C-ID Descriptor
Finite Mathematics

Descriptor Details

- **Descriptor Title**: Finite Mathematics
- **C-ID Number**: 130
- **Units**: 3.0
- **Date of Last Revision**: 10/12/2017 11:44:05 PM GMT+0000

General Description

Linear functions, systems of linear equations and inequalities, matrices, linear programming, mathematics of finance, sets and Venn diagrams, combinatorial techniques and an introduction to probability. Applications in business, economics and social sciences.

Prerequisites

Intermediate Algebra

Corequisites

No information provided

Advisories

No information provided

Content

1. Linear equations and functions;
2. Exponential and logarithmic functions and their applications;

3. Applications of linear functions to economics such as cost, revenue and profit functions, supply and demand equations, break-even point, and free market equilibrium;
4. Systems of linear equations;
5. Matrices including matrix algebra, Gauss-Jordan elimination and reduced-row echelon form, inverse matrices, and applications;
6. Linear programming;
7. Math of finance including simple and compound interest, future and present value, annuities, sinking funds, and amortization;
8. Set theory including DeMorgan's Laws and Venn diagrams; and
9. Probability and combinatorics including permutations and combinations; finding the probability of an event given the probabilities of the simple events in a sample space; conditional probability.

Lab Activities

No information provided

Objectives

Upon successful completion of the course, students will be able to:

1. Apply linear and exponential graphs and functions;
2. Write a system of linear equations to solve applied problems;
3. Solve a system of linear equations using Gauss-Jordan elimination and interpret the result;
4. Find the inverse of a square matrix and use the inverse to solve a system of linear equations;
5. Solve linear programming problems in at least three variables;
6. Find unions, intersections and complements of sets and use Venn diagrams to solve problems;
7. Apply basic combinatorial principles to enumeration problems;
8. Determine the probability of a specified event;
9. Find the conditional probability of an event; and
10. Solve applied problems in finance including simple and compound interest, future and present value, annuities, sinking funds, and amortization.

Evaluation Methods

Tests, examinations, homework or projects where students demonstrate their mastery of the learning objectives and their ability to devise, organize and present complete solutions to problems.

Textbooks

A college level text supporting the learning objectives of this course.