

## **FIN 555: Financial Modeling and Analysis**

### **Course description**

The course deals with fundamental time series techniques to model and to predict financial data, the modelling of time-varying volatility as well as the estimation and testing of asset pricing models. Ongoing topics in modern financial econometric research, such as the modelling of realized volatility as well as the analysis of financial high-frequency data is covered as well.

Making educated decisions today by forecasting operating and financial performance is a critical exercise for owners, managers, consultants, investment bankers, creditors, equity and credit analysts, and investors such as private equity groups, hedge funds, institutional investors and individuals. As we are ineluctably constrained by our inability to predict the future, financial projections are rarely perfect. Nonetheless, we endeavor to model several scenarios predicated on historical and anticipated results to derive various conclusions. There are myriad variables which can certainly be incorporated into projections. However, the best financial model is always the one that is stable and robust, yet simple and easy to build, navigate and audit.

### **Learning Outcomes:**

Moreover, an important objective is to provide a comprehensive knowledge to do empirical work in financial research and practice. Therefore, a part of the course consists of practical exercises where students are instructed to apply econometric concepts to real financial data.

### **Text Book**

Tsay, R. S. (2005): "*Analysis of Financial Time Series: Financial Econometrics*", Wiley, 2nd edition.

Härdle, W., Hautsch, N., and Overbeck L. (2008): "*Applied Quantitative Finance*", 2nd edition.