Lecture No	031941				
Subject title	Biostatistics in Practice			Subject ID	GP-b3320-L
Instructors	藤原　武男[FUJIWARA Takeo]				
Semester	Fall 2025	Level	1st year	Units	2
Course by the instructor with practical experiences					

Instructor(s):

Takeo Fujiwara, Professor, Department of Public Health

Hisaaki Nishimura, Assistant Professor, Department of Public Health

Availability in English: All classes are taught in English.

Key word: Biostatistics

Lecture place

Refer to the course schedule

Course Purpose and Outline

Course Purpose:

To be able to analyze existing questionnaire data and/or clinical data quantitively.

Outline:

Be able to make research question

Be able to select exposure, outcome, and covariates

Be able to do data-cleaning, define analytic sample

Be able to handle missing data (dummy variable)

Be able to describe sample characteristics as Table 1

Be able to use simple regression

Be able to use multivariate regression

Be able to report the main outcome as Table　2

Be able to interpret the interaction term

Be able to use propensity score (propensity score matching, inverse probability weighting)

Be able to use multiple imputation for missing data

Course Objective(s)

By the end of this course, students will be able to choose appropriate statistical analyses, perform them using statistical software (STATA), and interpret results.

Lecture plan

No	Date	Time	Room	Lecture theme	Staff
1	10/6	08:50-10:20	Information Search Room 1	Session 1: Make clear, specific research question	FUJIWARA Takeo, NISHIMURA Hisaaki
2	10/6	10:45-12:15	Information Search Room 1	Session 2: Select exposure, outcome, covariates	FUJIWARA Takeo, NISHIMURA Hisaaki
3	10/6	13:30-15:00	Information Search Room 1	Session 3: Data cleaning	FUJIWARA Takeo, NISHIMURA Hisaaki
4	10/6	15:25-16:55	Information Search Room 1	Hands-on activity (1)	FUJIWARA Takeo, NISHIMURA Hisaaki
5	10/7	08:50-10:20	Information Search Room 1	Session 4: Summarize and report characteristics of data as Table 1	FUJIWARA Takeo, NISHIMURA Hisaaki
6	10/7	10:45-12:15	Information Search Room 1	Session 5: Correlations	FUJIWARA Takeo, NISHIMURA Hisaaki

7	10/7	13:30–15:00	Information Search Room 1	Session 6: Simple linear regression	FUJIWARA Takeo, NISHIMURA Hisaaki
8	10/7	15:25–16:55	Information Search Room 1	Hands-on activity (2)	FUJIWARA Takeo, NISHIMURA Hisaaki
9	10/9	08:50–10:20	Information Search Room 1	Session 7: Simple logistic regression	MORITA Ayako
10	10/9	10:45–12:15	Information Search Room 1	Session 8: Multivariate regression	MORITA Ayako
11	10/9	13:30–15:00	Information Search Room 1	Session 9: Making Table 2	FUJIWARA Takeo, NISHIMURA Hisaaki
12	10/9	15:25–16:55	Information Search Room 1	Hands-on activity (3)	FUJIWARA Takeo, NISHIMURA Hisaaki
13	10/10	08:50–10:20	Information Search Room 1	Session 10: Interaction	FUJIWARA Takeo, NISHIMURA Hisaaki
14	10/10	10:45–12:15	Information Search Room 1	Session 11: Propensity score	FUJIWARA Takeo, NISHIMURA Hisaaki
15	10/10	13:00–14:30	Information Search Room 1	Session 12: Multiple impulation	FUJIWARA Takeo, NISHIMURA Hisaaki
16	10/10	15:25–16:55	Information Search Room 1	Final Q&A	FUJIWARA Takeo, NISHIMURA Hisaaki

Lecture Style

This course will consist of lectures and case-based class activities. Students will be required to submit assignments.

Course Outline

Refer to the course schedule

Grading System

Grades will be based on the following elements:

Participation 20%

Assignments 80% (10 assignments, 8% each)

Prerequisite Reading

If you want to analyze your own data, please prepare in Excel format or stata format. If not, we will provide data for this course.

Module Unit Judgment

2 units

Reference Materials

Hayes-Larson E, Kezios KL, Mooney SJ, Lovasi G. Who is in this study, anyway? Guidelines for a useful Table 1. J Clin Epidemiol. 2019 Oct;114:125–132.

Westreich D, Greenland S. The table 2 fallacy: presenting and interpreting confounder and modifier coefficients. Am J Epidemiol. 2013 Feb 15;177(4):292–8.

Important Course Requirements

For students not in the MPH course, instructor (Prof Fujiwara, fujiwara.hlth@tmd.ac.jp)'s permission is required before registering to the course. Also, students are required to have TOEFL iBT with a minimum score of 80 or IELTS with a minimum score of 6.5. Prerequisite: Introduction to Biostatistics. Please submit an email when you receive permission through the following Forms. https://forms.office.com/r/ZfAaDzZn0S

Note(s) to Students

1. During the course, you will be asked to log onto the library computer, zoom, Webmail, WebClass, and Microsoft 365. Please make sure that you know Togo-ID/password and user IDs and passwords for each tool before the course week starts.

- Zoom login: https://zoom.us.signin#login

- Webmail login/ https://webmail.tmd.ac.jp/cgi-bin/index.cgi

- Webclass login: https://lib02.tmd.ac.jp/webclass/login.php?rnd=a4481&language=ENGLISH

- Microsoft 365 login: https://login.microsoftonline.com

*In case that you forgot your Togo-ID password, please ask for help from IT help desk (ithelp@ml.tmd.ac.jp). They cannot reset a password in a day so please ask for help beforehand.

2. The library computer will be automatically reset at the end of the day so you cannot save your work (report, modified dataset etc.) on the computer. Please bring your USB.

Email

FUJIWARA Takeo: fujiwara.hlth@tmd.ac.jp