

Modeling with Mathematics

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COURSE DESCRIPTION

An innovative course that offers students an exciting new perspective on mathematics, Mathematical Models with Applications explores the same types of problems that math professionals encounter daily. The modeling process--forming a theory, testing it, and revisiting it based on the results of the test--is critical for learning how to think mathematically. Demonstrating this ability can open up a wide range of educational and professional opportunities for students. Mathematical Models with Applications has been designed for students who have completed Algebra I or Geometry and would like additional math preparation before Algebra II. Polynomial, rational and radical relationships; Trigonometric functions; Modeling with Functions; and Inferences and conclusions from data.

STANDARDS: ALIGNMENT TO THE IOWA CORE CURRICULUM

Polynomial, rational and radical relationships; Trigonometric functions; Modeling with Functions; and Inferences and conclusions from data.

CONTENT: WHAT ARE WE GOING TO DO IN THIS CLASS?

Chapter 1 Mathematical Modeling	Chapter 8 Systems of Equations and Inequalities
Chapter 2 Direct Variation	Chapter 9 Symmetry and Transformations
Chapter 3 Solving Equations and Inequalities	Chapter 10 Exponential Functions
Chapter 4 Measurement: Perimeter, Area, and Volume	Chapter 11 Quadratic Functions
Chapter 5 Functions and their Representations	Chapter 12 Indirect Measurement
Chapter 6 Describing Data	Chapter 13 Periodic Functions and Sound
Chapter 7 Linear Models from Data	Chapter 14 Probability
	Chapter 15 The Mathematics of Personal Finance

SUPPLIES

- Modeling with Mathematics textbook
- Notebook and Folder or Binder
- Pens/pencils
- Graphing Calculator: TI-83/84

INSTRUCTIONAL STRATEGIES

Instructional strategies that will be used in this course, but are not limited to are: direct instruction, active participation, graphic organizers, presentation, cooperative learning, probing questions, questioning strategies, student projects, technology, note taking, modeling.

GRADING & ASSESSMENTS

Summative Assessment– These will be unit, semester tests. Tests will always be announced in advance. They will be worth approximately 100 points. 70% of the grade.

Formative Assessment (Quizzes) - These may be announced or unannounced. The test score will replace the quiz score if students demonstrate mastery of the topics on the test. Students may or may not be allowed to use notes. 15% of the grade.

Self Assessment (Homework Completion) - Students are expected to check their answers on homework daily and ask questions if needed. Homework will be accepted until the day of the test for partial credit and will count for 15% of the total grade.

Grading Scale:

93.0 – 100%	A	83.0-86.99	B	73.0-76.99	C	63.0-66.99	D
90.0 – 92.99	A-	80.0-82.99	B-	70.0-72.99	C-	60.0-62.99	D-
87.0 – 89.99	B+	77.0-79.99	C+	67.0-69.99	D+	Below 60%	F

ABSENCES

- If you miss class FOR ANY REASON it is your responsibility to get the assignment. Be sure to pick up anything that you may have missed when you were absent.
- If you miss class on a test/quiz day, you will be expected to take the test/quiz on the day you return to school. If you miss the day before a previously announced test/quiz, you will be expected to take the test/quiz with the rest of your class. If you miss more than one day I will work with you to make other arrangements.
- Problems with absences (excused or unexcused) or tardies will be handled according to the Senior High School attendance policy.

RESOURCES: GETTING HELP

Working together is strongly encouraged. (Copying is not.) You will find that you can learn a lot from each other. If you are having trouble with this class, you need to get help IMMEDIATELY. Remember I am here to help you if you want to be helped. Feel free to see me if any problems arise or you need any extra help. Also the Math Lab is available in Room A307 for you to get extra help. Friday Academic Support Time (FAST) has tutors available Friday mornings.

BEHAVIORAL/ACADEMIC EXPECTATIONS

Respect school property, others and their property, the right of others to learn, the teacher, and yourself

Additional guidelines:

1. Know the student handbook. If it is in there, it applies in here. (Code of Conduct, Cheating, Etc...)
2. Take care of personal business between classes.
3. Be in your seat ready to work when the bell rings.
4. Respect yourself, your peers, and the adults in the classroom

COMMUNICATION

The best way to contact me with any questions or concerns is via email kefoht@dbqschools.org. You may also reach me by phone at 563-552-5598. Messages left will be returned as soon as possible. I also update Powerschool after every test or quiz we take within a day or two of the assessment. It is a great way to keep track of your or your child's grade.