

Course Name	Biostatistics Advanced
Course Number	OATHF35
Credits	2.0 Credits
Adaptation years	1, 2 Year
Class hold days	FallAB Wed4,5
Instructor	Masahiko Goshu, Kazushi Maruo, Ryota Ishii
Overview	The goal of this course is for students to acquire skills in advanced biostatistical approaches. Using Applied Survival Analysis, students will learn survival analysis methods and their applications.
Remarks	Lectures are conducted in English. Online (Synchronous)
Course Type	lectures
Relation to Degree Program Competences	General purpose: Knowledge application Specialty: Core area 2 of public health sciences: an ability for application of biostatistics skills
Course Objectives (Learning Outcomes)	Students can understand the principle and result of survival analysis.
Class Schedule	1. Introduction to survival analysis 2. Sections 2.1 to 2.3 3. Sections 2.4 to 2.5 4. Sections 3.1 to 3.3 5. Sections 3.4 to 4.2 6. Sections 4.3 to 4.5 7. Sections 5.1 to 5.2 8. Section 5.3 9. Section 5.4 10. Data analysis and preparing the report
Course Prerequisites	This course covers students who have taken the “Biostatistics basic”, or who have knowledge of biostatistics. It is also desirable that you have taken the “Biostatistics in practice” .
Grading Philosophy	Evaluated by the presentation and final report.
Course Hours Breakdown and Out-of-Class Learning	Classes are conducted in lecture and seminar styles. Students make a presentation of the part of the text book.
Textbooks, References, and Supplementary Materials	1. Hosmer DW, Lemeshow S and May S., Applied Survival Analysis, 2nd edition. John Wiley&Sons, 2007 2. ホスマー, レメショー, メイ (著者), 五所正彦 (監訳), 生存時間解析入門 原著第2版. 東京大学出版会, 2013. (上記の邦訳版)
Office Hours and Contact Information	As needed (please confirm the schedule by e-mail and visit the office) Masahiko Goshu mgosho at md.tsukuba.ac.jp Kazushi Maruo maruo at md.tsukuba.ac.jp Ryota Ishii rishii at md.tsukuba.ac.jp
Other (Behavioral expectations and points to note for students during	Prepare your own laptop with statistical software (e.g., SAS, SPSS, R, and ez-R) installed because students will perform presentations and data analysis.

coursework)	
Relation to Other Courses	
Teaching Fellow and/or Teaching Assistant	
Course Keywords	Survival analysis, Kaplan-Meier estimate, Log-rank test, Cox proportional hazard model