

Math 120 Fundamentals of College Mathematics | 3 credits Fall 2008

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Topics and Course Description: Mathematical concepts particularly relevant to informed and aware citizenship in modern society. Topics covered include functions, graphs, problem solving, topics in finance, geometry, and probability and statistics. Transfers as Math 120 to UNR, UNLV, and all community colleges in Nevada.

Text: College Mathematics (Lambert).

Calculator: A Scientific Calculator, such as a TI-83 or TI-84 graphing calculator, is required for this course.

Prerequisite: C or better in MATH 096 or equivalent or qualifying ACCUPLACER, ACT/SAT test results.

Learning Objectives:

- Describe and represent sets and combinations of sets. Compute and use the cardinal number of a set by using Venn diagram.
- Apply the rules of combinatorics and combinations of sets to compute the cardinal number of a set.
- Identify a probability experiment and construct or describe its sample space.
- Identify events and compliments of events and compute theoretical and empirical probabilities by using the definitions and rules of probability and combinatorics.
- Compute the expectation of a random variable.
- Construct or interpret a frequency distribution and histogram for a set of data.
- Compute the mean, median, mode, variance and standard deviation for a set of raw or grouped data.
- Use the Normal Distribution to perform computations in probability and to solve applied problems including but not limited to confidence intervals and margins of error.
- Find and interpret a linear regression equation for a set of data.
- Compute present and future values by using formulas appropriate to simple and compound interest as appropriate.
- Apply financial formulas to solve applied problems and make critical choices in situations involving add-on interest loans, simple interest amortized loans, and annuities.
- Convert units within and between unit systems by using Dimensional Analysis.
- Perform geometric computations involving perimeter, area, surface area and volume and apply these concepts to application situations.
- Find exact and approximate values for trigonometric ratios for angles measured in degrees.
- Apply trigonometry to problems involving solving and applying right triangles.
- Use exponential and logarithmic functions in mathematical modeling.
- Solve and apply exponential equations.

- Use a graphics calculator to perform calculations, construct and represent mathematical models and form conjectures.

Academic responsibilities:

- Learn all the material covered in this course.
- Learn basic calculator procedures to solve problems.
- Take all tests complete ALL homework/group work as stated in the class policy.
- Read new sections and complete reading assignments before coming to class. These will be given in the previous class.

Attendance: Attendance is checked every class period. Students are required to come to class on time and to stay for the entire class period.

Homework: Homework will be assigned every day. Students are responsible for obtaining the homework assignments missed due to absence from other students. It is the student's responsibility to keep current with the homework and ask questions to assure proper understanding.

Tests: There will two exams and a comprehensive final which will each take a full class period. Make-up tests will be given only for documented emergency situations with prior approval and at my convenience. Having fallen behind in your studies is not an acceptable excuse. The make-up test will be considerably more difficult than the original and there is no make-up test for the final.

Grading: The final grade will be determined by the following percentages:
exam 1 - 25%, exam 2 - 25%, final - 35%, homework - 15%, Letter grades will be assigned as follows:

A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69% F: below 60%.