Data Science I

1. Instructor(s)

TAKAHASHI Kunihiko

ANZAI Tatsuhiko

2. Course Purpose and Outline

Course Purpose

Students will acquire the essence of statistics / biostatistics that is necessary to learn data science as its basis.

Outline

This course gives lectures on the theoretical frameworks of the basic statistics / biostatistics that is the basis of data analysis methods.

3. Course Objective(s)

The goal is that students become able to have an image of an error (a probablistic phenomenon) in data, to explain the hypothesis testing as a means of detecting an object of interest in the data with errors from the image they have, and to perform the statistical analysis that is appropriate for their purpose.

4. Lecture Style

Lectures on data sciences, mainly statistics/biostatistics

5. Grading System

Participation (60%), discussion and reports (40%)

6. Prerequisite Reading

Those who feel anxious about math are encouraged to personally learn it with introductory textbooks on statistics.

7. Reference Materials

None

8. Important Course Requirements

None.

9. Language used in class

All classes are taught in English

10. Note(s) to students

This is a compulsory elective course for students in the Integrative Biomedical Sciences Programs for Preemptive Medicine. Other students can attend this course as long as seats are available, but the course students are given priority over others.

11. Schedule

No.	Date	Time	Theme	Staff
1	November 10	14:30-16:00	Concept of statistical inference for data science	TAKAHASHI Kunihiko
2	November 10	16:10-17:40	Comparing groups - categorical data	TAKAHASHI Kunihiko
3	November 17	14:30-16:00	Comparing groups - continuous data	TAKAHASHI Kunihiko
4	November 17	16:10-17:40	Correlation and regression	TAKAHASHI Kunihiko
5	December 1	14:30-16:00	Generalized linear mode	TAKAHASHI Kunihiko
6	December 1	16:10-17:40	Survival analysis	TAKAHASHI Kunihiko
7	December 15	14:60-16:00	Classification and prediction	ANZAI Tatsuhiko
8	December 15	16:10-17:40	Multivariate methods in data science	TAKAHASHI Kunihiko