

Statistics I

Department of Finance · National Chung Cheng University · Fall 2026

Course Information

Instructor	Zong-Wei Yeh 葉宗瑋
Email	zwyeh@ccu.edu.tw (confirm)
Class Time	Monday 09:10–12:00 (confirm)
Classroom	TBA
TA & TA Session	TBA
Office Hours	By appointment (email in advance)

Course Description & Objectives

This is the first course of a one-year sequence in statistics for finance students. The fall semester builds the probabilistic foundation of statistical inference: describing data, probability, random variables and their distributions, and the sampling distributions that connect data to populations. The spring semester (Statistics II) builds statistical inference itself: estimation, hypothesis testing, regression, and analysis of variance. Upon completing this course, students will be able to:

- summarize and present data with appropriate graphical and numerical tools, and read such summaries critically;
- reason with probability: conditional probability, independence, and Bayes' theorem;
- work with random variables — expectation, variance, covariance, and linear combinations (the mathematics of portfolio returns);
- use the standard discrete and continuous distributions and know when each applies;
- explain why sample statistics are random variables, and apply the Central Limit Theorem to quantify estimation error.

Course Materials

Lecture notes written for this course are the primary material and are distributed section by section in two versions: a *fill-in* version used during lectures (key terms, formulas, proofs, and worked examples are completed in class) and a *complete* version with all solutions, released after each section concludes. Slides shown in class match the notes exactly. End-of-section exercises are included in the notes.

Reference textbook (optional, for additional reading and practice):

- Newbold, P., W. L. Carlson, and B. M. Thorne, *Statistics for Business and Economics*, 8th ed., Pearson.

Grading

Midterm Exam	40%
Final Exam	45%
Problem Sets	15% (confirm components and weights)

Exams are closed-book; a formula sheet and statistical tables are provided with the exam paper.

Make-up exams are given only for documented medical or family emergencies, per university regulations.

Weekly Schedule

Lecture notes are organized into numbered sections (S1, S2, ...), each spanning one or two weeks as indicated.

Week	Date	Section	Topic
1	9/7	S1	Introduction to Statistics
2	9/14	S2	Describing Data: Graphical and Numerical
3	9/21	S2–S3	Describing Data (conclusion); Probability
4	9/28		教師節（放假）
5	10/5	S3	Probability
6	10/12	S4	Random Variables and Distributions
7	10/19	S4	Random Variables: Joint Distributions, Covariance, and Linear Combinations
8	10/26		光復節（放假）
9	11/2		Midterm Exam (S1–S4)
10	11/9	S5	Discrete Random Variables
11	11/16	S5	Discrete Random Variables
12	11/23	S6	Continuous Random Variables
13	11/30	S6	Continuous Random Variables
14	12/7	S7	Sampling and Sampling Distributions
15	12/14	S7	Sampling Distributions: s^2 and the t , χ^2 Distributions
16	12/21		Final Exam (S5–S7)
17	12/28		<i>Flexible week (buffer / review)</i>
18	1/4		<i>Flexible week (buffer / review)</i>

The two flexible weeks absorb any schedule slippage caused by the two holidays; if no slippage occurs, they are used for exam review and a preview of statistical inference (Statistics II).

Course Policies

- **Prerequisites.** None. Single-variable calculus is helpful for the continuous-distribution material but is reviewed where needed.
- **Attendance.** Not graded directly, but the fill-in lecture notes are completed in class; the complete version is released only after each section ends.
- **Academic integrity.** All work submitted must be your own. Violations are handled per university regulations.
- **Questions.** Ask in class, in the TA session, or by email; for longer discussions, book an office-hours appointment.