

# Statistics (MATH 4733/5733) Spring 2012

## Homework 7

Due: Wed. Apr. 4, start of class

**Instructions:** Please read the homework policies and guidelines posted on the course webpage. You may **not** use a calculator (or computer) **except** for basic arithmetic functions (e.g.,  $+$ ,  $-$ ,  $\times$ ,  $\div$ ,  $\log 2$ ,  $e^{1/2}$ ,  $\sqrt{10}$ ). Make sure to write your name and course number in the top right corner of your solution set, as well as the assignment number on top. Please staple your homework. Sections and exercises refer to the exercises in the required course text.

Exercises marked with an asterisk (\*) are for students of 5733 only.

### Reading

Read Sections 7.1 – 7.4

### Conceptual questions

- What is the difference between the normal and Student  $t$  distribution? When would you use one versus the other?
- What are the relations between normal, chi-squared,  $F$  and Student  $t$  distributions?

### Written Assignment

**Section 7.3:** 3, 4, 5, 8

**Section 7.4:** 1, 5, 6, 7, 9, 18, 23, 26