

FOUNDATION OF ECONOMICS WITH DATA SCIENCE (5211-421)
(M.Sc. ECONOMICS WITH DATA SCIENCE)
WINTER TERM 2026/27

Course description:

This is the compulsory introductory course for students entering the MSc Economics with Data Science program. It provides students with the essential quantitative tools required for the study of economics. It is divided into three main components:

- Introduction to Programming with R – a hands-on introduction to the R software environment for data analysis and visualization, integrated with the mathematical and statistical topics.
- Mathematics for Economics – an introduction and refresher of the mathematical skills necessary for the program, with a focus on their application to economic analysis and data science.
- Basic Statistics – a review of key statistical concepts and methods relevant for empirical work in economics and data science.

By the end of the course, students will be able to apply fundamental statistical and mathematical techniques, use R for basic data handling and analysis, and possess the quantitative foundation required for advanced coursework in economics.

Meeting times and locations:

This is an intensive course that takes place during the first three weeks of the semester. Lecture sessions are held in person on weekdays, usually from 08:30 to 12:00; on October 13 and 27, they run from 10:15 to 14:00. Supported Self-Study Labs are offered as an additional learning opportunity, typically from 14:15 to 16:00. During these sessions, students work independently through the exercises at their own pace. Daniel Walser is available for individual questions and support but does not lead the sessions from the front.

First meetings:

Lecture class Monday, 12. October 2026, 08:30 - 12:00, in presence only (HS 34)

Supported Self-Study Lab: Monday, 12. October 2026, 14:15 - 16:00, in presence only (S 12)

The full timetable is provided in the appendix (page [3](#)).

Please check HohCampus and ILIAS for updates.

Instructors:

Prof. Dr. Robert Jung

e-mail: econometrics@uni-hohenheim.de

Office hour: by appointment in person or via zoom

Daniel Walser

e-mail: daniel.walser@uni-hohenheim.de

Office hour: by appointment in person or via zoom

Assessment:

The course will be assessed through a 60 minutes computer-based exam, graded on a pass/fail basis. Planned date: November 7, 2026. Exact date and location will be provided.

Course materials:

Lecture slides, data sets, assignments and reading additional material will be available via ILIAS <https://ilias.uni-hohenheim.de/goto.php/crs/1857255>.

Course outline:

Date	Topic
12.10.	Introduction to R
13.10.	Basics (complex numbers, derivatives, Talyor rule)
14.10.	
15.10.	Optimization
16.10.	Differential and difference equations
19.10.	Descriptive Statistics, plotting in R
20.10.	Probabilites, random variables, moments
21.10.	
22.10.	Sampling, resampling, simulations
23.10.	Multivariate statistics
26.10.	Estimation theory
27.10.	Hypothesis testing
28.10.	Bayes rule; Time series data
29.10.	Reproducible research and good scientific practice
30.10.	
	Review and mock test

Appendix: Meeting times and locations

Winter term 2026/27: October 12–30, 2026

The following timetable is based on the HohCampus calendar export of September 20, 2026. All times are local teaching times in Hohenheim (Europe/Berlin). The times shown are the actual teaching times; end times and rooms follow the calendar export.

Date	Lecture class		Self-Study Lab	
	Time	Room	Time	Room
Mon, 12 Oct	08:30–12:00	HS 34	14:15–16:00	S 12
Tue, 13 Oct	10:15–14:00	HS 14 (PC)	14:15–16:00	S 12
Wed, 14 Oct	08:30–12:00	HS 14 (PC)	14:15–16:00	S 12
Thu, 15 Oct	08:30–12:00	HS 36	14:15–16:00	S 12
Fri, 16 Oct	08:30–12:00	HS 10	14:15–16:00	S 12
Mon, 19 Oct	08:30–12:00	HS 26	14:15–16:00	S 12
Tue, 20 Oct	08:30–12:00	HS 32	14:15–16:00	S 12
Wed, 21 Oct	08:30–12:00	HS 8	14:15–16:00	S 12
Thu, 22 Oct	08:30–12:00	HS 14 (PC)	14:15–16:00	S 12
Fri, 23 Oct	08:30–12:00	HS 35	14:15–16:00	S 12
Mon, 26 Oct	08:30–12:00	HS 34	14:15–16:00	S 12
Tue, 27 Oct	10:15–14:00	HS 14 (PC)	14:15–16:00	S 12
Wed, 28 Oct	08:30–12:00	HS 14 (PC)	14:15–16:00	S 12
Thu, 29 Oct	08:30–12:00	HS 14 (PC)	14:15–16:00	S 12
Fri, 30 Oct	08:30–12:00	HS 36	14:15–16:00	S 12

Changed lecture times: On October 13 and 27, the lecture class is scheduled from 10:15 to 14:00 in HS 14 (PC).

Updates: Please check HohCampus and ILIAS for subsequent changes to rooms and times.