Math 30440 Section 01, Spring 2008

Introduction to Probability and Statistics

Course website: `http://www.nd.edu/~dgalvin1/30440/`

NB: I have tried to make this information as accurate as possible, but it is *subject to change*.

General Arrangements

- **Instructor**: David Galvin, 248 Hayes-Healy, (574) 631 4181, `dgalvin1@nd.edu`. Feel free to email me anytime. I try to respond quickly to any question or comments, the one caveat being that I tend not to be email-active in the late evening or early morning.
- **Office hours**: Mondays 3pm-4pm and by appointment.
- **Lectures**: MWF 1.55pm-2.45pm, DBRT 131.
- **Text**: *Introduction to Probability and Statistics for Engineers and Scientists* (3th ed) by Sheldon Ross, Elsevier Academic Press, ISBN 0125980574.

About the course

- **Official course description**: An introduction to the theory of probability and statistics, with applications to the computer science and engineering. Topics include discrete and continuous random variables, joint probability distributions, the central limit theorem, point and interval estimation and hypothesis testing.
- **Course content**: Roughly chapters 1–7, and selected topics of chapters 8–11, of Ross.
- **Course objectives**: By the end of the course, you will be able to
  - obtain sample statistics, such as the sample mean and sample variance, from a data set;
  - approximate the distribution of the sample mean using the central limit theorem;
  - estimate unknown parameters from a data set using both point and interval estimators;
  - test the plausibility of a statistical hypothesis in the presence of a data set; and
  - perform linear regression analysis on a data set.

Course work

- **Homework**: Each Wednesday, I will announce an assignment and post it on the course website. It will be due at the beginning of class the following Wednesday (exceptions: the assignment announced on March 12 will be due on March 26 and there will be no assignment announced on March 19). Each assignment will involve some reading and some problems, possibly on an area not yet covered in lectures. Presented assignments should be neat and legible, and contain a cover page with your name, the course number, the assignment number and the due date. The grader reserves the right to leave ungraded any assignment that is disorganized, untidy or incoherent. After your lowest mark is dropped, your assignments count (equally weighted) for 100 out of 450 points of your final mark. No late assignments will be accepted. It is permissible (and encouraged) to discuss the assignments with your colleagues; but the writing of each assignment must be done on your own.
- **Exams**: There will be two midterm exams and a (cumulative) final exam.
  - **First midterm**: Thursday, February 14, 8.00am-9.15am, 127 Nieuwland Science Hall.
  - **Second midterm**: Tuesday, March 18, 8.00am-9.15am, 127 Nieuwland Science Hall.
  - **Final**: Monday, May 5, 1.45pm-3.45pm, Room TBA.

  These times are fixed by the University Registrar, and you are required to be available. Only conflicts involving official university business will be considered as a reason for missing an exam. If you are aware of such a conflict, please contact me as soon as possible. Specific exam policies (such as format, which sections will be covered, ...) will be announced in class in good time. Each midterm exam will count for 100 out of 450 points of your final mark, and the final will count for 150 out of 450 points.
- **Grading disputes**: If you have any issue with the grading of your weekly assignments or with your mid-semester exams, you must let me know (in writing) within seven days of receiving the work back; otherwise I do not promise to consider the issue.

Conduct

- **Honour code**: You have all taken the Honor Code pledge, to not participate in or tolerate academic dishonesty. For this course, that means that although you may (and should) discuss assignments with your colleagues, you must write the final version of each of your assignments on your own; if you use any external sources to assist you (such as other textbooks, computer programmes, etc.), you should cite them clearly; your work on mid-semester exams and the final exam should be your own; and you will adhere to all announced exam policies.
- **Class conduct**: The lecture room should be a place where you should feel free to engage in lively discussion about the course topic; don't be shy! But non course related interruptions should be kept to a minimum. In particular, you should turn off or switch to silent all cell phones, etc., before the start of class. If for some good reason you need to have your phone on during class, please mention it to me in advance.