FINC308
Financial Econometrics

Course Outline | Whakamārama Akoraka

Semester Two 2024

Department of Accountancy & Finance

Level 5
Otago Business School – Te Kura Pakihi

Contents

Welcome
Nau Mai Haere Mai | Afio Mai | Aere Mai | Malo e me'a mai | Fakatalofa atu | Bula | Fakaalofa lahi atu | Ulu tonu mai

Course Description and Aims | *Whāinga o te Akoranga*

What we teach
The aim of this paper is to learn econometric techniques and analytical software to study financial markets, the public sector, and private industries (corporate issues). The paper provides insights into the rational decision-making process that would help investors and policymakers make better decisions. Topics include modelling and assessing relationships in financial returns, volatility, risk, and other related aspects. In FINC308, we train students to use STATA software intensively to solve real-life problems by handling cross-sectional, time series, and panel data. We intend to produce skilful graduates for modern data-driven industries and research-driven postgraduate studies in the fields of Finance and Accounting.

Learning Outcomes | *Hua Akoranga*

What you Learn
Upon successful completion of this paper, you should be able to:

1. Identify sources of financial data (Bloomberg, WRDS, Yahoo Finance, etc.) to retrieve necessary data.
2. Understand types and forms of data and how to set up datasets for econometric analysis.
3. Demonstrate knowledge in econometric methods such as regression analysis and time series analysis.
4. Apply appropriate econometric methods using STATA software in day-to-day financial problem-solving and research work.
5. Demonstrate the ability to report and present results obtained from the analysis.

Teaching Team | *Kaiako*

Your mentorship collective
Course Coordinator, Lecturer
Name: Dr. **Duminda** Kuruppuarachchi

Office: OBS Room 5.29
Email: duminda.ka@otago.ac.nz
Office Hours: TBA

Tutor
Name: Mr Wen (**Derrick**) Xu
Email: derrick.xu@postgrad.otago.ac.nz

Course Information | *Mōhiohio akoranga*

How we teach
Lectures

Lecture Day/Time: Tuesday 12:00-13:50 and Friday 08:00-09:50

Venues: Please check your timetable for up-to-date information

Every week, students must attend two lectures of 4 hours duration in total. During the lectures, the students will learn econometric theories and how to apply those in solving real-life problems using the statistical software, STATA. Students are expected to participate actively in all lectures to learn and practice simultaneously. STATA will be available for the students via the Student Desktop planform. All the course materials and notices will be posted on Blackboard regularly and it is the responsibility of the student to regularly check the Blackboard.
Students who will be unable to attend a lecture are expected to catch up on missed material and lecture recordings.

Computer Labs

Computer Lab streams Day/Time: Mondays 10:00, 11:00, 12:00, and 15:00
Venue: Please check your timetable for up-to-date information

As a critical aspect of your learning experience, we offer a series of computer labs during this semester starting from the second week of teaching. Our labs are opportunities to practice STATA software through provided case studies and replications of published research papers. Participating in the workshops will help you develop problem-solving and critical thinking skills and values to excel in your course assessments and future professional life.

Upon enrolment, you will be assigned to a lab stream, which you can find in your eVision portal under "Timetables." All lab sessions will take place on-campus at the designated times and locations.

If you need to change your tutorial stream, simply fill out the "Stream Change Request Form" available on Blackboard Course Information Tab.

We strive to process Stream Change Requests within three working days. If your request is approved, you'll receive a confirmation email, and the update will be visible in your eVision timetable. If you do not receive an email within three working days, it indicates that your

request was declined due to a timetable conflict or the classroom reaching its maximum capacity.

Please note that stream change requests will only be accepted during the first two weeks of the semester.

Learning Resources | *Rauemi Ako*

Textbook
Recommended Textbook
Introductory Econometrics for Finance, 4th Edition by Chris Brooks, Cambridge University Press 2019.

Supplementary Reading
Principles of econometrics by R. Carter Hill; William E. Griffiths; G. C. Lim, 5th ed. Hoboken, NJ : Wiley 2018.

eReserve
Prescribed readings are posted on eReserve, which is accessible via Blackboard.

Blackboard

We use Blackboard https://blackboard.otago.ac.nz/ for teaching, learning, community building and knowledge sharing.

> **Announcements** – This is the most efficient way to keep yourself updated with the latest communications. You must check your student email and Blackboard regularly.

> **Learning Resources** – Here is where we share all the learning-related material and content. In this folder, you will find all study and learning resources, and additional readings and articles.

> **Lecture Recordings** – This section links to the lecture recording system, where you will find all recorded lectures.

> **Contacts** – Information about our Business & Society teaching staff, contact details and office hours.

> **Assessments** – All you need to know about our course assessments, general guidelines, submission instructions and due dates. In this folder, you will also find your grades, academic integrity policy and APA referencing style guidelines.

Course Calendar | *Maramataka*

Your academic roadmap

YW	Week & Lecture Themes	Week starting	Labs	Assessment due dates and important dates
29	1 Introduction to Econometrics, Data Types, Sources of Data, STATA	15 Jul	No tutorial	
30	2 Preparation of Datasets: Cross-sectional, Time-series, and Panel	22 Jul	1	
31	3 Linear Regression Analysis, Diagnostics Tests, Predictions,	29 Jul	2	
32	4 Binary and Non-linear Regression models	5 Aug	3	
33	5 Time-series properties, stationarity, serial correlations	12 Aug	4	Assignment 1 is due on Thursday, 15 August
34	6 Time series models for stationary series	19 Aug	5	
35	7 Time series models for non-stationary series	26 Aug	6	
	Semester Break: 2 to 6 September			
37	8 Heteroskedasticity and Modelling Time Series Volatility	9 Sep	No labs	Midterm test 10 September
38	9 Panel Data: Pooled, Fixed-, and Random-effect models	16 Sep	7	
39	10 Machine-learning approaches in Econometrics	23 Sep	8	
40	11 Event studies	30 Sep	9	

YW	Week & Lecture Themes	Week starting	Labs	Assessment due dates and important dates
41	12 Portfolio Sorting and Fama–MacBeth Cross-sectional Analysis	7 Oct	10	Assignment 2 is due on Thursday, 10 October
42	13 Review and Exam preparations	14 Oct	11	

Assessments | *Aromatawai*

Growth and Progress Milestones

Please note that all presented material is subject to examination (unless specified otherwise). Course content may be assessed through assignments and the final examination. Essential assessment details, including due dates, guidelines, and other relevant information, will be communicated during lectures and, where applicable, provided on Blackboard. It is the student's responsibility to stay informed, monitor their progress, and catch up on any missed classes.

For detailed information on each assessment, visit the Assessment Tab on Blackboard.

Assessment	Due date	% of final grade
Assignment 1	15 August	10
Midterm test	10 September	20
Assignment 2	10 October	20
Final Examination	TBA	50

What if I need tech support
If you require technical support, please contact Ask IT
ITS support service
Email: student.it@otago.ac.nz
Phone: (03) 479 7000 or 0800 80 80 98

Aligning Learning Outcomes with Assessments

Learning Outcome	Assignment 1	Midterm Test	Assignment 2	Final Exam
1. Identify sources of financial data (Bloomberg, WRDS, Yahoo Finance, etc.) to retrieve necessary data.	√		√	
2. Understand types and forms of data and how to set up datasets for econometric analysis.	√	√	√	√
3. Demonstrate knowledge in econometric methods such as regression analysis and time series analysis.	√	√	√	√
4. Apply appropriate econometric methods using STATA software in day-to-day financial problem-solving and research work.			√	
5. Demonstrate the ability to report and present results obtained from the analysis.		√	√	√
Total	10%	20%	20%	50%

Grading System
The grading scheme used at the University of Otago is:

A+	90-100	**C+**	60-64
A	85-89	**C**	55-59
A-	80-84	**C-**	50-54
B+	75-79	**D**	40-49
B	70-74	**E**	<40
B-	65-69		

Office Hours
Mondays and Thursdays 14.00 – 14.50 at OBS5.29

Course email
Email: duminda.ka@otago.ac.nz

Expectations and Workload | *Te Nui o te Mahi*

This course conforms to the 18-point course format comprising approximately 180 hours spent in class, private study, preparing assignments, and other activities.

We expect you to come to each session of lectures and workshops prepared. You should have pens, paper, and a networked device (e.g., phones, tablets, or laptops).

Hours	Item	Breakdown
52	Lectures	26 x 2-hour classes
11	Lab sessions	11 x 1-hour lab sessions
26	Lecture class preparation: pre-reading and activities	26 x 1-hour reading and preparation per lecture
5	Assignment 1	
10	Mid-semester exam preparation	
14	Assignment 2	
60	Final exam preparation	Approx. 5 hours per each week's topic
2	Final exam	On a date to be scheduled by the University
180 total		

Course Requirements | *Ko ngā whakataunga me ngā paearu*

In order to pass the FINC308 paper, you must: (i) pass the **final examination with a minimum of 40%** grade, which will be a 2-hour embargoed close-book exam, <u>and</u> (ii) get **an overall mark of at least 50% for the course** (including internal assessments)**.** If you fail the final examination with less than 40%, your overall mark will be returned as *Failed Compulsory Assessment* regardless of your internal assessment marks (i.e., marks for assignments and the mid-term examination).

Referencing | *Tohutoro*

In this course, we adhere to the APA referencing style, a vital skill that showcases your commitment to academic integrity and respect for other scholars' work. Accurate referencing not only demonstrates your scholarly diligence but also enables readers to trace the sources you've used, enriching the academic conversation.

To master the APA style, visit the University Library website for comprehensive style guides: http://otago.libguides.com/citation_styles. Additionally, you can find valuable resources in the Assessments Tab on Blackboard.

Academic Integrity | *Pono-ā-wānanga*

Academic integrity means being honest in your studying and assessments. It is the basis for ethical decision-making and behaviour in an academic context. Academic integrity is informed by the values of honesty, trust, responsibility, fairness, respect and courage. Students are expected to be aware of, and act in accordance with, the University's Academic Integrity Policy.

Academic Misconduct, such as plagiarism or cheating, is a breach of Academic Integrity and is taken very seriously by the University. Types of misconduct include plagiarism, copying, unauthorised collaboration, submitting work written by someone else (including from a file sharing website, text generation AI such as ChatGPT, or purchased work), taking unauthorised material into a test or exam, impersonation, and assisting someone else's misconduct. A more extensive list of the types of academic misconduct and associated processes and penalties is available in the University's Student Academic Misconduct Procedures.

It is your responsibility to be aware of and use acceptable academic practices when completing your assessments. To access the information in the Academic Integrity Policy and learn more, please visit the University's Academic Integrity website at **www.otago.ac.nz/study/academicintegrity**, or ask at the Student Learning Centre (HEDC) or the Library, or seek advice from your paper co-ordinator.

For further information:
Academic Integrity Policy
http://www.otago.ac.nz/administration/policies/otago116838.html

Student Academic Misconduct Procedures
http://www.otago.ac.nz/administration/policies/otago116850.html

Class Representatives | *Māngai mō te Akoranga*

The class (or student) representative system is an avenue for encouraging communication and consultation between staff and students. It provides you with a vehicle for communicating your views on the teaching and delivery of the course and provides staff with an opportunity to communicate information and gain constructive feedback from students. It contributes to developing a sense of community within a department and adds a further dimension to the range of support services offered to students.

Volunteers for class representatives will be called early in the semester. The OUSA invites all class representatives to a training session conducted by OUSA about what it means to be a class representative, and some of the possible procedures for dealing with issues that arise. They also provide information on the services that OUSA offers and the role OUSA

can play in solving problems that may occur. The OUSA provides support to class representatives during the semester. Department staff will also meet with class representatives during the semester to discuss general issues or matters they wish to have considered.

Your class representative's name and contact details will be posted on Blackboard early in the semester.

Disclaimer | *Kupu Whakatonu*

While every effort is made to ensure that the information contained in this document is accurate, it is subject to change. Changes will be notified in class and via Blackboard. Students are encouraged to check Blackboard regularly. It is the student's responsibility to be informed.

Duminda Kuruppuarachchi
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June 2024