30E00800 Time Series Analysis, Spring 2018
https://mycourses.aalto.fi/course/view.php?id=16343

Lectures (4th and 5th period, starts Feb. 19, ends Apr. 26) Teacher: Tomi Seppälä
Mondays 10:15-11:45 **Chydenia G-112**
Thursdays 10:15-11:45 **Chydenia G-112**

Guided Exercises Teacher: Nguyen Tai (homework solutions and practical guidance)
Fridays 13:15-14:45 pm **Chydenia G-113 (starts Feb. 23, ends Apr. 27)**
Two similar EViews demo sessions will be given on
Friday 13:15-14:45 pm **Chydenia G-113 and**
Tuesday 15:30-17:00 pm **Chydenia G-113**

Homeworks are due every Friday before the exercise session March 1 **at 13:00 pm, and to be submitted in MyCourses**

Final Exam: May 26, 2017 (14:00-17:00, in Töölö)

SuitabilityThe course is suitable especially for information and service management, finance and economics students but also useful for other students who want to understand and use longitudinal statistical methods in other areas of management and business, such as logistics, accounting, marketing and international business. The course also belongs to the minor area in Quantitative Methods as well as Analytics and Data Science, at least.

Prerequisites The prerequisites for the course are the mandatory statistics and mathematics courses in the Bachelor's program, as well as at least one of the following: introduction to econometrics, statistical analysis. It is important that the student understands statistical testing and regression analysis prior to attending the course. If the student does not possess the skills required as prerequisites (one course in mathematics and two courses in statistics), it does not make sense to participate in the course.

Textbooks:
Chris Brooks: Introductory econometrics for finance. Second ed,, Chapters 1-10 (or third ed**.)**
(although the name of the book includes the word "finance", the material is more general and applicable to other areas as well). Power Points are available on the Web Page of the book:
http://www.cambridge.org/features/economics/brooks/PPT.html
Note: There is also a third edition of the book published, which could be used.
Enders, W.: Applied Econometric Time Series, Second ed (or later), selected parts
Additionally other material may be delivered.

Other useful books:
Verbeek, M.: A Guide to Modern Econometrics. Second Edition
Woolridge, J.: Introductory Econometrics - A Modern Approach.
Kozan, R. : Financial Econometrics with EViews (download at http://www.bookboon.com)
Tsay, R. S: Financial Engineering
Program to be used: EViews 7 (can be found in computer class G-113, Chydenia; manual available in the program directory of the computers)

Statistical program
EViews A special program for time series analysis.

- In Aalto EViews (full version) can only be found in G-113
- Student version is available (see for details in http://www.eviews.com/EViews9/EViews9SV/evstud9.html).

Other programs (e.g. R, SAS, Stata) may be used for the homework, but the support is given only for EViews. For pedagogical reason some of the home works will done by hand or with Excel.

Course contents:
Review of multiple regression analysis
Introduction to time series models
ARMA models
Cointegration of time series
ARCH and GARCH models
Multivariate models (VAR models)
Panel data
Other topics