

主導課程五：統計學暨實習 (Statistics with Recitation)

課程基本資料

開設學校：臺灣大學

開授教師：李宗穎

班級人數：各聯盟校自行訂定

開課級別：大學部

授課語言：英文

學分數：3

授權方式：條件式

協同教師學經歷建議：

To support the delivery of the Statistics course, which will be offered by the lead instructor at NTU, each participating institution is required to appoint a coordinating lecturer. This lecturer should have an academic background in statistics and be fluent in English, as the course will be conducted in English. The coordinating lecturer is expected to assist with local student support, hold office hours, and grade exams.

主導課上課時間(影片將於當日課後於NTU COOL上架)：

Wed 9:10-12:10 AM (lecture)

是否接受非同步授課：是，接受非同步

實體期末評量時間：9:30 AM to 12:00 PM, December 23, 2026

課程網頁：NTU COOL

聯盟學校修課人數與助教比例：每 30 名學生需 1 名助教

課程概述

This course introduces students to the core concepts and methods of statistics, with a focus on learning how to use data effectively in the face of uncertainty. Key topics include data visualization, descriptive statistics, probability, statistical inference, and linear regression. Emphasis will be placed on building intuition and practical understanding rather than mathematical rigor.

Students will develop the skills to make sense of data, draw meaningful conclusions, and communicate results with clarity and confidence. The tools and thinking developed in this course are valuable for making informed decisions and conducting research across a wide range of disciplines. They also form the foundation of many modern applications, including machine learning and artificial intelligence.

指定書目

Diez, D. M., Barr, C. D., & Çetinkaya-Rundel, M. (2019). *OpenIntro Statistics* (4th ed.). The textbook is available as a free PDF download at <https://leanpub.com/openintro-statistics>.

參考書目

Rosling, H., Rosling, O., & Rönnlund, A. R. (2018). *Factfulness: Ten Reasons We're Wrong About the World--and Why Things Are Better Than You Think*.

課程大綱

<u>Week</u>	<u>Date</u>	<u>Topic</u>
1	Sep 9	Course introduction
2	Sep 16	Introduction to Data
3	Sep 23	Summarizing Data
4	Sep 30	Probability
5	Oct 7	Distribution of Random Variables
6	Oct 14	Foundations for Inference (I)

7	Oct 21	Foundations for Inference (II)
8	Oct 28	Midterm exam (9:30 AM - 12:00 PM)
9	Nov 4	Inference for Categorical Data (I)
10	Nov 11	Inference for Categorical Data (II)
11	Nov 18	Inference for Numerical Data (I)
12	Nov 25	Inference for Numerical Data (II)
13	Dec 2	Introduction to Linear Regression (I)
14	Dec 9	Introduction to Linear Regression (II)
15	Dec 16	Study day (no class)
16	Dec 23	Final exam (9:30 AM - 12:00 PM)

成績評量方式

- Midterm: 40%
- Final: 60%

課程要求

- This is an English-medium course. English must be used at all times in class, including for discussions, exams, and all other course-related work.
- We will use NTU COOL to share course materials and announcements. Students are expected to check both NTU COOL and their school email daily to stay informed and up to date.
- All communication devices should be turned off or silenced during class.

協同老師負責工作

- 此課程評分事項：1次期中考、1次期末考（主導課程教師會提供完整解答，可請助教批改）。
- 條件式授權衛星課程的協同老師，須獨立完成該盟校所有學生的評分，各盟校評分獨立作業。協同老師可視情況調分，並依各校規定給予百分或等第成績。
- 【統計學暨實習】的協同老師不需要同步跟課，但必須同步執行期中考與期末考，在考試當天將學生集中於同一教室，準時發放考卷，並於時限內回收考卷。
- 盟校至少要給予一半的授課學分數。