The course provides an introduction to the practice of applied econometrics, focusing on specifying, estimating, interpreting, and reporting estimates from econometric models. After completing this course, students should be capable and critical consumers and producers of workhorse econometric models, including linear regression, instrumental variables, basic time series and panel data methods, and difference-in-difference estimation. Problem sets and lectures emphasize applications of these methods to real data, including practical issues such as preparing tables and graphs, and the course draws heavily on applied examples in the literature. The statistical software *Stata* will be used extensively.

**FORMAT.**

Three lectures per week, plus one fifty-minute lab some weeks.
Materials.

The required text for the course is


Recommended supplementary references are

- An undergraduate econometric theory textbook, such as Wooldridge’s *Introductory Econometrics: A Modern Approach*.

Slides and other current course material will be made available on CourseSpaces.

Labs.

A weekly lab has been set, but we will not meet for labs on a weekly basis. Instead, lab time will be used at my discretion to highlight selected topics, provide practice sessions as necessary, or to make up for any lectures I may miss due to travel or to illness.

Computing.

The software used for the course will be Stata. The University has a site license which makes Stata available in the Social Science computing labs. You may also wish to purchase a copy, particularly if you intend to go on to graduate school. The current version is Stata 15 but you should have no issues with any version 11 or greater.

You are greatly encouraged to bring a laptop to class. You may then follow along with statistical demonstrations and have access to applied papers we study as examples.
**Tentative course outline.**

1. The OLS estimator and its properties.

2. When can OLS regression by interpreted as yielding causal estimates, and what do we mean by “causal”?

3. The logic and pitfalls of frequentist inference: how should we interpret p-values, statistics that reject the null, and statistics that fail to reject the null?

4. The practice of applied econometrics using the linear model:
   (a) How to specify regression models to measure what we would like to measure: dummy variables, interactions, statification, nuisance controls, and fixed effects.
   (b) How to interpret regression estimates and related statistics in published papers.
   (c) How to estimate and interpret standard errors.
   (d) How to clearly present and discuss estimates of econometric models.
   (e) Traps: how to recognize and avoid common fallacies, such as Simpson’s Paradox, the ecological fallacy, Friedman’s thermostat, spurious correlations in time series, multiple comparisons, and sample selection bias.

5. Instrumental variables.

6. Issues in applied time series analysis.


8. Regression discontinuity designs.

All topics will be addressed using a combination of blackboard theory, applied examples from the literature, and hands-on computing exercises using Stata.

**Assignments**

Approximately four quite lengthy assignments will be set during the course. The assignments will variously involve:

- solving theoretical problems.
- downloading and cleaning data to generate an estimation sample
- generating tables and graphs showing descriptive statistics
specifying and estimating models and various test statistics

interpreting estimates and test statistics

critical assessment of published econometric research

**Exams.**

There will be an in-class midterm scheduled during the first week of classes and a two-hour final exam scheduled by the Registrar.

**Evaluation.**

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<tbody>
<tr>
<td>Assignments</td>
<td>40%</td>
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<tr>
<td>Midterm exam</td>
<td>20%</td>
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<tr>
<td>Final exam</td>
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**Attendance.**

Attendance will not be taken, but is expected. Students are responsible for all material covered in lectures whether or not they attend any given lecture. *Lecture slides posted online do not contain all of the material discussed in class and are not an adequate substitute for attending lectures.*

**Contacting the Instructor.**

Questions regarding class material should usually be posed during class or in person during office hours. It is not usually feasible to provide lengthy explanations of class material over email. Should you send email for whatever reason, please put “Econ 486:” in the subject line. If I do not respond within 48 hours please resend.

**Travel Plans.**

Students are advised not to make work or travel plans until after the examination timetable has been finalized. Students who wish to finalize their travel plans at an earlier date should book flights that depart after the end of the examination period. There will be no special accommodation if travel plans conflict with the examination.
**Policy on Inclusivity and Diversity.**

The University of Victoria is committed to providing an environment that affirms and promotes the dignity of human beings of diverse backgrounds and needs. Except Belgians.

**Other policies.**

Standard University of Victoria course policies apply:

http://web.uvic.ca/econ/undergraduate/course_policies.php
http://library.uvic.ca/site/lib/instruction/cite/plagiarism.html
EXTREMELY TENTATIVE LESSON PLAN:

1. Overview: what do econometricians do?
2. Conditional means.
3. The OLS estimator.
4. OLS properties: biasedness.
5. OLS properties: