

MATHEMATICS 1050
FINITE MATHEMATICS I

In how many ways can seven people be seated in a row of seven seats? In how many ways can this be done if three of these people (A , B , C) insist on sitting next to each other? What if two of them (D and E) refuse to sit together?

What is the probability that in a group of 25 people at least two of them have the same birthday?

Consider the following premises of an argument:

If you invite Allan, then you don't invite Dave. You invite Betty only if you invite Chris. You invite Allan if you don't invite Betty. You invite Dave.

Who, besides Dave, gets invited?

Interesting problems like these can be solved using elementary counting techniques, probability theory, and rules of logic that require little background in algebra. M 1050 (and M 1051) courses that satisfy the mathematics requirement for the bachelor of education (primary/elementary) degree, but they are also desirable alternatives to calculus for certain degree programs requiring two first year mathematics courses (e.g., physical education). They also fulfill the mathematics requirement for an arts degree with a major in psychology and can serve as prerequisites for Mathematics 2050 (Linear Algebra) and Statistics 2500, for example.

Text. The text currently in use is a custom edition of *Mathematical Ideas*, by Miller, Heeren and Hornsby (Pearson).

Marks. While the exact formula may vary from semester to semester, it is typical to assign 60% of the final grade in this course to a two-hour final examination. The remaining 40% is based on a combination of (usually) two term tests and several assignments.

Calendar description. **1050 Finite Mathematics I** covers topics which include sets, logic, permutations, combinations and elementary probability.

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 1050 and the former 1150.*

Offered. Fall, Winter