Syllabus
BT2101: Econometrics Modeling for Business Analytics
National University of Singapore, School of Computing
2025/2026 Semester 1

Assistant Professor Freddy Lim
Assistant Professor Vikas Deep

Classes: Tuesdays, 2pm – 4pm, LT17
Final exam: 27 Nov 2025, 9am – 11am

Course co-instructor: Freddy Lim (Weeks 1 – 6 & 13)
Office: COM2-04-37
Email: freddy@nus.edu.sg
Office hours: Tuesdays, 1pm – 2pm (LT17) and Wednesdays, 3pm – 4pm (office)

Course co-instructor: Vikas Deep (Weeks 7 – 13)
Office: COM2-04-39
Email: vikas_deep@nus.edu.sg
Office hours: Tuesdays, 1pm – 2pm (LT17) and Wednesdays, 3pm – 4pm (office)

Tutorials and instructors/TAs: COM1-02-04
Tutorial Group 1, Wednesdays, 8am – 9am, Liu Yan (yan.liu@nus.edu.sg)
Tutorial Group 2, Wednesdays, 9am – 10am, Liu Yan
Tutorial Group 3, Wednesdays, 10am – 11am, Freddy Lim / Vikas Deep
Tutorial Group 5, Wednesdays, 12pm – 1pm, Li Baishi (baishi.l@nus.edu.sg)
Tutorial Group 6, Wednesdays, 1pm – 2pm, Li Baishi
Assignment grading TA: Chen Huiru (huiru.chen@u.nus.edu)

Prerequisites:
BT1101 and MA1521, or equivalent.
A foundation course in probability and statistics at the pre-university level is also assumed.

Course materials:
1. Main text: Jeffrey Wooldridge, Introductory Econometrics: A Modern Approach, 7th edition.
2. Supplementary text: James Stock and Mark Watson, Introduction to Econometrics, 4th edition.

Course description:
This course covers the foundations of econometrics, and how it can be applied to the analysis of real-world problems. We will focus on how we can infer causal effects in the analysis of cross-sectional and panel data. This course builds on the fundamentals of linear regression that is introduced in BT1101 by undertaking an in-depth and rigorous study of the mechanics and properties of linear regression.

A foundation university level course in calculus is assumed. A foundation probability and statistics course, at least at the pre-university level, is also assumed. Many students may be concurrently taking their first university level probability and statistics course during the semester. Therefore, key mathematical concepts will be introduced and/or recapped as necessary.

Overall, we will aim for a good balance of econometric intuition, mathematical rigor, and discussion of real-world applications.

Course grading:

1. Participation (5%)
   You will get participation scores if you complete short course surveys that are sent out during the semester. These surveys will help us to improve the course.

2. Assignments (30%)
   There will be 10 individual assignments in this course. Each assignment corresponds to a class topic, and is due before the start of the following class. The assignments are meant to incentivize and encourage consistent work, so that you do not fall behind on the content. As such, grading will be mainly based on effort – if you put in good effort to write up the assignments, you will get good scores.

   You can either handwrite or type up your answers. If you handwrite, you must ensure that it is neat and legible, otherwise points will be deducted.

   We will drop your 2 lowest assignment scores, i.e., only your best 8 out of 10 assignments count. This will account for any unforeseen circumstances that may result in you missing work for a couple of weeks.

3. Empirical reports (30%)
   There are 2 individual empirical reports to be **typed** in this course. Each one accounts for 15% of the overall course grade. These empirical reports will be graded for accuracy. In these reports, you will aggregate the knowledge that is learned across multiple classes and apply them to the analysis of empirical datasets. More detailed instructions and grading rubrics will be released with the assignment documents.

4. Final exam (35%)
   The final exam is an open book, written paper exam. Only calculators are allowed; all other electronic computing devices are prohibited.

Honor code:

All university level codes of conduct apply. Most of it is just common sense – do not cheat or plagiarize. Any violations will be escalated to university administration and will be dealt with harshly.

Course roadmap:

Week	1	2	3	4	5	6	Reading	7	8	9	10	11	12	13	Reading	Exams
Dates	11 Aug - 15 Aug	18 Aug - 22 Aug	25 Aug - 29 Aug	1 Sep - 5 Sep	8 Sep - 12 Sep	15 Sep - 19 Sep	20 Sep - 28 Sep	29 Sep - 3 Oct	6 Oct - 10 Oct	13 Oct - 17 Oct	20 Oct - 24 Oct	27 Oct - 31 Oct	3 Nov - 7 Nov	10 Nov - 14 Nov	15 Nov - 21 Nov	22 Nov - 6 Dec
Classes W1 - W6: Freddy Lim W7 - W12: Vikas Deep W13: Both	Intro & preliminaries	Simple regression		Multiple regression 1			*No classes*	Multiple regression 2		Advanced topics in regression	*No classes (NUS Well-Being Day)*	Advanced topics in regression		Course recap	*No classes*	*No classes*
Tutorials			✅	✅	✅	✅		✅	✅	✅		✅	✅	✅		
Assignments (30%) (Drop 2 lowest scores; Due before start of next class.)		W2	W3	W4	W5	W6		W7	W8	W9		W11	W12			
			W2 due	W3 due	W4 due	W5 due		W6 due	W7 due	W8 due		W9 due	W11 due	W12 due		
Empirical reports (30%)						Empirical report 1 (Released after W6 class. Due at end of day **5 Oct**.)						Empirical report 2 (Released after W11 class. Due at end of day **16 Nov**.)				
Final exam (35%)																Final exam
Participation (5%)	Short course surveys will be sent out over the semester. Submit these to get participation grades.															