

MATHEMATICS 1051
FINITE MATHEMATICS II

Mathematics 1051 introduces a variety of mathematical ideas ranging from the development of numeration systems to the use of linear programming in the solution of modern day problems. An assortment of interesting concepts, unsolved problems, and even surprises are encountered along the way.

For example, did you know that $2 + 2 = 11$ if you are calculating in base 3 instead of base 10? As you learn to convert from one number base to another and perform calculations in different number bases, you will come to a fuller understanding of the decimal system and how it works. Another fascinating topic is the Fibonacci sequence and its connection to the family tree of the male honey bee and the *golden ratio*, which appears frequently in art, architecture, music, and nature.

Geometry can be surprising as well. For example, do you realize that if you have to pay \$100 for a ball of gold one inch in diameter, then a ball five inches in diameter will cost \$12,500, while a ball one-half inch in diameter will cost only \$12.50? Ideas like this one surface in the section on geometry.

The two courses Mathematics 1050/1051 satisfy the requirement for entry into the programs for bachelor of education (primary/elementary), and are acceptable as the mathematics requirement for physical education and psychology (Arts). They are also suitable, in most cases, when a mathematics course is chosen as part of the requirements for a BA degree.

Text. The text currently in use is *Mathematical Ideas*, 12th Ed. by Miller, Heeren and Hornsby (Pearson).

Marks. The final grade is usually apportioned 60% to a final two-hour examination and 40% to term work.

Calendar description. **1051 Finite Mathematics II** covers topics which include elementary matrices, linear programming, elementary number theory, mathematical systems, and geometry.

Four hours per week.

Prerequisite: A combination of placement test and high school mathematics scores acceptable to the department or Mathematics 103F.

- Notes:*
1. *With the exception of those already admitted at the time of registration in this course to a B.Ed. program that requires this course, students who already have obtained credit for six or more Mathematics credit hours numbered 2000 or above are not permitted to register for this course nor can they receive credit for it.*
 2. *Credit cannot be obtained for Mathematics 1051 and the former 1151.*

Offered. Fall, Winter, Spring