

MASTER OF SCIENCE IN WEALTH MANAGEMENT
MAÎTRISE UNIVERSITAIRE EN GESTION DE PATRIMOINE

THE STATISTICAL ANALYSIS OF TIME SERIES (S403107)

Prof. Davide LA VECCHIA

6 ECTS

Semester: Fall

Teaching language: English

Objective

Time series analysis refers to phenomena in which observations are collected over time and there are correlations among successive observations. Applications cover virtually all scientific areas, including economic, finance, medicine, and climatology. This course provides the Students with the most important concepts and methodologies for dealing with time series analysis. The course starts from the fundamental definitions (e.g., stationarity and ergodicity) and it covers topics in both time- and frequency domain. In time-domain, both discrete (e.g. autoregressive processes) and continuous time (diffusion processes) models are discussed. In frequency-domain, spectral methods are applied to study long-memory (e.g. autoregressive fractional integrated) processes. The theoretical aspects are illustrated by the practical analysis of some (real and simulated) data sets

Assessment

A written exam of 3 hours. The exam is "closed book" and no electronic calculators are needed