



Course and Examination Fact Sheet: Spring Semester 2026

8,314: Time Series Econometrics

ECTS credits: 4

Overview examination/s

(binding regulations see below)

decentral - Written work, Digital, Group work group grade (30%)

Examination time: Term time

decentral - Oral examination and technical discussions, Analog, Individual work individual grade (70%)

Examination time: Term time

Attached courses

Timetable -- Language -- Lecturer

[8,314,1.00 Time Series Econometrics](#) -- English -- [Fengler Matthias Reginald](#)

Course information

Prerequisites

Knowledge at the level of our HSG class Data Analytics I is required.

Learning objectives

Students will acquire fundamental knowledge to understand the core concepts of linear time series analysis. The course will cover practical applications, including analyzing the characteristics of time series, from identifying non-stationary components to filtering and estimating an appropriate time series model. Additionally, students will learn to select and effectively use various packages and commands available in the free R software.

Content

This course provides an overview on time series analysis with applications primarily to macroeconomic data.

It is particularly relevant for students aiming to work professionally with economic time series, especially macroeconomic and financial datasets. The course covers the most important linear time series models, their properties, and estimation methods.

Main Topics:

- Background and introduction to time series modeling in the time domain
- Fundamental concepts in time series analysis
- ARMA modeling: identification, estimation, and forecasting
- ARIMA models: non-stationary series, unit roots, and unit root testing
- Vector autoregressions (VAR), structural modeling, and causality



- Cointegration and error correction models

Structure and indications of the learning and teaching design

Weekly lectures accompanied by theoretical and practical problem sets.

Literature

Reading Material

- Lecture notes
- Walter Enders, Applied Economic Time Series, Wiley, New York, 2nd edition 2004.
- Shumway, Robert H., Stoffer, David (2017): Time Series Analysis and Its Applications

Optional (Because Advanced PhD-Level) Reading Material

- James D. Hamilton, Time Series Analysis, Princeton University Press, 1994.
- Brockwell and Davis, Introduction to Time Series and Forecasting, 2nd edition, Springer Texts in Statistics 2002

Additional information

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Examination information

Examination sub part/s

1. Examination sub part (1/2)

Examination modalities

Examination type	Written work
Responsible for organisation	decentral
Examination form	Written work
Examination mode	Digital
Time of examination	Term time
Examination execution	Asynchronous
Examination location	Off Campus
Grading type	Group work group grade
Weighting	30%
Duration	--

Languages

Question language: English

Answer language: English

Remark

Problem sets

Examination-aid rule

Free aids provision

Basically, students are free to choose aids. Any restrictions are defined by the faculty members in charge of the examination under supplementary aids.

Supplementary aids

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2. Examination sub part (2/2)

Examination modalities

Examination type	Oral examination and technical discussions
Responsible for organisation	decentral
Examination form	Oral examination
Examination mode	Analog
Time of examination	Term time
Examination execution	Asynchronous
Examination location	On Campus
Grading type	Individual work individual grade
Weighting	70%
Duration	--

Languages

Question language: English
Answer language: English

Remark

Exam

Examination-aid rule

Closed Book

The use of aids is prohibited as a matter of principle, with the exception of pocket calculator models of the Texas Instruments TI-30 series and, in case of non-language exams, bilingual dictionaries without any handwritten notes. Any other aids that are admissible must be explicitly listed by faculty members in the paragraph entitled "Supplementary aids" of the course and examination fact sheet; this list is exhaustive.

Procuring any aids, as well as ensuring their working order, is the exclusive responsibility of students.

Supplementary aids

Closed book.

Content

The exam (70%) will cover the following topics:

- Fundamental concepts in time series analysis
- ARMA modeling: identification, estimation, and forecasting
- Non-stationary series, unit roots, and unit root testing
- Vector autoregressions, structural modeling, and causality
- Cointegration and error correction models

The assignments (30%) consist of take-home problem sets to be completed in groups.

Literature

All examination-relevant literature will be published by the end of the term.



Mandatory Reading Material

- Lecture notes and assignments
- Walter Enders, Applied Economic Time Series, Wiley, New York, 2nd edition 2004.
- Shumway, Robert H., Stoffer, David (2017): Time Series Analysis and Its Applications

Please note

Please note that only this fact sheet and the examination schedule published at the time of bidding are binding and takes precedence over other information, such as information on StudyNet (Canvas), on lecturers' websites and information in lectures etc.

Any references and links to third-party content within the fact sheet are only of a supplementary, informative nature and lie outside the area of responsibility of the University of St.Gallen.

Documents and materials are only relevant for central examinations if they are available by the end of the lecture period (CW21) at the latest. In the case of centrally organised mid-term examinations, the documents and materials up to CW 13 (Monday, 23rd March 2026) are relevant for testing.

Binding nature of the fact sheets:

- Course information as well as examination date (organised centrally/decentrally) and form of examination: from bidding start in CW 04 (Thursday, 22nd January 2026);
- Examination information (supplementary aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 16 March 2026);
- Examination information (supplementary aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 14 (Monday, 30 March 2026);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before ending with de-registration period in CW 15 (Monday, 06 April 2026).