| Course title | Econometrics | | | | |
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| Teacher(s) | DAVID Michael WOLF | | | 開講区分 | 単位数 |
| | | | | 1st semester | 2.0 |
| Numbering Code | J2ML600 | Day・Period | Thurs1 | Timetable Slot Code | 1J381 |

Lesson topic

This course focuses on the application of statistical methods to the testing and estimation of economic relationships. The course will begin with a review of multivariate regression analysis and solutions to the problems of multicollinearity, heteroscedasticity, and serial correlation. Instrumental variable techniques, panel data analysis, and fixed effects will also be discussed.

Lesson target

Upon completion of this course, students should be able to understand the nature and consequences of the econometric problems outlined within the syllabus. Students will be able to diagnose and remedy these basic econometric problems in R Studio and apply this knowledge to critique empirical studies in economics.

Syllabus and plan

Topics:
Week 1: Introduction and Administration
Week 2: Learning How to Code in R
Weeks 3 - 4: Introduction to OLS; Properties of OLS
Weeks 5 - 6: Hypothesis Testing
Weeks 7 - 8: Specification Decisions
Weeks 9 - 10: Multicollinearity, Serial Correlation and Heteroskedasticity
Weeks 11 - 12: Panel Data and Fixed Effects Models
Weeks 13 - 14: Instrumental Variables and Two-Stage Least Squares
Weeks 15 - 16: Wrap-up and Final Exam

The schedule is subject to change as the semester progresses. This class will be conducted face-to-face but may change into a remote (i.e., online) class depending on the spread of COVID-19. We will notify you via the department's website, Kobe BEEF LMS, and through Google Classroom.

Evaluation method

Homework and quizzes (20%)
Empirical project (30%)
Final exam (50%)

Evaluation baseline

Students will be assessed on their ability to diagnose, correct and understand the consequences of basic econometric problems - such as multicollinearity, endogeneity, hetereoskedasticity and serial correlation - in their homework, empirical project and final exam. Proficiency in R Studio (i.e. cleaning, merging and correcting errant data) will also be assessed in the homework and empirical project.

Homework assignments will contain empirical exercises that must be completed in R Studio. You must submit your output and R code via BEEF to receive credit.

The empirical project requires students to independently replicate results from a recently published academic journal of my choosing. Students will need to search and correct for specification errors and document the process.

The final exam will be closed book.

The grading scale used for this course is:
90 - 100: S
80 - 89: A
70 - 79: B
60 - 69: C
<60: Fail

Notice (include info. on related class)

This course focuses on the empirical application of econometric models. Courses in theoretical econometrics should also be taken as they are highly complementary to this course.

Exchange students (special auditing students) are allowed to register for this course. All students are expected to have knowledge of differential calculus, linear algebra, and statistics prior to taking this course.

Students must also have access to their own personal laptop computer and be able to bring this computer to the classroom. Computers are required for this course as students will be learning how to code in the program R.

Review and preparation

Students are expected to read the corresponding chapters from the course textbook before coming to class. I will also post additional review material on BEEF throughout the semester. Please make sure to check the course website on BEEF regularly.

I would suggest reviewing mathematics, linear algebra and econometric statistics before the first day of class. Reading up on how to use R Studio is also highly recommended.

Office hour・Contact information

Office hours: by appointment only
Office location: Frontier Hall for Social Sciences Room 812
Email: wolf@econ.kobe-u.ac.jp

Message for student

Please work through the examples in class using R Studio and feel free to ask questions if you are ever confused.

You will find this course cumbersome if you do not read the corresponding textbooks chapters and go through the R exercises at home.

Improvemenets in Teaching

Text

Introductory Econometrics: A Modern Approach 6th Edition / Jeffery Wooldridge : Cengage Learning ,2016 ,ISBN:978-1305270107

Reference Material

Mathematics for Economists / Carl P. Simon, and Lawrence Blume : W. W. Norton & Company ,1992 ,ISBN:9780393957334

Classroom Language

English
English

Keywords

Regression analysis, specification issues, panel data, R Studio, Exchange students (Special auditing students), long report