

High-Frequency Data and Analytics

Unit Title	High-Frequency Data and Analytics		
Level of Study	MA		
Credit Value		ECTS Value	
Home Department	Mathematical methods in economics		
Home Faculty	Economics		
Unit Co-ordinator			
Key Words	High-frequency data, Orderlog, Tradelog, Big data, Data cleaning, Data aggregation, High-frequency data visualisation, Data sources, Order book, Order flow		
Brief Summary	This is a practical unit that enables students to work with financial data from different data sources, to cleaning, visualize and analyse specificity of this data and create empirical models based on high-frequency data.		
Indicative Content	<p>Development of market infrastructure and data sources</p> <p>Dark ages of market data</p> <p>Data providers: Bloomberg, Thomson Reuters, free data sources</p> <p>Working with end-of-date data</p> <p>Intraday data, cleaning, management and visualisation</p> <p>Tradelog data: from stylized facts to AI models</p> <p>Level 1 Market Data: liquidity estimation and market impact</p> <p>Level 2 Market Data: orderbook characteristics and market imbalance</p> <p>Orderlog data: towards to agent-based models and reverse engineering</p> <p>Empirical order flow characteristics</p> <p>Alternative data</p>		