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| **Title** | **Empirical Methods in Finance** |
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| **Lecturer** | **Leilei Tang** | Tutor | Leilei Tang |
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|  | Code | AG923 | Semester | 2 | Weeks | 6 – 11 | Credits | 10 |  |
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|  | **Assessment** |  | Examination | 100% |  | Coursework |  |  | Test |  |  |
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|  | Finance | Option |  | Int. Banking & Fin. | Option |  | Investment & Fin. | Option |  | Int. Accounting & Fin. | Option |  |
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## CLASS AIMS

This class aims to build on the knowledge, understanding, and skills acquired in the Quantitative Methods in Finance class and extend it further, especially in the context of time series and panel data analysis. It focuses on applications in finance of econometric techniques and is extended to incorporate panel data analysis methods with their application in finance.

## LEARNING OUTCOMES

The class provides opportunities for students to develop and demonstrate knowledge, understanding and skills in the following areas:

**i) Knowledge Based Outcomes:**

On completion of the class students should be able to demonstrate knowledge of:

* the concept multivariate analysis using matrix operations,
* some of the issues involved in modeling time series data and understanding of the techniques to correct the problems, and
* panel data analysis techniques.

**ii) Skills Outcomes:**

 On completion of this class students should be able to:

* understand basic matrix operations and apply multivariate analysis techniques
* use dummy variables in regression analysis
* analyse panel data and draw the inferences for the results

**TEACHING AND LEARNING**

The module will be delivered by a combination of lectures and computer lab sessions. Econometric methods will be discussed in the context of their application in solving finance problems and analysing financial data. Computer lab sessions will provide hands-on experience on using data from financial markets. Where appropriate, references will made to the use of such techniques in published research papers and/or their use in finance industry.

**ASSESSMENT**

The class will be assessed 100 per cent on final examination which will take place in the April/May diet of examinations and last two hours. Any reassessment will be via a re-sit exam in the same format as the main exam.

**READING**

[Damodar, Gujarati](http://www.amazon.co.uk/s/ref%3Ddp_byline_sr_book_1?ie=UTF8&field-author=Damodar+N+Gujarati&search-alias=books-uk&text=Damodar+N+Gujarati&sort=relevancerank), Dawn, Porter, and Sangeetha Gunasekar. *Basic Econometrics*, 5th edition, 2011.

Jerfery, Wooldridge, *Introductory Econometrics: A Modern Approach,* South-Western Press, 2015.

**Further Reading:**

Chris. Brooks, *Introductory Econometrics for Finance*, Cambridge University Press, 3rd edition, 2014.

**Web Resources**

To be advised by the lecturer

**Useful Websites:**

To be advised by the lecturer

## LECTURE PROGRAMME

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| **Session** | **Lecture Title/Subject/Content** |
| **1** | A review and discussion of simple regression analysis covered in Quantitative Methods in Finance class (Semester 1). Introduction to multivariate OLS regression analysis using linear algebra  |
| **2** | Use and test of Dummy variables in financial analysis (e.g. in the context of testing day-of-the-week effect, month of the year effect, industry effect etc). Further issues in regression analysis |
| **3** | Introduction to heteroscedasticity test and generalised OLS regression (GLS) . |
| **4** |  Introduction to Chow Test |
| **5** | Introduction to Logistic regression analysis and Revision. |