

# COURSE DETAIL

## TEXT ANALYTICS AND NATURAL LANGUAGE PROCESSING IN FINANCE AND FINTECH

**Country**

Hong Kong

**Host Institution**

University of Hong Kong

**Program(s)**

University of Hong Kong

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Business Administration

**UCEAP Course Number**

159

**UCEAP Course Suffix****UCEAP Official Title**

TEXT ANALYTICS AND NATURAL LANGUAGE PROCESSING IN FINANCE AND FINTECH

**UCEAP Transcript Title**

TEXT ANALY & NLP

**UCEAP Quarter Units**

5.00

## **UCEAP Semester Units**

3.30

### **Course Description**

This course examines the main elements of natural language processing (NLP), text analytics, and text mining, providing students with a foundation in collecting, managing, and analyzing textual data with financial and economic applications in mind, such as FinTech. Examples of potential applications include understanding and responding to sentiment in financial newspapers and social media, using social media to improve performance in asset/investment management, due diligence, Fed watching, monitoring of company events, and detecting insider trading. Although students write their own computer programs in this course, they are not required to implement most algorithms from scratch. Instead, the focus of this course is on how to use existing state-of-the-art open-source software libraries and how to apply them in a financial context. This course consists of three parts. In the first part, we work with real-world textual data sets to obtain proficiency in collecting, importing, organizing, and cleaning textual data from sources related to finance and economics. Among others, we cover web scraping, textual corpora, text processing, tokenization, stemming, and stop word removal. In the second part we delve into a more detailed analysis of NLP, text analytics, and machine learning with a particular focus on FinTech. For instance, we examine bag-of-words, word weighting schemes, document classification, document clustering, sentiment analysis, and topic models. The third part consists of summarizing, displaying, and visualizing results obtained from NLP and text analytics for applications in finance and economics.

### **Language(s) of Instruction**

English

### **Host Institution Course Number**

FINA4350

### **Host Institution Course Title**

TEXT ANALYTICS AND NATURAL LANGUAGE PROCESSING IN FINANCE AND FINTECH

**Host Institution Course Details**

**Host Institution Campus**

**Host Institution Faculty**

**Host Institution Degree**

**Host Institution Department**

**Course Last Reviewed**

2023-2024

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