FLORIDA ATLANTIC UNIVERSITY

NEW COURSE PROPOSAL
Graduate Programs

Department Economics

College College of Business

*(To obtain a course number, contact **erudolph@fau.edu**)*

UGPC Approval _____
UFS Approval _____
SCNS Submittal _____
Confirmed _____
Banner _____
Catalog _____

Prefix ECO

Number 6435

(L = Lab Course; C = Combined Lecture/Lab; add if appropriate)
Lab Code

Type of Course Lecture

Course Title Panel Data

Credits *(Review Provost Memorandum)* 3

Effective Date *(TERM & YEAR)* Fall 2022

Grading *(Select One Option)*
Regular (●)
Sat/UnSat ( )

Course Description *(Syllabus must be attached; see Guidelines)*

This is an introduction to the theory and application of panel data econometrics. Topics to be studied include the specification, estimation, and inference of empirical models that include individual and/or time effects. The course begins with a review of the linear regression model, and then incorporates the panel data settings of fixed, random, and mixed effects. Programming skills using a modern statistical package will be emphasized.

Prerequisites
ECO 6426 Advanced Econometrics

Prerequisites, Corequisites and Registration Controls are enforced for all sections of course.

Academic Service Learning (ASL) course ☐
Academic Service Learning statement must be indicated in syllabus and approval attached to this form.

Corequisites
N/A

Registration Controls *(For example, Major, College, Level)*
N/A

Minimum qualifications needed to teach course:
Member of the FAU graduate faculty and has a terminal degree in the subject area (or a closely related field.)

List textbook information in syllabus or here
See Attached Syllabus

Faculty Contact/Email/Phone
Eric Chiang / chiang@fau.edu / 954-802-3571

List/Attach comments from departments affected by new course
N/A

Approved by	***Date***
Department Chair Monica Escalera	1/11/22
College Curriculum Chair	1/13/2
College Dean Ken Johnson	1/13/22
UGPC Chair	
UGC Chair	
Graduate College Dean	
UFS President	
Provost	

Email this form and syllabus to UGPC@fau.edu 10 days before the UGPC meeting.

ECO 6435.00X; CRN: XXXXX
Panel Data

Thursday | 6:30pm-9:20pm
Boca Raton Campus | College of Education Building | Room 337
3 credits

Spring 2023
Prof. Long Liu
Office: OD 211
Email: liul@fau.edu

Course Description
This is an introduction to the theory and application of panel data econometrics. Topics to be studied include the specification, estimation, and inference of empirical models that include individual and/or time effects. The course begins with a review of the linear regression model, and then incorporates the panel data settings of fixed, random, and mixed effects. Programming skills using a modern statistical package will be emphasized.

Instructional Method
This class is designated as "In-Person w/Live Remote Option", which requires that less than 79% of the course is delivered online and more than 21% of the course is in person. For the in-person lectures, students can still choose to attend online asynchronously at home. Live lectures using Webex will be given on Canvas on the day that we are scheduled. These live lectures will be recorded and posted on Canvas. We will use Canvas on regular basis for this course. Lecture notes, sample codes with related data sets and assignments can be downloaded there. Your grade of each assignment and exam will be also posted there.

Prerequisites/Corequisites
ECO 6426 Advanced Econometrics

Course Objectives/Learning Outcomes

Upon completion of this course, students will be able to:

- Develop models for studying panel data empirical issues
- Apply econometric modeling techniques for panel data
- Study applications of panel data analysis in various fields of economics
- Utilize Stata software to organize and analyze panel data

COVID-19 Statement

All students in face-to-face classes are expected to wear masks during class, and students must sanitize their own workstations upon entering the classroom. Taking these measures supports the safety and protection of the FAU community. Students who do not adhere to these rules will be asked to leave the classroom and/or be removed from the course. Students experiencing flu-like symptoms (fever, cough, shortness of breath), or students who have come in contact with an infected person should immediately contact FAU Student Health Services (561-297-3512).

Required Texts/Readings

Badi H. Baltagi, *Econometric Analysis of Panel Data*, 6th edition, Springer, 2021.

Chihwa Kao and Long Liu, *High-Dimensional Econometrics and Identification*, 1st edition, World Scientific, 2019.

Qu Feng and Chihwa Kao, *Large-Dimensional Panel Data Econometrics: Testing, Estimation and Structural Changes*, 1st edition, World Scientific, 2020.

Supplementary/Recommended Readings

Hsiao, C., *Analysis of Panel Data*, 2nd edition, Cambridge University Press, 2003.

Arellano, M., *Panel Data Econometrics*, 1st edition, Oxford University Press, 2003.

Wooldridge, M.J., *Econometric Analysis of Cross Section and Panel Data*, 2nd edition, the MIT Press, 2010.

Software

Stata, which is not a free software, will be introduced in this course. Sample codes of each chapter will be explained in class. Stata can be purchased and downloaded at https://www.stata.com. You will need to use Stata to do our homework assignments.

Course Evaluation Method

Your course grade will be determined by the following two parts:

-- Assignments: There will be a homework assignment for each lecture posted on Canvas. You will have at least a week to do the homework. There will be no make-up or alternate assignments. Students must finish all the assignments independently. The assignments will count for 40% of the course grade.

-- Exams: There will be two exams. Each exam will count for 30% of the course grade. There will be no make-up or alternate exams. Students must finish all the exams independently.

Course Schedule (subject to change)

Week 1	January 10	Chapter 2: One-way Error Component Regression Model
Week 2	January 17	Chapter 3: Two-way Error Component Regression Model
Week 3	January 24	Chapter 4: Test of Hypotheses with Panel Data
Week 4	January 31	Chapter 5: Heteroskedasticity and Serial Correlation in the Error Component Model
Week 5	February 7	Chapter 7: Simultaneous Equations with Error Components
Week 6	February 14	Chapter 8: Dynamic Panel Data Models
Week 7	February 21	Review for Exam 1
Week 8	February 28	Exam 1
Week 9	March 7	Spring Break (No Class)
Week 10	March 14	Chapter 10: Special Topics in Panel Data
Week 11	March 21	Chapter 11: Limited Dependent Variables and Panel Data
Week 12	March 28	Chapter 12: Nonstationary Panels (and Selected Topics from Kao and Liu
Week 13	April 4	Chapter 13: Spatial Panel Data Models (and Selected Topics from Kao and Liu)
Week 14	April 11	Research Paper: Stata Programming lab
Week 15	April 18	Research Paper: Stata Programming lab
Week 16	April 25	Review for Exam 2
Week 17	May 2	Exam 2

Course Grading Scale

You may assume the following grading scale based on your weighted average:

A	94 and above
A-	90-93.99
B+	87-89.99
B	84-86.99
B-	80-83.99
C+	77-79.99
C	74-76.99
C-	70-73.99
D	60-69.99
F	<60

Classroom Etiquette Policy

If you attend in classroom, please arrive on time and do not leave early. Turn off the volume of electronic devices. You may computers to take notes if you like. All students regardless of vaccination status are expected to wear masks indoors.
If you attend online, join the link on time and do not leave early. Mute your microphone when you are not asking questions. It is encouraged to turn on your computer camera.

Policy on Makeup Tests, Late Work, and Incompletes

As mentioned above, there will be penalties to late homework; there will be no make-up or alternate exams. However, the following exceptions are allowed:
Students may not be penalized for absences due to participation in University-approved activities, including athletic or scholastics teams, musical and theatrical performances, and debate activities. These students can make up missed work without any reduction in the student's final course grade. Reasonable accommodation would also be made for students participating in a religious observance. Grades of Incomplete ("I") are reserved for students who are passing a course but have not completed all the required work because of exceptional circumstances.

Policy on the Recording of Lectures

Because of a new Florida Statute in 2021, the following model language is suggested for inclusion in course syllabi, at the discretion of individual faculty:
Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

Attendance Policy

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to http://www.fau.edu/counseling/

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001.

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