

## Module Outline

**Module Code** : RE1702  
**Module Title** : Real Estate Data Analytics  
**Semester** : Semester 1, Academic Year 2022/2023  
**Faculty** : NUS Business School  
**Department** : Real Estate

### Instructor(s)

Associate Professor Liao Wen-Chi ([wliao@nus.edu.sg](mailto:wliao@nus.edu.sg))

### Overview

This is the first module in the real estate quantitative methods track. It introduces students to the types of data typically used in real estate analyses. Students will learn how to access the data and understand their distributions. Then, they will learn how to process the data to support real estate decision-making. In the first half of the module, basic statistical concepts are taught through detailed applications in the real estate domain using REALIS transactions and spatial information. The second half of the module presents parametric and non-parametric analyses that demonstrate their functions in real estate data analytics.

### Learning Outcomes

Through this module, students will:

- Learn essential statistical concepts.
- Familiarize with the types of data commonly used for real estate analysis.
- Start critical thinking using quantitative knowledge.
- Learn to process data and perform basic quantitative analysis using Excel.

### Module Prerequisite(s)

NIL

### Module Preclusion(s)

NIL

### General Guide & Reading

1. **Statistics: Informed Decision Using Data (4<sup>th</sup> Edition)** by Michael Sullivan. Harlow, England: Pearson
2. Complimentary ebook accessible via <https://linc.nus.edu.sg/record=b3877863> or search this ebook via <https://nus.edu.sg/nuslibraries>
3. Other supplementary materials will be made available at the course webpage.

### Tentative Schedule & Outline

Lesson/ Week	Date	Topic	Activity
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1 <sup>#</sup>	8 - 12 Aug	Introduction. Preview. Project brief	lecture; consultation
2	15 - 19 Aug	Data collection. REALIS data	lecture; consultation
3	22 - 26 Aug	Summarizing data	lecture; consultation; tutorial I (odd week)
4	29 Aug - 2 Sep	Probability and distribution	lecture; consultation; tutorial I (even week)
5	5 - 9 Sep	Hypothesis testing	lecture; consultation; tutorial II (odd week)
6	12 - 16 Sep	Linear regression	lecture; consultation; tutorial II (even week)
Recess Week			
7	26 - 30 Sep	Functional Form	lecture; consultation; tutorial III (odd week)
8	3 - 7 Oct	Dummy variable	lecture; consultation; tutorial III (even week)
9	10 - 14 Oct	Enrichment topic	lecture; consultation; tutorial IV (odd week)
10	17 - 21 Oct	CIT Briefing for digital exam. Recap	lecture; consultation; tutorial IV (even week)
11 <sup>*</sup>	24 - 28 Oct	Project presentation I	lecture; consultation; tutorial V (odd week)
12	31 Oct – 4 Nov	Project presentation II	lecture; consultation; tutorial V (even week)
13	7 - 11 Nov	Group consultation and exam preparation	consultation
Reading Week			
Examination Week (2 weeks)			

<sup>#</sup> National Day, Tuesday, 9 August

<sup>\*</sup> Deepavali, Monday, 24 October

There will be a consultation hour each week. The time will be announced at the beginning of the semester.

### **Assessment**

Assessment Components	Weightage
Class participation	20%
Individual assignment	20%
Group project	20%
Final exam	40%
<b>Total marks</b>	<b>100%</b>

### **Academic Honesty & Plagiarism**

Academic integrity and honesty are essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

Plagiarism is “the practice of taking someone else’s work or ideas and passing them off as one’s own” (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. In case of any doubt, you should consult your instructor.

**Additional guidance is available at:**

- <http://www.nus.edu.sg/registrar/administrative-policies-procedures/acceptance-record#NUSCodeofStudentConduct>
- <http://nus.edu.sg/osa/resources/code-of-student-conduct>

**About Me**

Associate Professor Liao Wen-Chi

<https://bizfaculty.nus.edu.sg/faculty-details/?profId=663>