

MTH 212 : FUNDAMENTALS OF ELEMENTARY MATHEMATICS II

Transcript title

Fund of Elementary Math II

Credits

4

Grade mode

Standard letter grades

Contact hours total

40

Lecture hours

40

Recommended preparation

MTH 211.

Description

Covers decimals, percents, ratio and proportion, integers, rational and real numbers, and statistics and probability. Second term of a sequence for students planning to become elementary teachers but open to any student wanting to study the foundations of mathematics.

Learning outcomes

1. Student will use a variety of problem-solving techniques to analyze and solve problems from a variety of disciplines. Techniques will include exploring patterns, developing mathematical models, working backwards, creating tables of data, drawing graphs, using equations, estimating the reasonableness of an answer using a calculator or other appropriate technology.
2. Student will use linear, quadratic, and cubic equations and graphs to analyze mathematical models.
3. Student will explain relationships which exist between the fraction and decimal forms of rational numbers and between the decimal forms of rational and irrational numbers.
4. Student will create and interpret various types of statistical graphs including pie charts, histograms, dot plots, stem and leaf plots, and box and whisker plots.
5. Student will organize and interpret a variety of data sets using measures of central tendency (mean, median, and mode) and dispersion (range, variance, standard deviation, z-scores).
6. Student will explain elementary classroom appropriate activities which would help children develop a conceptual understanding of mean, median and mode.
7. Student will use counting techniques to analyze mathematical problems involving real-world situations.
8. Student will use a variety of probability tools, including listing, arrays, area models, and Pascal's triangle to analyze mathematical problems involving real-world probability situations.
9. Student will write extended reports (to be scored using the Oregon Mathematics Problem Solving Scoring Guide) describing work done to solve problems whose solutions are not immediately evident.

General education/Related instruction lists

- Discipline Studies/Science No Lab
- Foundational Skills/Mathematics