# Department of Economics 

University of Toronto
2010/2011 Academic Year
Dr. Yu
Course ECO220Y1Y Quantitative Methods in Economics
Time and Tuesday 6:00 pm to 9:00 pm in LM162
Location

| Instructor | Dr. V. Yu, Section L5101 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Office | Room 344, Max Gluskin House, 150 St. George Street |  |  |  |  |
| E-mail | victoryu@chass.utoronto.ca |  |  |  |  |
| Office hours | (If possible, please email Dr. Yu on the day before to inform him that you are coming during the office hours) |  |  |  |  |
| Website | We will use Blackboard. You need to login to Blackboard using your UTORid and password. |  |  |  |  |
| Textbook | Statistics for Management and Economics, $8^{\text {th }}$ Edition, Keller, Duxbury Press 2008, ISBN 0-324-65337-9. (Note: You can also use the $7^{\text {th }}$ edition of the book instead of the $8^{\text {th }}$ edition) |  |  |  |  |
| Marking Scheme | Tests | Date | Time | Weight | Location |
|  | Test 1 | 2010/10/19 | 6-8pm | 14.5\% | GB412, GB304 |
|  | Test 2 | 2010/11/30 | 6-8pm | 14.5\% | SF3201,SF3202 |
|  | Test 3 | 2011/02/11(Friday) | 6-8pm | 14.5\% | EX 100 |
|  | Test 4 | 2011/03/18(Friday) | 6-8pm | 14.5\% | EX 200 |
|  | Excel | Mar/Apr 2011 |  | 7\%Mult | edia classroom* |
|  | Final E | m (3 hours) |  | 35\% | (Apr 12-29, 2011) |

* Multimedia classroom (Room 36 in the basement), Department of Sociology, 725 Spadina Avenue, corner of Spadina and Bloor. The computer test is roughly a 30 -minute to one-hour test in March/April 2011. Details will be announced in the winter term.

Tests will vary from section to section. The Final Exam is the same to all sections. In case the University closes (usually due to snowstorm, power failure, etc) on the day of a test, refer to Blackboard for instructions.

## Aids Allowed in Tests and Final Exam

Tests - formula sheets (provided to you with the test) and any calculator.
Final Exam - formula sheets (provided to you with the final exam) and calculator.

## Computer tutorials and the Excel test

Details will posted in Blackboard by the instructor for Excel training, Christy Chen, christy.chen@utoronto.ca.

## Missing a Test

- The weight of your first missing test will be added to the final exam. That is, if you miss one test, your final exam will be worth 49.5\%.
- If you miss more than one test, your $2^{\text {nd }}, 3^{\text {rd }}$ and $4^{\text {th }}$ missing test marks will be zero, and your final exam will be worth 49.5\%.


## Help Sessions/Tutorials

The TA for this course will hold four help sessions/tutorials before each test and the final exam. Times and locations will be posted in Blackboard.

## Course Outline ( $8^{\text {th }}$ Edition of the textbook)

The lectures will always fall behind the course Outline. The idea is to have the students read the textbook before coming to class.

| $\frac{\text { Year }}{2010}$ | Date | Chapter and Section | Contents |
| :---: | :---: | :---: | :---: |
|  | Sep 14 | 1.1, 1.3 | What is Statistics? |
| $2010$ |  | 2.1, 2.2, 2.3, 2.4, 2.5 Gra | hical and tabular descriptive techniques |
|  | Sep 21 | 4.1, 4.2, 4.3, 4.4, 4.7, 4.8 | Numerical descriptive techniques |
|  | Sep 28 | 5.1, 5.2, 5.3, 5.4 | Data collection and sampling |
|  | Oct 05 | 6.1, 6.2, 6.3 | Probability |
|  | Oct 12 | 7.1, 7.2, 7.4 | Random variables and discrete probability distributions |
|  | Oct 19 | Test 1 (2 hours) 6-8 pm in GB412, GB304 |  |
|  | Oct 26 | 8.1, 8.2, 8.4 | Continuous probability distribution skip the Chi-Squared distribution) |
|  | Nov 02 | (chapter 8 continued) |  |
|  | Nov 09 | No class (Fall Break) |  |
|  | Nov 16 | 9.1, 9.2, 9.3, 9.4 | Sampling Distributions |
|  | Nov 23 | 10.1, 10.2, 10.3 | ntroduction to Estimation |
|  | Nov 30 | Test 2 (2 hours) 6-8 pm in | SF3201,SF3202 |
|  | Dec 07 | 11.1, 11.2, 11.3, 11.4 Intr | duction to Hypothesis Testing |
| 2011 | Jan 11 | 12.1, 12.3 | nference about a Population |
|  | Jan 18 | (chapter 12 continued) | (skip Wilson estimators) |
|  | Jan 25 | 13.1, 13.2, 13.5 | nference about comparing Two |
|  | Feb 01 | (chapter 13 continued) | Populations |
|  | Feb 08 | (chapter 13 continued) |  |
|  | Feb 11 (Friday) Test 3 (2 hours) 6-8 pm in EX 100. |  |  |
|  | Feb 15 | 16.1, 16.2, 16.3, 16.4 Statistical inference: review of Chapters 12 and 13 |  |
|  | Feb 22 | Reading week, no class |  |
|  | Mar 01 | 16.5, 16.6 | Simple Linear Regression and Correlation |
|  | Mar 08 | (chapter 16 continued) |  |
|  | Mar 15 | (chapter 16 continued) |  |
|  | Mar 18( | riday) Test 4 (2 hours) 6-8 | pm in EX 200. |
|  | Mar 221 | 1,17.2 | Multiple Regression |
|  | Mar 29 | (chapter 17 continued) |  |

Apr 06 18.1, 18.2, 18.6 Model Building
Apr 12-Apr 29 Final Exam (3 hours)

## Recommended exercises from the $8^{\text {th }}$ edition of the textbook

| Chapter | Exercises |
| :---: | :---: |
| 1 | 1.1-1.7 |
| 2 | 2.3, 2.4, 2.6, 2.11, 2.14, 2.15, 2.21, 2.31, 2.33, 2.35, 2.56, 2.59, 2.62 |
| 4 | $\begin{aligned} & \text { 4.1, 4.3, 4.6, 4.8, 4.10, 4.20, 4.22-4.30, 4.37, 4.38, 4.40, 4.42, 4.46, } \\ & 4.55,4.56,4.57,4.59 \end{aligned}$ |
| 5 | $5.1-5.10,5.13,5.17-5.19$ |
| 6 | 6.5, 6.8, 6.9, 6.10, 6.14, 6.15, 6.17, 6.18, 6.20, 6.21, 6.22, 6.27, <br> $6.32,6.36,6.38,6.41,6.44,6.45,6.48,6.50,6.52,6.53,6.56,6.64$, 6.66, 6.68, 6.75, 6.77, 6.78, 6.80, 6.87, 6.89, 6.94, 6.95 |
| 7 | $\begin{aligned} & 7.1,7.2,7.5-7.8,7.14-7.17,7.18-7.21,7.26,7.34 \text {, } \\ & 7.37-7.42,7.43-7.46,7.49,7.50,7.52,7.54,7.56,7.81,7.82 \text {, } \\ & 7.85,7.87,7.90-7.96,7.99,7.103,7.108,7.109,7.110,7.112 \text {, } \\ & 7.115,7.116,7.118,7.123,7.125,7.128,7.132,7.140 \end{aligned}$ |
| 8 | $8.1-8.5,8.9-8.14,8.16,8,18,8.20,8.22,8.24,8.26,8.28,8.30$, 8.32, 8.34, 8.36, 8.38, 8.40, 8.42, 8.44, 8.46, 8.48, 8.50, 8.52, 8.54, 8.56, 8.58, 8.60, 8.62, 8.64 |
| 9 | $\begin{aligned} & 9.5-9.12,9.15-9.16,9.19,9.21-9.24,9.28,9.30,9.31,9.32 \text {, } \\ & 9.34,9.36-9.39,9.42,9.45-9.51,9.53 \end{aligned}$ |
| 10 | $\begin{aligned} & 10.1-10.8,10.10,10.12,10.14,10.16,10.17-10.20,10.22,10.26 \text {, } \\ & 10.29,10.41-10.44,10.48-10.50,10.56 \end{aligned}$ |
| 11. | $\begin{aligned} & 11.8,11.10,11.12,11.14,11.16,11.18,11.20,11.28,11.30 \\ & 11.48,11.50,11.52,11.62,11.64 \end{aligned}$ |
| 12 | $\begin{aligned} & 12.2,12.4,12.6,12.8,12.14,12.16,12.22,12.24 \text {, } \\ & 12.42,12.44,12.54,12.56,12.58,12.60,12.62,12.66,12.68,12.70 \end{aligned}$ |
| 13 | 13.2, 13.4, 13.6, 13.8, 13.10, 13.32, 13.34, 13.40, 13.42, 13.57, 13.58, 13.62, 13.70, 13.72, 13.74, 13.82, 13.84 |
| 16 | $\begin{aligned} & 16.2,16.4,16.6,16.8,16.10,16.12,16.26,16.28,16.30,16.32 \text {, } \\ & 16.62,16.64,16.66,16.68 \end{aligned}$ |
| 17 | 17.2, 17.4, 17.6 |
| 18 | 18.2, 18.4, 18.6 |

## Course Outline ( $7^{\text {th }}$ Edition of the textbook)

The lectures will always fall behind the course Outline. The idea is to have the students read the textbook before coming to class.

| Year | Date | Chapter and Section | Contents |
| :---: | :---: | :---: | :---: |
| 2010 | Sep 14 | 1.1, 1.3 | What is Statistics? |
|  |  | 2.1, 2.2, 2.3, 2.4, 2.5 | Graphical and tabular descriptive techniques |

Sep 21 4.1, 4.2, 4.3, 4.4, 4.6, 4.7 Numerical descriptive techniques
Sep 28 5.1, 5.2, 5.3, 5.4 Data collection and sampling
Oct 05 6.1, 6.2, 6.3 Probability
Oct 12 7.1, 7.2, 7.4 Random variables and discrete probability distributions
Oct 19 Test 1 (2 hours) 6-8 pm in GB412, GB304
Oct 26 8.1, 8.2, 8.4 Continuous probability distributions
(skip the Chi-Squared distribution)
Nov 02 (chapter 8 continued)
Nov 09 No class (Fall Break)
Nov 16 9.1, 9.2, 9.3, 9.4 Sampling Distributions
Nov 23 10.1, 10.2, 10.3 Introduction to Estimation
Nov 30 Test 2 (2 hours) 6-8 pm in SF3201,SF3202
Dec 07 11.1, 11.2, 11.3, 11.4 Introduction to Hypothesis Testing
2011 Jan 11 12.1, 12.3 Inference about a Population
Jan 18 (chapter 12 continued) (skip Wilson estimators)
Jan 25 13.1, 13.2, 13.5 Inference about comparing Two
Feb 01 (chapter 13 continued) Populations
Feb 08 (chapter 13 continued)
Feb 11 (Friday) Test 3 (2 hours) 6-8 pm in EX100
Feb 15 17.1, 17.2, 17.3, 17.4 Simple Linear Regression and Correlation
Feb 22 Reading week, no class
Mar 01 17.6, 17.7 Simple Linear Regression and
Mar 08 (chapter 17 continued) Correlation
Mar 15 (chapter 17 continued)
Mar 18(Friday) Test 4 (2 hours) 6-8 pm in EX200
Mar 2218.1, $18.2 \quad$ Multiple Regression
Mar 29 (chapter 18 continued)
Apr 06 19.1, 19.2, 19.6 Model Building
Apr 12-Apr 29 Final Exam (3 hours)

## Recommended exercises from the $7^{\text {th }}$ edition of the textbook

| Chapter | Exercises |
| :---: | :--- |
| 1 | $1.1-1.7$ |
| 2 | $2.3,2.4,2.6,2.11,2.14,2.15,2.21,2.31,2.33,2.35,2.56,2.59,2.62$ |
| 4 | $4.1,4.3,4.6,4.8,4.10,4.20,4.22-4.30,4.37,4.38,4.40,4.42,4.46$, |
|  | $4.55,4.56,4.57,4.59$ |
| 5 | $5.1-5.10,5.13,5.17-5.19$ |

$6 \quad 6.5,6.8,6.9,6.10,6.14,6.15,6.17,6.18,6.20,6.21,6.22,6.27$, 6.32, 6.36, 6.38, 6.41, 6.44, 6.45, 6.48, 6.50, 6.52, 6.53, 6.56, 6.64, 6.66, 6.68, 6.75, 6.77, 6.78, 6.80, 6.87, 6.89, 6.94, 6.95
$7 \quad 7.1,7.2,7.5-7.8,7.14-7.17,7.18-7.21,7.26,7.34$, $7.37-7.42,7.43-7.46,7.49,7.50,7.52,7.54,7.56,7.81,7.82$, 7.85, 7.87, 7.90-7.96, 7.99, 7.103, 7.108, 7.109, 7.110, 7.112, 7.115, 7.116, 7.118, 7.123, 7.125, 7.128, 7.132, 7.140
$8 \quad 8.1-8.5,8.9-8.14,8.16,8,18,8.20,8.22,8.24,8.26,8.28,8.30$, 8.32, 8.34, 8.36, 8.38, 8.40, 8.42, 8.44, 8.46, 8.48, 8.50, 8.52, 8.54, 8.56, 8.58, 8.60, 8.62, 8.64
$9 \quad 9.5-9.12,9.15-9.16,9.19,9.21-9.24,9.28,9.30,9.31,9.32$, 9.34, 9.36 - 9.39, 9.42, $9.45-9.51,9.53$
$1010.1-10.8,10.10,10.12,10.14,10.16,10.17-10.20,10.22,10.26$, 10.29, $10.41-10.44,10.48-10.50,10.56$
11. 11.8, 11.10, 11.12, 11.14, 11.16, 11.18, 11.20, 11.28, 11.30 11.48, 11.50, 11.52, 11.62, 11.64
$1212.2,12.4,12.6,12.8,12.14,12.16,12.22,12.24$, $12.42,12.44,12.54,12.56,12.58,12.60,12.62,12.66,12.68,12.70$
13 13.2, 13.4, 13.6, 13.8, 13.10, 13.32, 13.34, 13.40, 13.42, 13.57, 13.58, 13.62, 13.70, 13.72, 13.74, 13.82, 13.84

17 17.2, 17.4, 17.6, 17.8, 17.10, 17.12, 17.26, 17.28, 17.30, 17.32, 17.62, 17.64, 17.66, 17.68

18 18.2, 18.4, 18.6
19 19.2, 19.4, 19.6

