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< >	Introductory Statistics-E2 Introductory Statistics-E2			VEALE Richard Edmund
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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.

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- 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.

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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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Introductory Statistics-E2(2)

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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.

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Lecture notes will be provided during the course.

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Klein, Dabney   The cartoon introduction to statistics   Hill and Wang Pub   ISBN: 0809033593

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To achieve the course goals, students should review the lecture material and practice with homework provided in class. This class uses the statistical software JMP which is available to Kyoto University students. The time necessary for review should be in the range of 3 hours per class.

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