Advanced Mathematical Decision Making

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Course Description: This is a course designed to follow the completion of Advanced Algebra. The course will give students further experiences with statistical information and summaries, methods of designing and conducting statistical studies, an opportunity to analyze various voting processes, modeling of data, basic financial decisions, and use network models for making informed decisions.

Prerequisite: Advanced Algebra

Instructional Philosophy: The Advanced Mathematical Decision Making curriculum is both extensive and comprehensive. Time is a crucial commodity and it must be spent judiciously. Concepts of previous course topics will be reviewed and extended, but not re-taught.

Course Goals:

Upon completion of the course, students will be able to:

· Extend the understanding of proportional reasoning, ratios, rates, and percents by applying them to various settings to include business, media, and consumerism.

· Use a variety of network models to organize data in quantitative situations, make informed decisions, and solve problems.

· Create and analyze mathematical models to make decisions related to earning, investing, spending, and borrowing money.

· Create and use two- and three-dimensional representations of authentic situations.

· Determine probability and expected value to inform everyday decision making.

· Build the skills and vocabulary necessary to analyze and critique reported statistical information, summaries, and graphical displays.

· Apply statistical methods to design, conduct, and analyze statistical studies.

· Use functions to model problem situations in both discrete and continuous relationships.

Grading Scale:

A: 90 & above: outstanding quality of work, on time, almost all problems worked out correctly

B: 80-89: above average quality, on time, some mistakes in worked problems

C: 70-79: average quality, on time, frequent mistakes in worked problems but concepts generally understood

Course Assessment:

Nine Weeks Grade = 50% (Tests) + 50% (Other)

1st Semester Grade = (1st 9 weeks + 2nd 9 weeks) ÷ 2 x 80% + Semester Exam x 20%

2nd Semester Grade = (3rd 9 weeks + 4th 9 weeks) ÷ 2 x 80% + Semester Exam x 20%

Students may exempt the exam BOTH semesters. Refer to the handbook.

Supplies:

- 1 inch, 3-ring binder per semester - This binder should contain all materials at all times. You can combine with another subject in a larger binder.
- 3 ring notebook pouch
- notebook paper and pencils
- earbuds for phone/chromebook/computer
- portable charger - You will need one if you have a phone to use at school.
- project supplies - These will be announced as needed.
- any calculator - You can purchase the scientific calculator TI - 36X Pro through the math department for $25.00.