STOCKHOLM UNIVERSITY
Department of Sociology

Syllabus

Event-History Analysis: Regression for Longitudinal Event Data
7.5 Credits

Code: SO1FU19
Finalized by: Institutionsstyrelsen, 2024-03-26
Valid from: Spring semester 2025 (2025-01-20)
Level within study regulation: Third cycle

Course modules Event-History Analysis: Regression for Longitudinal Event Data, 7.5 Credits

1. Entry requirements

No Translation Available

2. Learning outcomes

By the end of the course, participants should be able to:

- Describe the basic concepts of event-history analysis
- Understand the relationship between event-history analysis, basic demographic methods and regression analysis
- Understand the type of research questions for which event history analysis is an appropriate method to use
- Interpret studies that have used event-history analysis
- Reflect on the assumptions, problems and limitations of event-history methods

Regarding the use of statistical software:

- Transform data into the basic data layout of event history analysis
- Analyze time-dependent univariate and multivariate relationships
- Specify appropriate regression models using time-constant and time-varying explanatory variables
- Interpret results obtained and communicate them to an academic audience as well as a wider public

3. Content

This course is an introduction to event-history analysis (also known as survival analysis, hazard regression, intensity regression, or duration data analysis) and is given at the advanced (Masters / PhD level). Duration data is commonly used to address many research questions in demography, social sciences, and epidemiology. Examples of such questions are: Which factors influence how long people live, how long they stay unemployed, or when do they start a family? This course introduces the techniques for analyzing such questions and data and covers univariate and basic multivariate (regression) methods for analysis of duration (event-history) data.

Students also learn data management skills that are specific to conducting event-history analysis in Stata. In particular circumstances, the use of other statistical

software packages is allowed. Before the course starts, students need to confirm the use of other statistical software packages with the course coordinator.

4. Mandatory exams

- Submission and completion of written individual course assignments
- Attendance and active participation in the group workshop
- Submitting all parts of the final take-home exam

5. Forms of examination

Examination is based on active participation including a short study presentation, computer exercises, and a take-home exam. Students are graded according to **15** separate evaluations (specified below), and each is graded Fail (0 points), Pass (1 point), Good (2 points).

Participation (1. – 2.) is evaluated by the student's attendance in lectures and computer exercises, including discussion of the assigned readings (**1.**) and a brief oral presentation of a particular research question that can be addressed with event-history analysis (**2.**).

Each of the five computer exercises is evaluated **(3. – 7.)**. The computer exercises should include proper solutions to the assigned problems and clear presentations of the syntax and output.

The **take-home exam (8. – 15.)** consists of a small independent study using event-history analysis with data provided by the instructors. The following aspects are evaluated:

1. Motivation for the research question and choice of data and methods
2. Description of data, data processing and variable construction
3. Descriptive analyses
4. Appropriate model specification for multivariate analysis
5. Execution of multivariate analysis
6. Presentation of results and syntax that is clear and easy to follow
7. Interpretation of the parameters and other model results
8. Discussion of results in relation to the research questions and limitations of the analysis

The maximum number of points a student can attain is 30. In addition, extraordinary performance in any of the aspects can be rewarded with up to 2 extra points that can compensate for any shortcomings.

The final course grade is based on the following criteria:

Pass = 21-30 points
Fail = 15-20 points or failing any of the aspects listed above

Students who have received a fail grade on an exam have the right to take additional exams as long as the course is offered in order to achieve at least a pass grade. Students who have received a fail grade on an exam twice from an examiner have the right to request that another examiner be appointed to determine the grade of the exam. Such requests should be made to the director of studies.

Examinations take place continuously during the course, and the final home exam must be submitted by the specified deadline. All other coursework must be submitted no later than one week after the end of the course period to be examined during the current course. If a student does not adhere to this deadline or submits at least one incorrect assignment, a new examination will only take place at the next exam session.

Plagiarism, cheating, and unauthorized collaboration or use of AI

Part of your responsibility as a student is to be aware of the examination rules. Detailed information is available on Stockholm University's website here. Teachers are obliged to report suspected cheating and plagiarism to the rector and the disciplinary board. Plagiarism and cheating are always disciplinary matters and can lead to suspension. An example of plagiarism is to copy a text word for word or almost word for word (including a single sentence or lines of code) without indicating where it comes from. Always ensure the origin of the text or that quotations are used when submitting a text for examination that you did not write yourself. This also applies to texts you have written previously (self-

plagiarism).

Having study groups together is stimulating and time-saving, but when it comes to examination tasks, it is important to work independently (unless otherwise clearly stated) to avoid being considered as unauthorized collaboration.

Cheating also includes, for example, the use of unauthorized aids such as mobile phones or generative AI during an examination. The use of generative AI or similar tools in exam tasks without the examiner's explicit permission and without confirmation is considered cheating.

Interim provisions

Students may request that examination according to this syllabus be completed up to three semesters after it expires. The request is to be directed to the Director of Studies.

Limitations

Those who have passed the results of the course SO7130 Advanced Demographic Methods 1: An Introduction to Event-History Analysis 7.5 credits or SO7131 Advanced Demographic Methods 1: An Introduction to Event-History Analysis 10.5 credits, SO7133 Event-History Analysis: Regression for Longitudinal Event Data or the sub-course 1M31 Introduction to Event-History Analysis within SO8040, or equivalent, cannot be admitted to the course

6. Form of instruction

The course consists of lectures, research findings from published studies and computer-based exercises.

Literature

The current reading list is available no later than two months before the start of the course.