科目ナンバリング	U-LAS11 10002 LE55						
授業科目名<英訳>	Introductory Statistics-E2 Introductory Statistics-E2			担当者所属職名・氏名	医学研究科　助教　VEALE, Richard Edmund		
群	自然科学科目群			分野(分類)	データ科学(基礎)	使用言語	英語
旧群	B群	単位数	2単位	週コマ数	1コマ	授業形態	講義（対面授業科目）
開講年度・開講期	2026・前期	曜時限	金3	配当学年	全回生	対象学生	全学向

[授業の概要・目的]

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.

[到達目標]

- 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.

[授業計画と内容]

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

[履修要件]

特になし

Introductory Statistics-E2(2)へ続く↓↓↓

Introductory Statistics-E2(2)

[成績評価の方法・観点]

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.

[教科書]

使用しない

Lecture notes will be provided during the course.

[参考書等]

（参考書）

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

[授業外学修（予習・復習）等]

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.

[その他（オフィスアワー等）]

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

[主要授業科目（学部・学科名）]

理学部