



Course Syllabus
APPLICATIONS OF FINITE MATHEMATICS, Fall 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.
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 most 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

Concerning Electronic Devices: Please refer to the Madison City Schools Code of Student Conduct and Madison City Schools policy manual concerning wireless communication devices.

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 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.

James Clemens High School

11306 County Line Road
Madison, AL 35756



Phone: 256-216-5313

Extension: 95132

Email: bpbrettel@madisoncity.k12.al.us

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*	
WEEK 1	Introduction to Applications of Finite Mathematics and Student Evaluation
WEEK 2	Recursion: Inductive and deductive reasoning; Sequences, series, fractals, population growth
WEEK 3	Logical Reasoning: Statements, Negations, Quantified, Compound Statements and Connectives
WEEK 4	Logical Reasoning: Logic operations and Truth Tables; Equivalent Statements
WEEK 5	Advanced Counting: Probability and counting techniques
WEEK 6	Advanced Counting: Fundamental Counting Principle, permutations and combinations
WEEK 7	Advanced Counting: Fundamental Counting Principle, permutations and combinations
WEEK 8	Number Systems: Hindu-Arabic Number System, early number systems, and changing bases
WEEK 9	Review / Midterm Exam
WEEK 10	Matrices: Matrix operations; Determinants and inverses of matrices
WEEK 11	Information Processing: Encryption and decryption algorithms; encode and decode messages
WEEK 12	Fairness and Democracy: Voting methods, flaws of voting methods
WEEK 13	Fairness and Democracy: Apportionment methods, flaws of apportionment methods
WEEK 14	Networks: Graphs, paths, and circuits; Euler paths and Euler Circuits
WEEK 15	Networks: Hamilton paths and Hamilton circuits; trees and spanning trees
WEEK 16	Networks: Vertex-coloring techniques and matching techniques; minimum project time algorithm
WEEK 17	Exam Review
WEEK 18	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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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 child 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 note that all district policies will be enforced in my classroom. With your child, read the attached syllabus, then sign and date this signature page and have your child 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

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