ECON 345 Applied Econometrics,  
Section A03 CRN 21018

Winter Session: Second Term, Jan-Apr 2019

Instructor Name: Felix Pretis  
Office: BEC 388  
E-Mail: fpretis@uvic.ca  
Office Hours: Thursday 10:30-12:00

Lectures: Monday & Thursday 8:30-9:50, DSB C118  
Labs: Wednesday 15:30 – 16:20 & 16:30 – 17:20 BEC 180

Teaching Assistant: Mathieu Weary  
Syllabus updated on: 31.12.2018

Course Content

This course provides a general introduction to the practice of econometric analysis. While motivated by intuition and applications, the presentation of estimators and tests will be primarily mathematical in nature. We will focus largely on multiple regression techniques in cross-sectional data analysis, considering common issues and problems that arise in applied empirical social science research. Students will learn R — a freely available and widely used statistical programming language — to analyse and plot data, draw inference, and compare alternative modelling approaches.

Learning Outcomes:

In this course you will gain an understanding of econometric methods and their applications. You will learn how to analyse data, interpret existing analyses, the basics of econometric theory that underpins econometric analysis, as well as independent research skills starting from formulating a research question to concise presentation of results. The course leads to highly transferrable modelling and programming skills through lab-based instruction using the statistical programming language R (widely used in academic research, government roles, and the private sector).

Textbooks

Textbook (required): The required textbook for this course is “Introductory Econometrics: A Modern Approach,” (Sixth Edition) by J. Wooldridge. It will be sold at the bookstore as a loose-leaf text (which saves you money), but you are welcome to buy it in bound form.

Mindtap (required): The loose-leaf textbook is bundled with Mindtap, which provides additional notes and is required for submission of online assignments. Students have to register for the course on Mindtap at: https://login.nelsonbrain.com/course/MTPQGM2NQRR0. Make sure to enter your name matching your UVic student ID. If you buy a bound copy of the textbook, make sure it is bundled with Mindtap.

Lab Textbook (optional): Labs will be based on the statistical programming language R. The textbook “Using R for Introductory Econometrics” (Heiss, 2016) provides code to complete the exercises in Wooldridge and is freely available online at: http://www.urfie.net/ The book is also available for purchase as hardcover if you prefer.
Assessment

The course is assessed through 3 midterm exams (there is no final exam), 4 assignments (including an independent research component), lab exercises, and regular online Mindtap exercises.

Mindtap Exercises (10%): Mindtap exercises are designed to give you regular practise of the concepts learned in lectures. These have to be completed on a weekly basis. Exercises are scored on correctness for a total grade of 10%. You need to complete at least 9 out of the 10 Mindtap exercises, any additional exercised missed will result in a 1% reduction of the maximum score of 10%.

Labs (15%): Take place weekly in room BEC180. Lab exercises are designed to teach you econometric modelling in practise using the statistical programming language R. At the end of each lab you will be asked to hand in answers to a short set of questions. These will be marked on completion only, and not on correctness. No extensions will be granted on lab exercises. You need to attend (and submit your lab answers to) at least 10 out of the 11 labs, any additional lab missed, will result in a 1% reduction of lab grades per lab missed (out of the total 15%), no points are awarded if no labs are attended. For example, only attending 7 out of the 10 required labs results in a grade of 12% instead of the maximum 15%. The first lab takes place on Wednesday, January 16th in BEC 180.

Assignments (30%): There are four assignments to be completed during the course. You may work in groups; however, each student needs to submit their own copy of the assignment (clearly indicating who was in their group). The assignments will be a mix of problems based on econometric theory and applications. The final assignment also covers a short independent research project (additional details will be provided).

Only the best three out of four assignments will count towards your grade, but all four assignments must be completed. The best three assignments are worth 10% of the overall grade each. No extensions will be granted on the assignment without formal documented illness (see policy on late assignments). For each day an assignment is submitted late, 2% of the maximum 10% will be deducted. Assignments have to be submitted by 4pm on the due date.

Note: Assignments will require considerable effort and time, thus I encourage you to start early and to not leave work on the assignment until the last minute. They are best completed by continuous work alongside lectures.

Midterm Exams (45%): There will be three midterm exams consisting of a combination of multiple choice and problem-set style questions. Each midterm exam is worth 15%.

Items permitted during exams:

- Non-programmable calculator without storage capacity (no Ti 89 etc.).
- Pen
- Water bottle

Any additional material will not be allowed on your desk during examinations. There will be additional office hours held by the TA prior to the midterm exams.

Note: All Material covered in lectures, labs, assignments, and relevant textbook chapters, may appear on the exam, thus attendance in lectures and labs is highly encouraged. Attendance highly correlates with final course grades. All midterms are cumulative since the material presented in lectures and chapters builds on itself. Thus, the second and third midterms may include some material that was already covered by the earlier midterms.
Overall Grade Structure

Assignments (4): 30% (10% each for the best 3)
Lab Exercises: 15%
Mindtap Exercises: 10%
Midterm Exams (3): 45% (15% each)

Essential Course Requirements:

All assignments and midterm exams have to be completed to not receive an “N” on this course.

Grading Scale:

<table>
<thead>
<tr>
<th>Passing Grades</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>90-100</td>
<td>Exceptional, outstanding and excellent performance.</td>
</tr>
<tr>
<td>A</td>
<td>85-89</td>
<td>Normally achieved by a minority of students. These grades indicate a student who is self-initiating, exceeds expectations and has an insightful grasp of the subject matter.</td>
</tr>
<tr>
<td>A-</td>
<td>80-84</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>77-79</td>
<td>Very good, good and solid performance. Normally achieved by the largest number of students. These grades indicate a good grasp of the subject matter or excellent grasp in one or more areas balanced with satisfactory grasp in other areas.</td>
</tr>
<tr>
<td>B</td>
<td>73-76</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>70-72</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>65-69</td>
<td>Satisfactory, or minimally satisfactory. These grades indicate a satisfactory performance and knowledge of the subject matter.</td>
</tr>
<tr>
<td>C</td>
<td>60-64</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>50-59</td>
<td>Marginal performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Failing Grades</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>0-49</td>
<td>Unsatisfactory performance. Wrote examinations and completed course requirements.</td>
</tr>
<tr>
<td>N</td>
<td>0-49</td>
<td>Did not write examinations or complete course requirements by the end of term or session.</td>
</tr>
</tbody>
</table>

Course Policies

This course adheres to the Department Course Policies of the Department of Economics that deal with the following issues:

- Academic concessions
- Academic integrity (plagiarism and cheating)
- Attendance
- Grading
- Inclusivity and diversity
- Late adds
- Late assignments
- Repeating courses
- Review of an assigned grade
- Students with a disability
- Term assignments and debarment from examinations
- Travel plans
- Waitlists
The following policies are explicitly included because of their importance.

**Late Assignments and Missed Examinations**

Consideration for missed examinations or late assignments will be given only on the basis of documented illness, accident or family affliction, and for no other reasons. In the event of a missed examination, students are advised to follow the procedures outlined in the University Calendar: University Examination Policies

Students are advised not to make work or travel plans during lecture and lab hours to be able to attend all classes and examinations. There will be no special accommodation if travel plans conflict with examinations held during class hours.

There will be no extensions for assignments, lab exercises, or Mindtap exercises. For each day (beginning immediately after the deadline) an assignment is submitted late, the assignment grade will be reduced by 2% from the maximum of 10%. A Mindtap or lab exercise that is submitted late will count as not submitted.

**Waitlist Policies**

- Instructors have no discretion to admit waitlisted students or raise the cap on the course.
- Students on the waitlist should discuss with the instructor how to ensure they are not behind with coursework in the event they are admitted.
- Registered students who do not show up in the first seven calendar days from the start of the course may be dropped from the course.
- Registered students who decide not to take the course are responsible for dropping the course, and are urged to do so promptly out of courtesy toward waitlisted students.
- Waitlist offers cease after the last date for adding courses irrespective of published waitlists.

**Academic Integrity**

Academic integrity requires commitment to the values of honesty, trust, fairness, respect, and responsibility. Students are expected to observe the same standards of scholarly integrity as their academic and professional counterparts. A student who is found to have engaged in unethical academic behaviour, including the practices described in the Policy on Academic Integrity in the University Calendar, is subject to penalty by the University.

Review What is Plagiarism for the definition of plagiarism. Note: Submitted work may be checked using plagiarism detection software.

**University Policy on Human Rights, Equity and Fairness**

The University is committed to promoting, providing and protecting a positive, supportive and safe learning and working environment for all its members.

See General University Policies

**Accessibility & Health Resources**

Centre for Accessible Learning

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, you are free to approach me; however, you must register with the Centre for Accessible Learning (CAL) for formal arrangements to be made. The CAL staff are available by appointment to assess specific needs, provide referrals and
arrange appropriate accommodations. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

**Health Services** - University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives.

**Counselling Services** - Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.

**Elders' Voices** - The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.

**Repeating Courses**

According to the University of Victoria Calendar [http://web.uvic.ca/calendar](http://web.uvic.ca/calendar)

"A student may not attempt a course a third time without the prior approval of the Dean of the Faculty and the Chair of the Department in which the course is offered unless the calendar course entry states that the course may be repeated for additional credit. A student who has not received this approval may be deregistered from the course at any point and may be asked to withdraw from his or her declared or intended program."

In order to request permission to attempt this course for the third time, you must follow the instructions provided under the link **Repeating Courses** at [http://www.uvic.ca/socialsciences/economics/undergraduate/home/course%20policies/index.php](http://www.uvic.ca/socialsciences/economics/undergraduate/home/course%20policies/index.php)

Failure to obtain permission will result in deregistration from the course.

**CourseSpaces**

- CourseSpaces is used extensively for the course. All students are expected to be fully functional with the system.
- The lecture notes and additional material will be posted in CourseSpaces. Please note that the lecture notes online are only outlines of the actual lectures, and additional material may be covered during the lectures.
- All announcements will be posted in CourseSpaces. Students are advised to check it frequently.

**Course Experience Survey (CES)**

I greatly value your feedback on this course to continually improve the course and my teaching.

**Informal early feedback**: Early on during the lectures, I will distribute informal feedback forms to provide ongoing feedback on the instruction style. These will be anonymous and only used to improve teaching while the course is progressing.

**Formal Experience Survey**: Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future.

When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to the CES log-in. You will use your UVic NetLink ID to access the survey, which can be completed on your laptop, tablet or mobile device. I
will remind you nearer the time, but please be thinking about this important activity, especially the following three questions, during the course.

- What strengths did your instructor demonstrate that helped you learn in this course?
- Please provide specific suggestions as to how the instructor could have helped you learn more effectively.
- Please provide specific suggestions as to how this course could be improved.

**Course Schedule**

The tentative course structure includes (subject to change):

<table>
<thead>
<tr>
<th>Topic</th>
<th>Wooldridge Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Introduction</td>
<td>Appendices A-C</td>
</tr>
<tr>
<td>Statistics Review</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>Introduction to Econometrics</td>
<td></td>
</tr>
<tr>
<td>Univariate regression</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>Multivariate regression</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>Inference</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>Asymptotics</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>Further Issues: Functional Form &amp; Model Specification</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>Dummy Variables</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>Heteroskedasticity &amp; Specification</td>
<td>Chapters 8/9</td>
</tr>
<tr>
<td>Introduction to Time Series</td>
<td>Chapters 10/11/12 (tbc)</td>
</tr>
<tr>
<td>Determining Causality (under less than ideal conditions)</td>
<td>Readings will be provided.</td>
</tr>
</tbody>
</table>

Assignment Due Dates (to be placed in department drop box):

Assignment #1: Jan. 17th, Thursday, 4pm
Assignment #2: Jan. 31st, Thursday, 4pm
Assignment #3: Feb. 28th, Thursday, 4pm
Assignment #4: Mar. 21st, Thursday, 4pm

Midterm Examinations:

Midterm #1: Feb. 7th, Thursday, in-class.
Midterm #2: Mar. 11th, Monday, in-class.
Midterm #3: Apr. 4th, Thursday, in-class.

Mindtap Exercises:

Due every Thursday at 4:00pm, starting Thursday the 17th of January. Due-dates may be adjusted to reflect course content covered in lectures.

**E-mail correspondence**

Emails should be limited to critical matters, such as inability to attend class, an exam, or prolonged illness, and should include the course name and number in the subject line. Questions on course
material should be asked during office hours or in class. I will not respond to emails that can be answered using the course syllabus or textbook.

**Electronic devices**

You are encouraged to install econometric software on your personal computers. R ([https://cran.r-project.org/](https://cran.r-project.org/)) and RStudio ([https://www.rstudio.com/](https://www.rstudio.com/)) are freely available online, the lab will cover use of the software. You are also encouraged to bring your own laptops with R and RStudio installed to the labs.