Financial Econometrics

Course title - Intitulé du cours	Financial Econometrics
Level / Semester - Niveau /semestre	Master 2
Teacher - Enseignant responsable	Nour Meddahi
Other teacher(s) - Autre(s) enseignant(s)	Serge Nyawa
Other teacher(s) - Autre(s) enseignant(s)	
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Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	
TP Hours - Volume horaire TP	
Course Language - Langue du cours	
TA and/or TP Language - Langue des TD et/ou TP	

Teaching staff contacts:

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Serge Nyawa : s.nyawa@tbs-education.fr

Course's Objectives:

The main goal of the course is to familiarize students with modeling, estimating and forecasting financial time series models, as well as risk management.

Prerequisites :

Intermediate Econometrics

Practical information about the sessions:

During the 10 weeks of lectures, we will cover different topics.

Part 1 (Nour Meddahi, 18 hours)

- Stylized Facts of Asset Returns
- Univariate Volatility Models
- Financial Risk Management: Value-at-Risk, Expected Shortfall, and Systemic Risk Models
- Predictability of Asset Returns
- Dynamic Term Structure of Interest Rates
- Generalized Method of Moments
- Factor Models
- Forecasting with Many predictors

Part 2 (Serge Nyawa, 12 hours)

- High Frequency Data

- Multivariate Volatility Models
- Machine Learning Methods for Asset Returns Predictability

Grading system:

Three projects (with oral presentations).

Bibliography/references:

Campbell, J. Y., A. Lo and A. C. MacKinlay, The Econometrics of Financial Markets, Princeton University Press, 1997.
Christoffersen, P. F., Elements of Financial Risk Management, Academic Press, 2003.
Cochrane, J., Asset Pricing, Princeton University Press, 2001.
Gouriéroux, C. and J. Jasiak, Financial Econometrics: Problems, Models, and Methods, Princeton University Press, 2001.
Singleton, K. J., Empirical Dynamic Asset Pricing: Model Specification and Econometric Assessment, Princeton University Press, 2006.
Taylor, S. J., Asset Price Dynamics, Volatility, and Prediction, Princeton University Press, 2005.
Tsay, R. S., Analysis of Financial Time Series, Wiley, 2002.