MATH 3262: Mathematical Modeling

3 Credit Hours

Prerequisite: MATH 2306

This course is designed to introduce students to fundamental concepts and methods of mathematical modeling, through a project-oriented approach. This course will involve applications of mathematical techniques to solve problems in areas such as ecology, biology, finance, social sciences, life sciences, physical sciences and engineering. The emphasis will be on the building of mathematical models and on interpreting the solutions of these models in terms of real-life applications. The course will emphasize skills in constructing and analyzing models.

MATH 3272: Introduction to Linear Programming

3 Credit Hours

Prerequisite: MATH 3260

The simplex method, dual simplex method, dual-primal two phase method, and several interior-point methods for linear programming problems will be introduced.
Notes: Selected applications will be discussed.

MATH 3318: Algebra for Elementary Teachers

3 Credit Hours

Prerequisite: MAED 3317 and admission to the Teacher Education program.

A continuation of Mathematics 3317 designed for preparing the P-5 teacher. Topics will emphasize understanding and use of the major concepts and techniques of algebra for grades P-5, including expressing, transforming, and generalizing patterns and quantitative relationships through a variety of representations, including tables, graphs, algebraic symbols, verbal descriptions, manipulatives, and geometric figures. Solving problems using multiple strategies, manipulatives, and technological tools will also be a focus.
Notes: Not for mathematics or mathematics education majors.

MATH 3322: Graph Theory

3 Credit Hours

Prerequisite: MATH 2345 or MATH 2390

This course serves as an introduction to the basic principles of graph theory. Topics include but are not limited to graph representations, isomorphisms, paths, cycles, colorings, trees, matchings, planarity, graph algorithms, and optimization.