

Lansing Community College

Math 119

Math: Applications for Living

Jack Rotman, Math119 course leader (rotmani@lcc.edu)

Description:

Uses strategies of arithmetic, geometry, and algebra to solve problems and effectively communicate solutions in a variety of occupational disciplines. Applies reasoning, problem solving, teamwork, mathematical thinking and modeling to measurement, proportions, percents, graphs, formulas, variables, geometry concepts, coordinate systems, and statistical reasoning and probability.

Prerequisite:

Beginning Algebra or Mathematical Literacy

Textbook:

Bennett & Briggs *Using and Understanding Mathematics* (Pearson), 6th edition

Sections: 3 per semester and growing

Grades:

67.7% 2.0 or higher (over the past 8 years) [compared to 63.3% in intermediate algebra]

Course Outline:

- A. Measurements, dimensional analysis, geometry (plane and 3-d)
- B. Percent growth & decay, multipliers, finance formulae; significant digits
- C. Statistical concepts and graphs, measures of center, correlation concepts, margin of error and confidence intervals
- D. Probability concepts, product and sums, law of large numbers, counting methods
- E. Functions (linear and exponential), finding rate of change, models, graphing, half-life, doubling time

Learning Outcomes: << a bit “out of date” >>

- A. Use mathematical principles, concepts, processes, and rules to investigate, formulate, and solve problems in disciplinary and career contexts.
- B. Work with others in teamed situations using mathematical principles, concepts, processes, and rules to investigate, formulate, and solve problems in disciplinary and career contexts.
- C. Use appropriate tools and equipment, including graphing calculators, in investigating, and solving problems in disciplinary and career contexts.
- D. Use standard references and resources, both print and electronic, from disciplinary and career areas as resources in investigation, formulating, and solving problems in disciplinary and career contexts.
- E. Use measurable attributes of objects and the units, systems, and processes of measurement in disciplinary and career contexts.
- F. Apply appropriate techniques, tools, and formulas to determine measurements in disciplinary and career contexts.
- G. Use and develop formulas for applied situations in disciplinary and career contexts.
- H. Use proportions, ratios, and percents in disciplinary and career contexts.
- I. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships as they apply in disciplinary and career contexts.
- J. Specify locations and describe spatial relationships using coordinate geometry and other representational systems in disciplinary and career contexts.
- K. Apply transformations and use symmetry to analyze situations in disciplinary and career contexts.
- L. Formulate questions in disciplinary and career contexts that can be addressed with data and collect, organize, and display relevant data to answer them.
- M. Select and use appropriate statistical methods to analyze data in disciplinary and career contexts.
- N. Develop and evaluate inferences and predictions that are based on data in disciplinary and career contexts.
- O. Understand and apply basic concepts of probability in disciplinary and career contexts.