



Finite Math

2014-2015

Course Description:

This course, designed for upper-classmen who have successfully completed Algebra II, stresses the applications of a variety of mathematical concepts, specifically those algebraic and geometric in nature. Additional applications of topics such as probability and statistics, matrices, business, and economics will also be emphasized.

Course Content:

Inductive Reasoning vs. Deductive Reasoning

- Characteristics of reasoning
- Valid reasoning and pitfalls of inductive reasoning
- Number patterns
- Problem solving strategies
- Calculating, estimating, reading various graphs

Number Theory

- Sets of numbers
- GCF and LCM
- Sequences and ratios
- Problem solving with sets of numbers
- Order, absolute value
- Operations, properties, and applications of real numbers
- Rational numbers and decimal representation
- Irrational numbers and decimal representation
- Decimals and percents

Linear Equations / Inequalities

- Solving linear equations
- Models of linear equations
- Applications of linear equations
- Applications of linear inequalities

Functions

- Relations and functions
- Domain and range
- Function notation
- Modeling with functions

Linear Functions

- Slope
- Intercepts
- Slope intercept form
- Point slope form
- Linear models

Linear Systems

- Solving linear systems
- Applications of linear systems

Other Types of Functions

- Quadratic
- Cubic
- Exponential
- Absolute value
- Problem solving with each

Probability

- Historical background
- Probability, odds
- Properties of probability
- Not, or, and
- Gaming, investments, expected value, business

Statistics

- Visual displays of data
- Measures of central tendency
- Measures of dispersion
- Linear regression, correlation

Goals and Decision Making of Personal Financial Management

- How to really be a millionaire
- Invest in yourself
- An economic way of thinking
- Making financial decisions
- How to set goals

Careers and Planning

- Earning an income
- Making a job
- Why some jobs pay more than others
- What other careers are out there?
- Dreams and plans

Budgeting

- Why should I have a budget
- Funding my goals
- Uncle Sam takes a bite
- Forms, forms, forms
- Get a plan, get a grip, plan a budget

Saving and Investing

- Pay yourself first, early, and often
- Why should I have a savings plan?
- No free lunch in investing
- Save, invest, or both?
- Financial institutions in the US economy
- Reading the financial pages
- Researching companies
- Buying stocks and bonds

Credit

- Cash or credit?
- What is credit?
- Making credit choices
- Finding your way through the credit maze

- Applying for credit
- All about interest
- Shopping for a credit card
- Consumer credit protection

Transportation issues

- How do I get a set of wheels and what are the costs?
- What do I want and what can I afford?
- Loan or lease?
- Car insurance

Housing issues

- Moving into my own place
- How comfortable will my place be?
- Should I buy?
- Can I really afford that much?
- Shopping for a mortgage

Risk Protection

- Buyer beware
- In trouble?
- Scams, schemes, and identity theft
- Why insurance and how does it work?
- Basics of life insurance
- Auto insurance
- Renter's insurance

Required Textbooks and/or Other Reading/Research Materials

Mathematical Ideas, Eleventh Edition – Miller, Hereen, Hornsby, 2010

Course Requirements:

Each student is required to complete all projects, tests, and assignments. Failure to do so will adversely affect the student's overall grade.

Grade Components/Assessments:

Grades will be based on a point system that will be converted to overall percentages. The following methods will be used, for the year, to assess and evaluate student performance:

Tests/Quizzes/Alternative Assessments: 75-85%

Homework/Class Participation: 15-25%

Additional alternative assessments are often included in one of the categories above.

Based on our mission of giving every student a chance to reach his/her fullest potential, students will be allowed to make up work missed due to excused absences as stated in the student handbook and are encouraged to get additional help whenever necessary for better understanding of class concepts.

Each marking period is worth 20% of a student's overall grade. The final is worth 20% of a student's overall average:

Quarter 1	20%
Quarter 2	20%
Quarter 3	20%
Quarter 4	20%
Final	20%

Required Summer Reading/Assignments:

None