

## Math 4030

### Probability and Statistics

Fall 2010

**Instructor:** Greg Lee **Office:** RB 2005 **Phone:** 346-7867 **Email:** glee@lakeheadu.ca

**Class Times:** Section FA: MWF 9:30-10:30 in UC 0050  
FB: MWF 10:30-11:30 in BB 1075

**Office Hours:** MW 12:30-1:30

**Text:** *Miller & Freund's Probability and Statistics for Engineers, 8<sup>th</sup> Edition* by R.A. Johnson.

**Material to be Covered:** We will cover the majority of the material in Chapters 2 through 7, 9 through 11 and 14 of the textbook. Topics include: description of data (frequency distributions, means, variances, percentiles), discrete probability (Venn diagrams, counting arguments (permutations, combinations, etc.), conditional probability), discrete distributions (binomial, hypergeometric, Poisson, geometric, etc.), continuous distributions (normal, uniform, log-normal, exponential), confidence intervals and hypothesis testing (for means, variances, proportions), least squares methods, correlation, nonparametric tests (e.g. the sign test, rank sum test, randomness testing). Additional topics may be added if there is extra time.

**Assignments:** Assignments will be distributed on a regular basis (normally one per week) to be submitted for grading. These will account for 15% of your final grade. Please note that late assignments will not be accepted under any circumstances, but your lowest assignment mark will be dropped in calculating your final grade. Given the large class size, it is possible that not all problems will be graded on every assignment.

**Examinations:** There will be an in-class midterm, tentatively set for October 29, which will account for 25% of your final grade. The final exam (which covers the entire course) will be held during the final exam period, as scheduled by the university, and it will account for 60% of your final grade. Note that for both the midterm and final exam, you may bring a scientific calculator into the exam, but it must not be programmable. You will also be allowed to bring one double-sided 8.5x11" sheet of notes into the midterm, and two double-sided 8.5x11" sheets of notes to the final exam. Statistical tables that are needed to complete the exam will be provided.