Print) \_\_\_\_\_ Date \_\_\_\_\_

Student Signature \_\_\_\_\_ Date \_\_\_\_\_

Parent/Guardian Name (Print) \_\_\_\_\_ Date \_\_\_\_\_

Parent/Guardian Signature \_\_\_\_\_ Date \_\_\_\_\_

Email Address(es) \_\_\_\_\_

Phone number(s) \_\_\_\_\_  
Cell Home Work