MTH 120 - MATHEMATICAL EXPLORATIONS

Course Description

This course is designed to meet the MTA graduation requirements in math for students whose programs of study have no further math requirements. This course is designed to develop quantitative reasoning skills as applied to personal and social issues. Topics will convey to the student the beauty and utility of mathematics, and its applications to modern society. Core topics include logic, models of growth (linear & exponential), personal finance, basic statistics and probability. Group 1 course.

Credit Hours

3

Contact Hours

3

Lecture Hours

3

Required Prerequisites

A grade of 2.0 or better in MTH 23 or appropriate placement.

Recommended Prerequisites or Skills Competencies

High school algebra and geometry; Placement into ENG 111

General Education Outcomes supported by this course

Quantitative Reasoning

Course Learning Outcomes

Knowledge:
- Describe processes associated with logical thinking: problem solving and dimensional analysis.
- Describe processes associated with personal finance: compound Interest, amortization, annuity, consumer debt, inflation and taxes.
- Describe processes associated with growth models: graphical, numerical, linear, exponential, and regression and correlation.
- Describe processes associated with statistics and probability: mean, median, mode, standard deviation, and basic probability.
- Use correct mechanics; spelling, grammar, punctuation, and references.

Application:
- Solve real world problems using appropriate models and strategies.

Integration:
- Apply problem solving strategies justifying their results in real world problems: linear and exponential growth, dimensional analysis, logical reasoning, using a formula, using correct technology.

Human Dimension:
- Strive to improve areas of mathematical weakness based on feedback.
- Collaborate with peers during group work.

Caring - Civic Learning:
- Recognize the impact mathematics plays in civic situations such as politics, education and income.

Learning How to Learn:
- Relate mathematical skills to real-life situations.