

MBA USP ESALQ

DATA SCIENCE AND ANALYTICS

This course is designed for professionals who are seeking to acquire knowledge in data modeling, programming, technology, and strategic decision-making based on various fronts that characterize the data science field. Therefore, the course is structured in three modules and will address the most relevant and current themes in data science such as analytics, machine learning, modeling, big data, data mining, IoT, web crawling, deep learning, and data architecture, relating them to strategy, business models, technologies, and decision-making, always focusing on the fundamentals, concepts, and practical applications through studies, case applications, and real datasets.



Weekly live classes on Tuesdays from 7 pm to 11 pm (BRT)

The classes are then recorded and can be watched at any time



18 months of duration + presentation of a final paper

This program may be extended in 3 months due to national holidays



Online tests



USP Professors and renowned private sector professionals



USP
Certification



In-person final paper presentation
Final paper presentation takes place in Piracicaba, São Paulo, Brazil

PROGRAM CONTENT

Exploratory Analytics, Predictive Analytics & Machine Learning

Database Structures, Types of Variables and Measurement Scales

Introduction to Machine Learning

Unsupervised Machine Learning - Clustering

Unsupervised Machine Learning - Factor Analysis and PCA

Unsupervised Machine Learning - Simple and Multiple Correspondence Analysis

Supervised Machine Learning - Simple and Multiple Regression Analysis

Supervised Machine Learning - Binary and Multinomial Logistic Models

Supervised Machine Learning - Models for Count Data

Supervised Machine Learning - Multilevel Modeling

Other Machine Learning Models

Trends in Data Science and Analytics

Cloud Computing

Operations Research and Optimization and Simulation Models

Deep Learning I - Spatial Analysis

Deep Learning II - Algorithms and Robots

Analytics, Decision Models & Risk Management in the Digital Age

Analytics for Investment Management and Business Valuation

Data Security and Cyber Security

Change Management in the Digital Age

Special Topics in Business Technology

Data Science and Big Data in the Business Environment

Data Science: concepts and relationship with the business environment

Analysis of the Economic Situation in Disruptive Technologies Scenarios

Agile Methodologies

Information Technology (IT) and Technological Innovation

Big Data and the Decision Making Process

Artificial intelligence

Decision Support and Data Mining Systems

Data Engineering

Business Intelligence and Data Visualization

Data Governance and Data Management

Legislation in the Digital Environment

Special Topics in Business Technology

*program content subject to changes