Objective of Course: The focus of the course will be on how to undertake creating an empirical paper of academic journal quality using applied econometric techniques. Students will be encouraged to continue on with their research after the completion of the course, either on their own or through co-authorships. The focus will be on labour and health related data sets, although other datasets are available outside of the RDC.

Evaluation of Course

- Attendance/Participation/Assignments - 25%
- Presentation - 25%
- Final Paper - 50%

Letter Grade................................................................. Numerical (%) Equivalent
A+ ........................................................................................................ 90 – 100
A+ ........................................................................................................ 85 – 89
A- ................................................................................................. 80 – 84
B+ ................................................................................................. 77 – 79
B- ................................................................................................. 73 – 76
B- ................................................................................................. 70 – 72
F ..................................................................................................< 70

Tentative Dates

- Proposal: ~Early February
- Lit Review/Methodology: ~Due mid/late-February
- Presentation: ~End March
- Final Paper: ~April

Term Paper: The term paper can be written in either Microsoft Word or Latex although the use of Latex is encouraged. The term paper should be between 20 to 25 pages. The term paper cannot be used for another graduate course in an form. If you have any questions regarding this, please see me before starting your term paper.

Presentation: MAs 18 to 20 minute presentation and 3 minutes of questions. (subject to change)
PhDs 25 to 30 minute presentation and 3 minutes of questions. (subject to change)
Some subjects we will examine:

Econometric Methods (time permitting):

Panel Data
- Pooled Data
- Fixed Effects
- Random Effects
- Synthetic cohorts

Exploring Common Data Problems
Binomial and Multinomial Models
- Linear Probability Models
- Probit
- Logit
- Multinomial/Ordinal data
- Count data (Poisson and Negative Binomial Regressions etc.)

Causal Inference with Observational Data
- Instrumental Variables
  - 2SLS
  - Hausman-Taylor estimator
- Difference-in-Difference Models
- Regression discontinuity design

Obtaining Correct Inference
- Bootstrapping, Weighting and Survey Data
- Clustering related issues

Nonparametric and Semiparametric Methods
- Kernel Density Estimates
- Counterfactual Density Estimates
- Nonparametric Regressions
- Quantile Regressions
Other Stuff

- Factor Analysis
- Blinder-Oaxaca Decomposition
- Other requested topics...
- Heckit and Selection bias (probably not)
- Survival Analysis (probably not)

**STATA**

- No prior knowledge of STATA is required.

Subjects covered

- An introduction to STATA
- Simple programming techniques
- Panel Data
- Manipulating data
- MATA (STATA’s built in Matrix program) will also be taught throughout the term.

Students are expected to learn the rest of the STATA codes required for their term paper on their own.

Some Data Sets that are accessible in the RDC:

- National Population Health Survey (NPHS)
- Canadian Community Health Survey (CCHS)
- Workers and Employers Survey (WES)
- Survey Labour and Income Dynamics (SLID)
- Ethnic Diversity Survey (EDS)
- Youth-in-transition Survey (YITS)
- 2001 and 2006 Census Masterfiles
- Longitudinal Survey of Immigrants to Canada (LSIC)
- National longitudinal Survey of Children and Youth (NLSCY)
- National Graduate Survey (NGS)

Other Data Sets Are Also Available in the RDC

Alternatively, public use data is available from many sites, including:

[http://usa.ipums.org/usa/](http://usa.ipums.org/usa/)

Students using the RDC must undergo an orientation (takes around 45 minutes) and sign an oath before they are able to gain access to the data.
Suggested Technical References


Course Readings

SLID
Methods: Fixed Effects, Random Effects and Haussman-Taylor estimation


LSIC
Methods: Factor Analysis

CCHS
Methods: Difference-in-Difference

NGS
Methods: Hazard model

WES
Methods: Fixed Effects, Blinder-Oaxaca decomposition

NPHS
Methods: Fixed Effects

Census

Methods: Fixed Effects, Synthetic Cohorts

Other papers
Methods: Counterfactual density estimates

Methods: Counterfactual density estimates

Methods: Ordered Probit

Methods: Blinder-Oaxaca Decomposition, Kernel Density Estimates, Counterfactual density estimates

Methods: Correctly interpreting interaction terms for Logit/Probit

Methods: Unconditional quantile regressions