

Course number	U-LAS11 10002 LE55				
Course title (and course title in English)	Introductory Statistics-E2 Introductory Statistics-E2		Instructor's name, job title, and department of affiliation	Graduate School of Medicine Assistant Professor,VEALE , Richard Edmund	
Group	Natural Sciences		Field(Classification)	Data Science(Foundations)	
Language of instruction	English		Old group	Group B	Number of credits 2
Number of weekly time blocks	1	Class style	Lecture (Face-to-face course)		Year/semesters 2026 • First semester
Days and periods	Fri.3	Target year	All students	Eligible students	For all majors

[Overview and purpose of the course]

Statistical methods are used throughout science, but there is often a wide gap between basic statistics courses and how statistical methods are applied in the scientific literature. This course intends to narrow this gap by introducing students to basic statistical concepts and by providing insight into how these concepts are used in the "real" scientific world. This will entail descriptive statistics, inferential statistics, and data visualization. Real-world examples will be drawn from the behavioral and life sciences, medicine, and epidemiology. The language of instruction in this course is English which will help to understand the statistical terminology in the scientific literature.

[Course objectives]

- To acquire basic statistical knowledge and the ability to conduct basic statistical analysis.
- To be able to critically read scientific reports and to judge their quality in terms of statistical methodology.

[Course schedule and contents]

- 1) Introduction
- 2) Data collection: Survey sampling
- 3) Data collection: Experiments and clinical trials
- 4) Data editing and summary
- 5) 2 by 2 tables: Chi-square tests
- 6) Tests for independence: Fisher's exact tests
- 7) Risk ratios and odds ratios
- 8) Tests of difference of two proportions
- 9) Random sampling, randomization, and sample size calculations
- 10) Probability distributions and limit theorems
- 11) Tests of two means
- 12) Correlations and regressions
- 13) How to use statistics correctly?
- 14) Further studies
- 15) Feedback

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[Course requirements]

None

[Evaluation methods and policy]

Evaluation will be based on class attendance and active participation (30 points), written reports as homework (50 points) and 5 random in-class (open-note) quizzes, the lowest of which will be dropped (20 points). The quizzes and reports are to test whether the students have achieved the course goals. Students who are absent more than four times will not be credited.

[Textbooks]

Not used

Lecture notes will be provided during the course.

[References, etc.]

(References, etc.)

Klein, Dabney 『The cartoon introduction to statistics』 (Hill and Wang Pub) ISBN: 0809033593

[Study outside of class (preparation and review)]

To achieve the goals of the course, students should review the lecture material and do exercises that are provided as homework in class.

To complete the exercises students will be required to install, register, and use JMP Student Edition on their own computers. Details will be given in class.

The time necessary for review should be in the range of around 3 hours per class.

[Other information (office hours, etc.)]

No fixed office hours, but students are welcome to arrange appointments by email.

[Essential courses]

Faculty of Science