GV300-6-FY
Quantitative Political Analysis
2016 – 2017

Lecturer and Module Supervisor
Dominik Duell
Tel: 01206 872211
E-mail: dominik.duell@essex.ac.uk
Room: 5.423
Office Hours: Monday, 2-4pm

Class Teachers
Larissa Kersten

larissa.kersten@essex.ac.uk
Module Administrator
Sallyann West, sawest@essex.ac.uk

Module available for Study Abroad students: Yes **(FY only)** ☒   No   ☐
ASSESSMENT: This module is assessed by 60% coursework, 40% exam

INSTANT DEADLINE CHECKER

Assignment Title	Due Date	Coursework Weighting	Feedback Due
Problem Sets	Every week at beginning of lab	66.66% of coursework mark, 40% of overall module mark	Two weeks after assignment is handed in
In-class midterm	Week 11	33.33% of coursework mark, 20% of overall module mark	TBA

TOP READS

Jeff Gill, Essential Mathematics for Political and Social Research, Cambridge University Press, 2006

Jeffrey Wooldridge, Introductory Econometrics: A modern approach 5th Edition, Cengage Learning, 2012

Joshua Angrist and Joern-Steffen Pischke, Mostly Harmless Econometrics, Princeton University Press, 2009

Rebecca Morton and Kenneth Williams, Experimental Political Science and the Study of Causality, Cambridge University Press, 2010

MODULE DESCRIPTION

This module examines quantitative methods in political research and shows how different methods can be used to answer substantive questions about political phenomena. After initially introducing basics of probability theory for statistical inference, the rest of the first

term of this module focuses particularly on basic regression analysis.

In the second term, we investigate potential problems of the classical regression model and solutions to these problems. We pay specific attention to threats to causal inference and introduce statistical tools and experimental methods to overcome them. We focus on how to use these methods to answer substantive questions about politics.

This module will enable students to:

1. understand the statistical ideas underpinning quantitative methods in political science research.

2. understand and evaluate the core assumptions of the classical regression model.

3. understand the consequences for statistical inference when these assumptions are violated and to correct these violations in order to make valid inferences.

4. explore issues of causal inference.

5. understand how research design allows causal questions to be answered.

This module has several aims:

1. to provide students with a basic knowledge of descriptive and inferential statistics

2. to provide students with the knowledge required to understand the assumptions underlying the most common statistical models used in social sciences

3. to demonstrate to students how statistical techniques can be used to answer substantive research questions in political science

4. to provide students with the foundations for undertaking work involving the quantitative modelling of political phenomena

5. to develop the key skills required for the successful study of political science.

MODULE STRUCTURE AND TEACHING

The module will comprise two official contact hours per week. This means that the majority of the time on this course will be put in by the students outside of class meetings.

Prerequisites
This module assumes that students are familiar with the material from GV207. Students who did not take GV207 or who are not comfortable with their command of the material should talk to me before the deadline to switch modules.

Lectures and Classes
The module is taught on the basis of one two hour lecture / lab each week. The lecture / lab time will be published in the university timetable.

In addition, there is an optional two hour support class (teacher Larissa Kersten). While not mandatory, experience has shown that students who attend the support class end up earning higher grades while putting in less total time than those who choose not to attend.

Difficulties
If you have any difficulties with the module the person to approach in the first instance is me

or the module administrator Sallyann West. Please keep to administration office hours, which are posted on the door of the office and on the lists in the Government corridors. You can further approach Dr. Crowley or the mathematics help desk for assistance on writing or mathematics respectively.

Assessment and workload
Assessment is based on 60% coursework and 40% final exam. Note that there are no long essays for this module. In addition, students are expected to read for each class and to work any extra exercises needed to cement his or her understanding. Students averaging more than eight hours of work per week outside of class should talk to me

Final Exam
The exam will take place during weeks 33-36. It will be based on lectures, classes, and the reading assigned for the module. The exam is three hours long and has a compulsory section and a section in which students can choose alternatives from a list of questions. As is usual in the government department, the examination is closed: i.e. you will not receive the questions before the exam.

Group work

While plagiarism is unacceptable, I actively encourage students to work together on their problem sets. In the real world, most people work in teams on the job, and the ability to work with colleagues is necessary. While different people bring different skills to the table, most people would not tolerate a colleague who never contributed, and understand the difference between teamwork and freeloading. I expect you can make the same determination.

ASSESSMENT

Assignment Title	Due Date	Coursework Weighting	Feedback Due
Problem Sets	Every week at beginning of lab	66.66% of coursework mark, 40% of overall module mark	Two weeks after assignment is handed in
In-class midterm	Week 11	33.33% of coursework mark, 20% of overall module mark	TBA

The final exam counts for 40% of the overall module mark.

Students are also **REQUIRED** to take part in an experiment with ESSEXLab. This must be done **BEFORE** week 17. There will be plenty of experiments taking place over the first semester, but the lab cannot guarantee that there will be experiments the last week before this deadline, so be sure to plan ahead and get this taken care of ahead of time.

The lab's website can be found at: http://www.essex.ac.uk/essexlab/participants.aspx

COURSEWORK SUBMISSION

How to submit your essay using FASER

You will be able to access the online submission system via your myEssex portal or via https://FASER.essex.ac.uk. FASER allows you to store your work-in-progress. This facility provides you with an ideal place to keep partially completed copies of your work and ensures that no work, even drafts, is lost. If you have problems uploading your coursework, you should contact *ltt@essex.ac.uk*. You may find it helpful to look at the FASER guide http://www.essex.ac.uk/it/elearning/faser/default.aspx. If you have any questions about FASER, please contact your administrator or refer to the handbook.

Under NO circumstances is your coursework to be emailed to the administrators or the lecturer. This will NOT be counted as a submission.

Coursework deadline policy for undergraduates

There is a single policy at the University of Essex for the late submission of coursework in undergraduate courses. Essays must be uploaded before 09.45 on the day of the deadline.

All coursework submitted after the deadline will receive a mark of zero. The mark of zero shall stand unless the student submits satisfactory evidence of extenuating circumstances that indicate that the student was unable to submit the work prior to the deadline. For further information on late submission of coursework and extenuating circumstances procedures please refer to http://www.essex.ac.uk/students/exams-and-coursework/ext-circ.aspx.

Essay feedback will be given via FASER.
ALL submissions should be provided with a coversheet (Available from Moodle).

Plagiarism

Plagiarism is a very serious academic offence and whether done wittingly or unwittingly it is your responsibility. **Ignorance is no excuse!** The result of plagiarism could mean receiving a mark of zero for the piece of coursework. In some cases, the rules of assessment are such that a mark of zero for a single piece of coursework could mean that you will fail your degree. If it is a very serious case, you could be required to withdraw from the University. It is important that you understand right from the start of your studies what good academic practice is and adhere to it throughout your studies.

The Department will randomly select coursework for plagiarism checks and lecturers are very good at spotting work that is not your own. **Plagiarism gets you nowhere; DON'T DO IT!**

Following the guidance on referencing correctly will help you avoid plagiarism.

Please familiarise yourself with the University's policy on academic offences: http://www.essex.ac.uk/about/governance/policies/academic-offences.aspx.

Extenuating circumstances for late submission of coursework

The university has guidelines on what is acceptable as extenuating circumstances for later submission of coursework. If you need to make a claim, you should upload your coursework to FASER and submit a late submission of coursework form which can be found here: http://www.essex.ac.uk/students/exams-and-coursework/late-submission.aspx. This must be done within seven days of the deadline. FASER closes for all deadlines after seven days.

The Late Submissions committee will decide whether your work should be marked and you will be notified of the outcome.

If you experience significant longer-term extenuating circumstances that prevent you from submitting your work either by the deadline or within seven days of the deadline, you should submit an Extenuating Circumstances Form for the Board of Examiners to consider at the end of the year http://www.essex.ac.uk/students/exams-and-coursework/ext-circ.aspx.

READING

In the **Fall term** we make use of large parts of

Jeff Gill. Essential Mathematics for Political and Social Research. Cambridge University Press. 2006

Jeffrey Wooldridge. Introductory Econometrics: A modern approach 5th Edition. Cengage Learning. 2012

and excerpts of

Kellstedt and Whitten. The Fundamentals of Political Science Research Second Edition. Cambridge University Press. 2013.

We will read excerpts from the following books in the **Spring term**:

Joshua Angrist and Joern-Steffen Pischke, Mostly Harmless Econometrics. Princeton University Press. 2009

Stephen Morgan and Christopher Winship. Counterfactuals and Causal Inference. Cambridge. 2014

Donald Kinder and Thomas Palfrey. Experimental Foundations of Political Science, University of Michigan Press. 1993

Rebecca Morton and Kenneth Williams. Experimental Political Science and the Study of Causality. Cambridge University Press. 2010

The following books provide alternative approaches to presenting the material covered in the books above or help you with statistical software.

There will be no assigned readings from these books

Sheldon Ross, A First Course in Probability, 9th Edition, Pearson, 2012

William Greene. Econometric Analysis. 2009. Prentice Hall

Dalgaard. Introductory Statistics with R. Springer. 2008

Statistics with Stata X (Let X = your preferred version of Stata)

Cameron and Trivedi. Microeconometrics Using Stata. Stata Press. 2009

DETAILED SCHEDULE

What follows is a tentative schedule for the rest of the year. As the semester progresses, I may need to make amendments and alterations to it. Changes as announced in lecture or in emails to the class always take precedence over the schedule as listed here.

Fall term:

Week 2: Introduction and discussion of the module. How the module is taught. The intersection of research design, statistics, and econometrics. The concept of falsifiability.

Gill Chapter 1

Week 3: Introduction to probability 1: Definitions, samples, conditional probability, independence

Gill 7.1-7.4

Week 4: Introduction to probability 2: Bayes Theorem, random variables, and probability mass functions

Gill 7.4-8.3

Week 5: Introduction to probability 3 and specific politics examples

Gill 8.4-8.10
Kellstedt and Whitten, Chapter 6

Week 6: Descriptive statistics and moments of distributions

Wooldridge Appendix C.1-5

Week 7: Hypothesis testing

Kellstedt and Whitten, Chapter 7
Wooldridge Appendix C.6

Week 8: Regression 1

Wooldridge Chapter 2

Week 9: Regression 2

Wooldridge Chapter 3

Week 10: Regression 3

Wooldridge Chapter 4

Week 11: In-class midterm

Spring term:

Week 16: Correlation is not causation

Morgan and Winship 1.1-1.5

Week 17: What can go wrong with regression analysis?

Gerber, Green, and Kaplan. The Illusion of Learning from Observational Research
Greene. Chapter 2
Angrist and Pischke Chapter 3.1-3.2
Morton and Williams Chapters 1-3

Week 18: The gold standard: (laboratory) experiments

Kinder and Palfrey pp. 1-43
Morton and Williams Chapter 4

Week 19: Field Experiments

Gerber and Green. Field Experiments. Norton. Chapter 1
Nickerson. "Is voting contagious? Evidence from two field experiments" American
Political Science Review. 2008

Week 20: Survey Experiments

Blair, Imai and Lyall. "Comparing and Combining List and Endorsement
Experiments: Evidence from Afghanistan." American Journal of Political
Science. 2014
Gains and Kuklinski. "The Logic of the Survey Experiment Reexamined."
Political Analysis. 2007

Week 21: Instrumental variables regression

Angrist and Pischke Chapter 4
Miguel, Satyanath and Sergenti "Economic shocks and civil conflict: An instrumental
variables approach." Journal of Political Economy. 2004

Week 22: Regression discontinuity design

Angrist and Pischke. Mostly Harmless Econometrics. Chapter 6. Princeton University
Press, 2009
Pettersson-Lidbom: "Do Parties Matter for Economic Outcomes? A Regression-
Discontinuity Approach." Journal of the European Economic Association. 2008 (skim)
Ludwig and Miller. "Does Head Start improve children's life chances? Evidence from a
regression discontinuity design." Quarterly Journal of Economics. 2007 (skim)

Week 23: Hierarchical linear models

Gelman and Hill. Data Analysis Using Regression and Multilevel/Hierarchical Models.
Cambridge. 2007. Chapter 11 and 12

Week 24: Flex week

To be announced

Week 25: Big Data

Chen, Mao, Zhang, and Leung. Big Data. Springer. 2014. Chapter 5
Lazer, Kennedy, King, and Vespignani. "The Parable of Google Flu: Traps in Big Data
Analysis." Science. 2014