**Multiple Regressions Made Simple**

**Course Outline**

**June 23, 2020**

**Instructor: Dr. Tony Fang**

**Time: Tuesday, June 23, 2020，9:00 AM - 12:20 PM**

**Location: 44 Gerrard St. E., Centre for Urban Innovation, CUI Atrium**

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**Course Description:**

Regression is a vital tool for any quantitative researcher. Regression analysis provides a powerful research technique that allows you to investigate the combined associations and even causal relations between one or more predictors and an outcome. This introductory course on regression analysis gives you an overview of regression types and details the application of multiple regression.

The morning session of the course focuses on the theory and intuition behind regression analysis, in particular linear regression, and covers the formulation, interpretation and validation of linear regression models.

The afternoon session offers students hands-on use of a statistical package (STATA) to observe how the theory can be applied to answer a specific research question.

**Learning Outcomes:**

By the end of this course you should be able to:

* understand the different types of regression and their applications
* visualise and understand multiple regression model statistics
* understand multiple linear regression models and how these can be constructed
* interpret regression outputs

**If they have a lisence, please have ready. If not that is fine, we will show on the screen.**

**Tony send data and pdf. Tony cell: 709-325-2288, send Tony names.**

**Course Schedule**

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|  9:00 am – 9:30 am | Introduction to Multiple Regressions Main room ppt slides |
|  9:30 am – 10:00 am | Application 1: Using OLS regression analysis to examine the salary determinants of hockey players ppt slides |
|  10:00am -10:10am | Health Break |
| 10:10am -10:25am | Introduction to STATA- Statistical Software |
| 10:25am -10:45 am | Guided individual work: Exercise: Estimation and Analysis of Demand for Fast Food Meals |
| Students play around, Tony run through |  |
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| 10:45am -11:15am | Multiple Regression Models using Survey Data |
|  | Panel Data Regression Analysis using Statistics Canada SLID data to study minimum wage effects on wages and employment |
| 11:15 am - 11:25 am | Health Break |
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| 11:25 am- 12:10 pm | Presentation: Advanced Regression Techniques: Sample selection, instrumental variables, switching regression model |
|  | Using firm-worker linked survey data (WES) to provide evidence of immigrant, racial and gender wage gap: Sample selection, instrumental variables, switching regression model |
| 12:10 pm - 12:20 pm | Wrap-up and concluding remarks  |