浙江大學

ECON506

The Application of Financial Econometrics

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Instructor Contact Details

Lecturer-in-charge: Dr. Leyan Zhang
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Consultation Time: Book appointment by sending email to: wlwyxy_29@zju.edu.cn

Teaching Times, Modes and Locations

Course Duration: 20 Dec 2026 to 8 Jan 2027
Modes: Face-to-face
Location: Zhejiang University

Academic Level

Undergraduate

Credit Points:

The course is worth 6 units of credit point.

Credit Hours

The number of credit hours of this course equals to the credits of a standard semester- long course.

Contact Hours

The course contains a total of 53 contact hours, which consists of orientation, lectures, seminars, quiz, discussion, research, case study, small tests, assignments, on-site field trip(s), in-class and after-class activities, revision, self-study, and final exam. Students will receive an official transcript which is issued by Zhejiang University when completing this course.

Enrolment Requirements

Eligibility requires enrollment in an overseas university as an undergraduate or postgraduate student, proficiency in English, and pre-approval from the student's home institution.

Course Description:

This unit introduces students to econometric methods for analyzing cross-section and panel data, starting with the assumptions of linear regression models and expanding to methods addressing violations of these assumptions, such as heteroscedasticity, instrumental variables, and measurement errors. It also covers policy analysis using pooled cross sections and panel data. In addition, the course provides a framework for modeling financial time series data, focusing on characteristics such as volatility and risk, making it particularly relevant for macroeconomic and financial sectors. Practical computer applications are incorporated throughout.

Prerequisite:

N/A

Learning Resources

- Wooldridge, J. M., Introductory Econometrics: A Modern Approach, South-Western Cengage Learning 7th edition. 2019.
- Charles Jones, W.W. Norton & Company. Macroeconomics: Fifth Edition, New York. 2020.

Learning Objectives

By the end of this course, you should be able to:

・Develop a strong foundation in econometric techniques: Build knowledge in probability theory, statistical concepts, and linear regression models, with an emphasis on applying these skills effectively in econometric research.

・Proficiency in econometric software and data analysis: Gain hands-on experience with econometric software to model data, solve problems, and evaluate economic research using relevant guidelines and best practices.

・Critical thinking and problem-solving in economic research: Develop skills in research and inquiry, utilizing critical thinking to evaluate ideas, evidence, and various perspectives in applied economic research.

・Ethical and professional understanding: Demonstrate social, professional, and ethical awareness when analyzing data and reporting results, ensuring responsible and accurate communication of findings.

Course Delivery:

- Face-to-face Lecture mode includes lectures, seminars, quiz, discussion, research, case study, small tests, assignments, on-site field trip(s), in-class and after-class activities, revision, and final exam.

The following course will be taught in English. There will also be guest speakers and optional field trips available for students who would like to enhance their learning experience. All courses and other sessions will be run during weekdays.

Topics and Course Schedule:

WK	Topic	Activities
1	Understanding Financial Data	Lecture; Tutorial
1	Simple Linear Regression and Ordinary Least Square	Lecture; Tutorial
1	Multiple Linear Regression – Assumptions and Properties	Lecture; Tutorial
1	Inference in Linear Regression Models	Lecture; Tutorial
1	Properties of the Linear Regression Model Using Qualitative Data	Lecture; Tutorial
2	Specification Issues in Linear Regression Models	Lecture; Tutorial
2	Univariate Time Series Analysis ARMA models	Lecture; Tutorial
2	Further Specification Issues in Linear Regression Models	Lecture; Tutorial
2	Quiz	Closed book
2	Regression Discontinuity	Lecture; Tutorial
3	Heteroskedasticity and Introduction to GLS	Lecture; Tutorial
3	Endogeneity and Instrumental Variables	Lecture; Tutorial
3	Panel Data Methods	Lecture; Tutorial
3	Risk and volatility analysis	Lecture; Tutorial
3	Simulation methods in Finance and Summary	Lecture; Tutorial

3	Revision	Tutorial
3	Final exam	Closed book

Assessments:

Class participation	15%
Quiz	15%
Assignments	20%
Final exam	50%

Grade Descriptors:

HD	High Distinction	85-100
D	Distinction	75-84
Cr	Credit	65-74
P	Pass	50-64
F	Fail	0-49

High Distinction 85-100

- Treatment of material evidences an advanced synthesis of ideas Demonstration of initiative, complex understanding, and analysis.
- Work is well-written and stylistically sophisticated, including appropriate referencing, clarity, and some creativity where appropriate.
- All criteria addressed to a high level.

Distinction 75-84

- Treatment of material evidences an advanced understanding of ideas Demonstration of initiative, complex understanding and analysis Work is well-written and stylistically strong.
- All criteria addressed strongly.

Credit 65-74

- Treatment of material displays a good understanding of ideas.
- Work is well-written and stylistically sound, with a minimum of syntactical errors.
- All criteria addressed clearly.

Pass 50-64

- Treatment of material indicates a satisfactory understanding of ideas Work is adequately written, with some syntactical errors.
- Most criteria addressed adequately.

Fail 0-49

- Treatment of ideas indicates an inadequate understanding of ideas Written style

inappropriate to task, major problems with expression.
- Most criteria not clearly or adequately addressed.

Academic Integrity

Students are expected to uphold the university's academic honesty principles which are an integral part of the university's core values and principles. If a student fails to observe the acceptable standards of academic honesty, they could attract penalties and even disqualification from the course in more serious circumstances. Students are responsible for knowing and observing accepted principles of research, writing and any other task which they are required to complete.

Academic dishonesty or cheating includes acts of plagiarism, misrepresentation, fabrication, failure to reference materials used properly and forgery. These may include, but are not limited to: claiming the work of others as your own, deliberately applying false and inaccurate information, copying the work of others in part or whole, allowing others in the course to copy your work in part or whole, failing to appropriately acknowledge the work of other scholars/authors through acceptable referencing standards, purchasing papers or writing papers for other students and submitting the same paper twice for the same subject.

This Academic Integrity policy applies to all students of the Zhejiang University in all programs of study, including non-graduating students. It is to reinforce the University's commitment to maintain integrity and honesty in all academic activities of the University community.

Policy

The foundation of good academic work is honesty. Maintaining academic integrity upholds the standards of the University. The responsibility for maintaining integrity in all the activities of the academic community lies with the students as well as the faculty and the University. Everyone in this community must work together to ensure that the values of truth, trust and justice are upheld.
Academic dishonesty affects the University's reputation and devalues the degrees offered. The University will impose serious penalties on students who are found to have violated this policy. The following penalties may be imposed:

- ✓ Expulsion
- ✓ Suspension
- ✓ Zero mark /fail grade
- ✓ Marking down
- ✓ Re-doing/re-submitting of assignments or reports, and
- ✓ Verbal or written warning.