

 FLORIDA ATLANTIC UNIVERSITY	COURSE CHANGE REQUEST Graduate Programs		UGPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner _____ Catalog _____
	Department _____ College _____		
Current Course Prefix and Number		Current Course Title	
Syllabus must be attached for ANY changes to current course details. See Template . Please consult and list departments that may be affected by the changes; attach documentation.			
Change title to: Change prefix From: _____ To: _____ Change course number From: _____ To: _____ Change credits* From: _____ To: _____ Change grading From: _____ To: _____ Academic Service Learning (ASL) ** Add _____ Remove _____ <small>* See Definition of a Credit Hour. ** Academic Service Learning statement must be indicated in syllabus and approval attached to this form.</small>		Change description to: Change prerequisites/minimum grades to: Change corequisites to: Change registration controls to: Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade.	
Effective Term/Year for Changes:		Terminate course? Effective Term/Year for Termination:	
Faculty Contact/Email/Phone			
Approved by Department Chair <u>Monica Escaleras</u> College Curriculum Chair <u>Robert Pinsker</u> College Dean <u>Marc Rhorer</u> UGPC Chair _____ UGC Chair _____ Graduate College Dean _____ UFS President _____ Provost _____		Date <u>9/24/24</u> <u>10/4/24</u> <u>10/4/24</u> _____ _____ _____ _____ _____	

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

Advanced Panel Data Analysis

Wednesday | 6:30pm-9:20pm

Boca Raton Campus | College of Education Building | Room 337
3 credits

Spring 2024

Prof. Long Liu

Office: BU 203D

Email: liul@fau.edu



Office Hours

Online office hours are available Monday, Tuesday and Thursday, 11am-12:30pm via Zoom; in-person office visits will be also accommodated by appointment.

Course Description

Introduction to advanced theory and application on panel data econometrics.

Instructional Method

This class is designated as “In-Person w/Live Remote Option”, meaning face-to-face meetings will be held on campus but students have the option to attend these meetings remotely during the scheduled meeting time. Students participating remotely must have a sufficiently strong internet connection and a web cam turned on. Live lectures using Zoom will be given on Canvas on the day that we are scheduled. 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 6424.

Course Objectives/Student Learning Outcomes

The course is designed to cover the advanced theory and application on panel data econometrics. Familiarity with probability, statistics and matrix algebra is assumed.

Required Texts/Readings

For FAU College of Business users, links of the following textbooks can be access for free.

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

Sickles R., Zelenyuk V. *Measurement of Productivity and Efficiency*. Cambridge University Press, 2019.

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.

Lecture notes

Lecture notes of chapters from Badi H. Baltagi's textbook can be downloaded on Canvas.

Software

Stata will be introduced in this course. You will need to use Stata to do our homework assignments. Sample codes of each chapter will be explained in class.

Stata 17 is available to all FAU College of Business users via software request form linked below.

[FAU COB Stata/MP 17 4-core Request Form](#)

FAU COB users just need to provide the requested information and follow the on-screen instructions to download and license. Also linked below is Stata's resource/support site along with their description page to assist with learning and installation.

[Stata's Resource & Support site](#)

[Stata/MP description page](#)

Should you have any questions feel free to reach out via ExecEdIT@fau.edu.

Course Topical Outline (tentative and subject to change)

Chapter	Date
Chapter 2 The One-way Error Component Regression Model	January 10, 17
Chapter 3 The Two-way Error Component Regression Model, and	January 24
Chapter 4 Test of Hypotheses with Panel Data	January 24
Chapter 5 Heteroskedasticity and Serial Correlation in the Error Component Model	January 31
Chapter 7 Simultaneous Equations with Error Components	February 7
Chapter 8 Dynamic Panel Data Models	February 14
Exam 1	February 21- February 28

Guest Lecture—Dr. Robin Sickles	February 21
1. Productivity and Panel Data	
2. Factor Models, Wavelets, and Sieves	
Guest Lecture—Dr. Robin Sickles	February 28
1. Machine Learning	
2. Model Averaging	
<i>(Spring Break -- March 2-8)</i>	
Chapter 10 Special Topics--Measurement Error	March 13
Chapter 11 Limited Dependent Variables and Panel Data	March 20
Chapter 12 Nonstationary Panels (and Selected Topics from Kao and Liu's Book)	March 27
Chapter 13 Spatial Panel Data Models (and Selected Topics from Feng and Kao's Book)	April 3
Selected Topics: The Difference-in-Difference Estimator	April 10
Selected Topics: Tobit and Heckman Models	April 17
Exam 2	April 18- April 28

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 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 use 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](#).