Category (科目区分)	Specialized subjects / Social Medicine System		
Course Title (授業科目名)	Data science/biosatistics		
Instructors (担当者名)	Kyoko Nomura	Academic Year (配当年次)	1,2
Required Course / Elective Course (必修/選択)	Elective Course	Credits (単位数)	1
Class Format (授業形態)	Web Class: Lecture ・ Practice 1-7, practice 8-15		
Schedule (開講期間)	Until January 31, 2024		
Class Date/Period (開講曜日・時間)	随時		

Course Outline/ Course Objectives (授業の概要・到達目標)

Purpose of the class: To understand clinical epidemiology and medical statistics through practices.
Course Objectives: The goal is to acquire and practice methods of clinical epidemiology and medical statistics through practices.

Course Outline: The basis of evidence-based medical care (EBM) refers to the results obtained from epidemiology, not from animal experiments. Therefore, it is necessary to understand clinical epidemiology and medical statistics, and to be able to estimate causal relationships from the data of human populations by themselves. Multivariation analysis from basic statistics is carried out by lectures and computer practices. And, clinical epidemiology is a science which performs the prediction in individual patients by measuring the incidence of clinical events in patients with similar diseases using strict scientific methods. The purpose of this study is to develop and apply clinical observation methods to draw reasonable conclusions by avoiding systematic errors and accidental judgments.

Course Planning (授業計画)

	Course Outline/ Course Objectives(授業の概要及び到達目標) (Contents of Class) ((授業内容))	Instructor (担当教員名)	Department (講座名) Class Room〔実施場所〕
1	Introduction	Kyoko Nomura	Department of Environmental Health Science and Public Health, Akita University Graduate School of Medicine
2	Biostatistics introduction		
3	How to summarize data		
4	Comparison of continuous quantity data (t test, Wilcoxon test)		
5	Analysis of variance, Multiple comparison methods		
6	Comparison of count data ($\chi 2$ test), logistic regression		
7	Correlation and regression、Multiple regression analysis		
8	Work: Demonstration		
9	Work: Extendedd exercise		
10	Work: Survival analysis		

Grading Criteria (成績評価の基準と方法)

On-demand video watching and practical training 30 hours + self-study 15 hours, which accounts for total 45 hours and 2 credits.

Contact Information (問い合わせ先(氏名, メールアドレス等))

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Coment (その他特記事項)

We will introduce some materials through onde-demand teaching vides.