Survival Analysis

Course Director: Rebecca Stellato

Monday, July 20 2026		
Time	**Activity**	**Description**
09:30 – 09:45	Introduction	Welcome and Introduction to the Course
09:45 – 12:30	Lecture 1 & labs*: (re-)Introduction to Survival Analysis	We start with a review of why survival analysis techniques are necessary, discussing right-censoring, and reviewing Kaplan-Meier curves, the log-rank test, and the Cox proportional hazards model.
	Lunch	
13:30 – 17:00	Lecture 1 & labs (continued)	

Tuesday, July 21 2026		
Time	**Activity**	**Description**
09:30 – 12:30	Lecture 2 & labs*	Today we learn how to check the assumptions of a Cox proportional hazards model, and cover topics such as Martingale residuals, Df Beta's, Schoenfeld residuals, and stratified Cox analysis. We also learn how to predict survival curves from a Cox model and how to deal with tied survival times.
	Lunch	
13:30 – 17:00	Lecture 2 & labs (continued)	

Wed, July 22 2026		
Time	**Activity**	**Description**
09:30 – 12:30	Lecture 3 & labs*	Time-dependent covariates are examined, and the counting process form for survival data is presented. We look into parametric survival models (exponential and Weibul). We also look at the more "difficult" censoring and truncation mechanisms and use Cox or parametric models to analyze data that is not merely right-censored.
	Lunch	
13:30 – 17:00	Lecture 3 & labs (continued)	

Thursday, July 23 2026		
Time	**Activity**	**Description**
09:30 – 12:30	Lecture 4 & labs*	Today we put together the various ways of entering a variable into a Cox model. We also examine competing risks theory and discuss solutions: cause specific hazards regression and subdistribution hazard regression (the Fine-Gray model).
	Lunch	
13:30 – 17:00	Lecture 4 & labs (continued)	

* Days 1-4 are a mix of lectures and computer labs/practice in R. In the afternoons, time permitting, you can also ask the lecturers – and your fellow students – questions about your own data analysis.

Friday, July 24 2026		
Time	**Activity**	**Description**
09:30 – 13:00	Group assignment	On the last day of the course, you show us what you have learned! In small groups (±3 students) you will analyze a case study in the morning session. You will also be asked to examine a second case study and be the first to ask questions to the presenting group in the afternoon.
	Lunch	
14:00 – ±15:30	Group presentations	In the afternoon your group presents their case to the class. There will be time for discussion and feedback for each presentation. We close the course with drinks and snacks and an informal chat.
±15:30 – 17:00	Drinks	An informal closure to the course: we have drinks, eat snacks, and chat.